



الهيئة العامة القطرية للكهرباء والماء
Qatar General Electricity & Water Corporation

CONTRACT No GTC 626/2014A

**CONSTRUCTION OF MEGA RESERVOIR PRPSs
(PACKAGE A - UMM BIRKA)**

**CONTRACT DOCUMENTS
(VOLUME 18 OF 19)**



**CONSOLIDATED CONTRACTORS GROUP S.A.L. (OFFSHORE) (CCC) &
TEYSEER CONTRACTING COMPANY W.L.L.
JOINT VENTURE**

TABLE OF CONTENTS

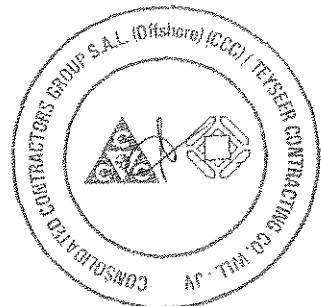
VOLUME	SECTION	ITEM	
VOLUME 1	1	Contract Agreement	
	2	Letter of Award	
	3	Letter of Confirmation	
	4	Secrecy Declaration	
	5	Performance Bond	
	6	Commercial Registration and Power of Attorney	
	7	Summary of Contract	
	8	General Conditions of Contracts	
VOLUME 2/6	9	Appendix A: Scope of Work and Specifications	
VOLUME 7	10	Appendix B: Schedule of Prices	
		1. Form of Tender	
		2. Preamble	
		3. Bills of Quantities	
		• Contract BOQ (After Currency Adjustment)	
	11	Appendix C: Insurance	
		1. Preamble	
		2. All Risk Insurance	
		3. Workmen's Compensation Insurance	
	12	Appendix D Administration Instructions	
	VOLUME 8	13	Appendix E Contractor Resources
			Annexure 1: Contractor's Personnel
Annexure 2: Facilities, Plant & Equipment owned by Contractor			
Annexure 3: Facilities, Plant & Equipment proposed by Contractor			
Annexure 4: Subcontractors			
Annexure 5: Suppliers			
Annexure 6: Contractor's Company Organization Chart			
Annexure 7: Contractor's Project Organization Chart			
Annexure 8: QA/QC Procedure			
VOLUME 9	13	Annexure 9: Utilization of National Products & National Origin	
		Annexure 10: Contractor's General Information	
		Annexure 11: List of Customers and Projects	
		Annexure 12: List of Current Commitment	
VOLUME10	14	Appendix F Drawings	
	15	Appendix G Material Equipment Supplied by KAHRAMAA	
	16	Appendix H Contract Execution Plan	
		1. Programme of Work	
		2. Method Statement	
VOLUME 11/15	17	Appendix I Materials Supplied by the Contractor	
VOLUME 16/17	18	Appendix J General Safety Requirements	
	19	Appendix K Departure from or Qualification to the Specification	
VOLUME 18	20	Acknowledgement of Receipt of Tender Documents	
		Circulars No. 1 to 21	
VOLUME 19	21	Commercial Offer BOQ	
		Pre Award Correspondence	
		Minutes of Pre-Award Meeting	

SECTION 20: ACKNOWLEDGEMENT OF RECEIPT OF TENDER DOCUMENTS



Qatar General Electricity & Water Corporation
Tender NO. GTC 626/2014
Construction of Mega Reservoir PRPSs
(Packages A, B, C, D & E)

ACKNOWLEDGEMENT OF RECEIPT OF TENDER DOCUMENTS





Qatar General Electricity & Water Corporation
Tender NO. GTC 626/2014
Construction of Mega Reservoir PRPSs
(Packages A, B, C, D & E)

ACKNOWLEDGEMENT OF RECEIPT OF TENDER DOCUMENTS

Please complete and return.. A fax reply may be sent instead of this document within three days of receipt of Tender documents.

Secretary, General Tenders Committee
Qatar General Electricity & Water Corporation
35th Floor, KM1 Building, West Bay (Dafna)
P. O. Box 41
Doha
Qatar

Fax: (+974) 44845506

Dear Sir,

TENDER NO. GTC 626/2014

We acknowledge receipt of your Tender Documents relating to the above Tender.

- * We have received all documents listed in the "Table of Contents and the Indices".
 - * We have received all documents listed in "Table of Contents and the Indices" with the exception of:
-
-

We confirm that we shall submit a Tender so as to reach you by 12:00 Noon on

(Date)

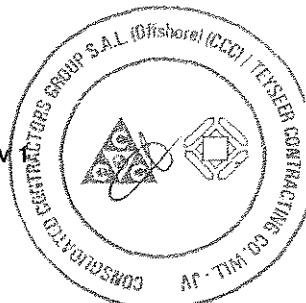
Yours faithfully

For and on behalf of

Name	of	Company
Consolidated Contracting Group S.A.L. (Offshore) (CCC) /		
Name	of	Signatory
Teyseer Contracting Company W.L.L. - Joint Venture		
Mustafa Younis		

Date

* Delete as necessary





Qatar General Electricity & Water Corporation
Tender NO. GTC 626/2014
Construction of Mega Reservoir PRPSs
(Packages A, B, C, D & E)

TENDER No. GTC 626/2014

Construction of Mega Reservoirs PRPSs (Packages A, B, C, D & E)
TENDER NO. GTC 626/2014

TENDER BULLETIN No's. (1) to (21)

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

Tenderers shall complete and submit this form with their technical offers.

ACKNOWLEDGEMENT

The undersigned bidder hereby certifies that the revisions set forth Tender Bulletins No. 1 to 21 have been incorporated in his tender and are part of the specification and documents.

Signed Mustafa Younis
Company Name Consolidated Contracting Group S.A.L. (Offshore) (CCC)/
Teyseer Contracting Company W.L.L - Joint Venture
Date : _____

Company Stamp :



Tender No. GTC/626/2014

TENDER No. GTC/626/2014**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 21**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

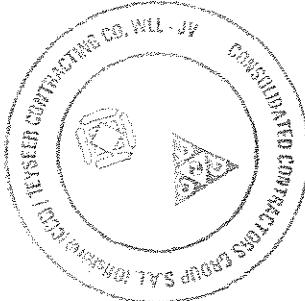
Company Name

CCC/TCC - JV

Date

16.09.2014

Company Stamp



Transmission Report

Date/Time 2014-09-17 08:13:46 a.m. Transmit Header Text
 Local ID 1 44667053 Local Name 1 #-----#

**This document : Confirmed
(reduced sample and details below)**

Document size : A4

Fax Server 9/16/2014 1:45:14 PM PAGE 6/006 Fax Server



Tender No. GTC/626/2014

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) Circular N°. 21

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

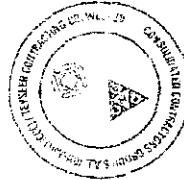
The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed : _____
Company Name : CCC/ICC - JV
Date : 16.09.2014

Company Stamp :



Dear circular No.21

**TECHNICAL AFFAIRS
Water Projects Unit**

Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	980	Kahramaa	08:12:56 a.m. 2014-09-17	00:00:32	1/1	1	G3	HS	CP14400

Abbreviations:

HS: Host send
 HR: Host receive
 W: Waiting send

PL: Polled local
 PR: Polled remote
 MS: Mailbox save

MP: Mailbox print
 RP: Report
 FF: Fax Forward

CP: Completed
 FA: Fail
 TU: Terminated by user

TS: Terminated by system
 G3: Group 3
 EC: Error Correct

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) **Circular N°. 20**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

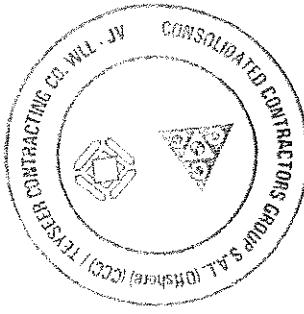
The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed : _____

Company Name : CCC/TCC JV

Date : 16/8/2014

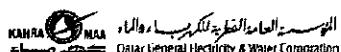
Company Stamp :



Transmission Report

Date/Time 2014-09-16 11:53:08 a.m. Transmit Header Text
 L ID 1 44667053 Local Name 1 #-----#

**This document : Confirmed
 (reduced sample and details below)**
Document size : A4



Tender No. GTC/626/2014

TENDER No. GTC/626/2014

**Construction of Mega Reservoir PRPSs (Packages A,
 B, C, D & E)
 Circular N°. 20**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed : _____
Company Name : CCC/TCC JV
Date : 16/8/2014

Company Stamp : 

Doc: circular No.20

**TECHNICAL AFFAIRS
 Water Projects Dept.**

Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	950	Fax Server	11:52:14 a.m. 2014-09-16	00:00:29	1/1	1	G3	HS	CP14400

Abbreviations:

HS: Host send	PL: Polled local	MP: Mailbox print	CP: Completed	TS: Terminated by system
HR: Host receive	PR: Polled remote	RP: Report	FA: Fail	G3: Group 3
W: Waiting send	MS: Mailbox save	FF: Fax Forward	TU: Terminated by user	EC: Error Correct



Tender No. GTC/626/2014

TENDER No. GTC/626/2014**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 19**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

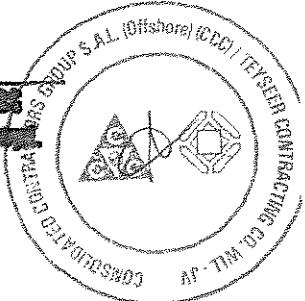
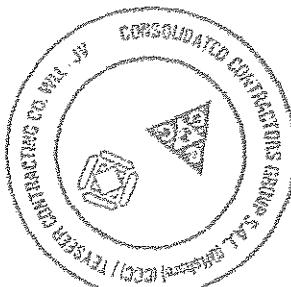
Company Name

CCC/TECC-JV

Date

08/09/2014

Company Stamp

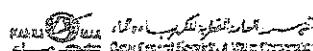


Transmission Report

Site/Time 2014-09-08 02:29:36 p.m.
 Local ID 1 44667053 Transmit Header Text
 Local Name 1 #-----#

This document : Confirmed
(reduced sample and details below)
Document size : A4

Fax Server 07/09/2014 3:00:32 PM PAGE: 12/112 FAX Scanned


 Tenders Committee
 Conference & Contract

Tender Committee

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) Circular N°. 19

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the quotes for the required clarifications.

Signed : _____
 Company Name : CCC/TGC-JV
 Date : 08/09/2014
 Company Stamp : 

One bidder No. 1

RECEIVED AND
 Master Project Dept.

Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	924	Kahramaa	02:28:39 p.m. 2014-09-08	00:00:33	1/1	1	G3	HS	CP14400

Abbreviations:

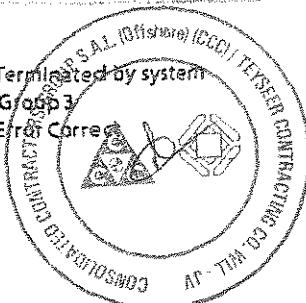
HS: Host send
 HR: Host receive
 WS: Waiting send

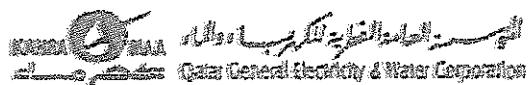
PL: Polled local
 PR: Polled remote
 MS: Mailbox save

MP: Mailbox print
 RP: Report
 FF: Fax Forward

CP: Completed
 FA: Fail
 TU: Terminated by user

TS: Terminated by system
 GS: Group 3
 EC: Error Corrected





Tender No. GTC/626/2014

TENDER No. GTC/626/2014**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 18**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

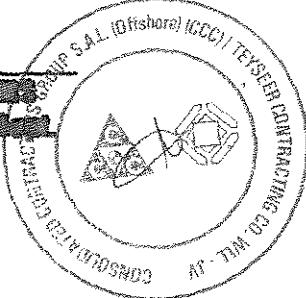
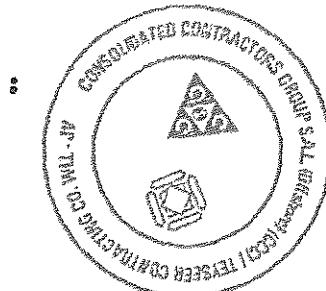
Company Name

: CCC/TCC-JV

Date

: 28/8/2014

Company Stamp

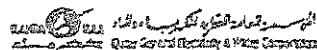


Transmission Report

Date/Time 2014-08-28 02:55:47 p.m.
 Local ID 1 44667053 Transmit Header Text
 Local Name 1 #-----#

This document : Confirmed
(reduced sample and details below)
Document size : A4

Fax Server 8/28/2014 2:55:04 PM PAGE 6/002 FAX 803407



Received 8/28/2014

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) Circular N°. 18

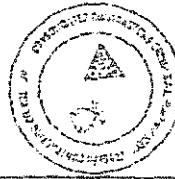
The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the quotes for the required clarifications.

Signed : _____
 Company Name : CCC/TCC-JV
 Date : 28/8/2014

Company Stamp : 
CCC/TCC JV
CONTRACTING COMPANY
Water Projects Dept.

Doc Number 5442

Received Address
Water Projects Dept.

Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	870	Fax Server	02:54:57 p.m. 2014-08-28	00:00:31	1/1	1	G3	HS	CP14400

Abbreviations:

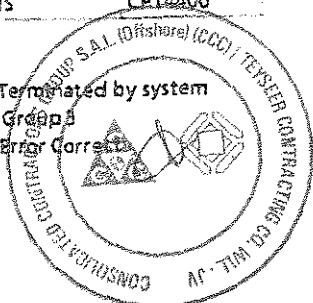
HS: Host send
 HR: Host receive
 WF: Waiting send

PL: Polled local
 PR: Polled remote
 MS: Mailbox save

MP: Mailbox print
 RP: Report
 FF: Fax Forward

CP: Completed
 FA: Fall
 TU: Terminated by user

TS: Terminated by system
 GS: Group 3
 EC: Error Corrected





Tender No. GTC/626/2014

TENDER No. GTC/626/2014**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 17**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

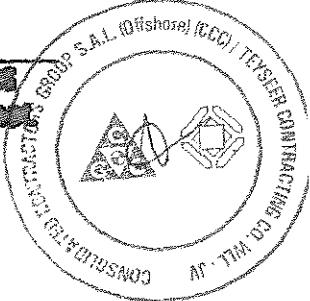
Company Name

: CCC/TCC-JV

Date

: 26/8/2014

Company Stamp

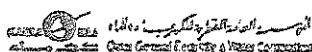


Transmission Report

Date Time 2014-08-27 08:07:48 a.m.
 Local ID 1 44567653 Transmit Header Text
 Local Name 1 #-----#

This document : Confirmed
(reduced sample and details below)
Document size : A4

Kahramaa 8/25/2014 4:39:38 PM PAGE 75/075 FAX Server



Tender No. GTC/626/2014

TENDER No. GTC/626/2014
Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 17

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed : _____
 Company Name : CCC/TCC-JV
 Date : 26/8/2014

Company Stamp :

Doc. Ref. No. 17

TELECOM MOROCCO
 General Projects Dept.

Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	848	Kahramaa	08:06:51 a.m. 2014-08-27	00:00:32	1/1	1	G3	HS	CP14400

Abbreviations:

HS: Host send
 HR: Host receive
 WS: Waiting send

PL: Polled local
 PR: Polled remote
 MS: Mailbox save

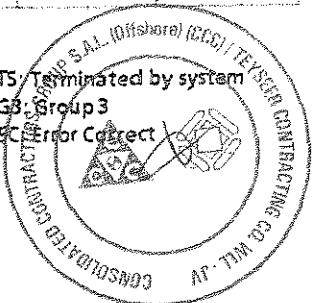
MP: Mailbox print
 RP: Report
 FF: Fax Forward

CP: Completed
 FA: Fall
 TU: Terminated by user

TS: Terminated by system

G3: Group 3

EC: Error Correct



TENDER No. GTC/626/2014

**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)**
Circular N°. 16

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

: _____

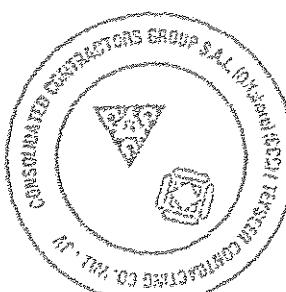
Company Name

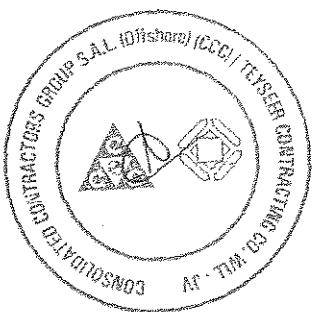
: CCC/TCC-JV

Date

: 20/08/2014

Company Stamp

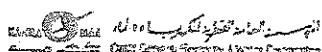
: 



Transmission Report

Date Time 2014-08-20 05:43:14 p.m.
 Local ID 1 44667053 Transmit Header Text
 Local Name 1 #-----#

**This document : Confirmed
 (reduced sample and details below)**
Document size : A4


 General Water Resources & Drainage Organization

Tender No. GTC/626/2014

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSSs (Packages A, B, C, D & E) Circular N°. 16

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications

Signed

: _____

Company Name

: CCC/TCC-JV

Date

: 20/08/2014

Company Stamp



Dos. Number No. 14

REPUBLIC OF AFGHANISTAN
 Water Projects Board

Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	811	Kahramaa	05:15:34 p.m. 2014-08-20	00:00:29	1/1	1	G3	HS	GPR/4400

Abbreviations:

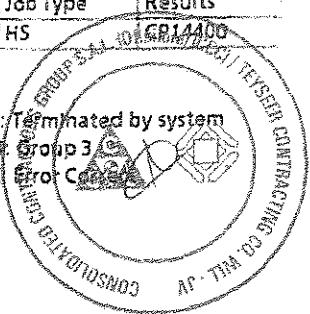
HS: Host send
 HR: Host receive
 WS: Waiting send

PL: Polled local
 PR: Polled remote
 MS: Mailbox save

MP: Mailbox print
 RP: Report
 FP: Fax Forward

CP: Completed
 FA: Fail
 TU: Terminated by user

TS: Terminated by system
 G3: Group 3
 EC: Error Control





Tender No. GTC/626/2014

TENDER No. GTC/626/2014**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 15**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

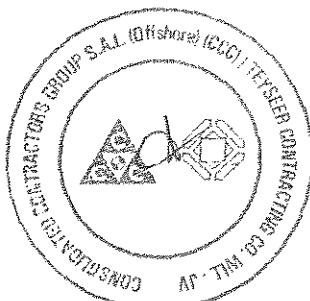
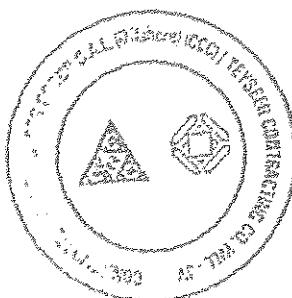
CCC/TCC - JV

Company Name

Date

18/08/2014

Company Stamp

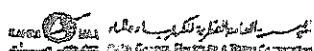


Transmission Report

Date/Time 2014-08-18 03:24:19 p.m. Transmit Header Text
 Local ID 1 44667053 Local Name 1 #-----#

This document : Confirmed
(reduced sample and details below)
Document size : A4

Fax Server 8A/2014/08 13:43:32 PM PAGE 34/324 Fax Server


 Mr. M. D. Dabholkar
 General Manager & Head of Operations

Tender No. GTC/626/2014

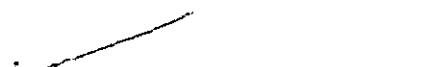
TENDER No. GTC/626/2014
Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 15

The Bidder shall note the revisions/classifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

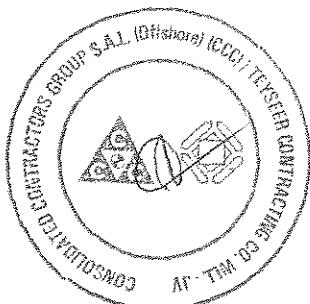
The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed : 
 Company Name : OZ/TOC - JV
 Date : 18/08/2014

Company Stamp : 

Document No. 1

TRANSMISSION REPORT
 Water Projects Dept.



Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	792	Kahramaa	03:23:24 p.m. 2014-08-18	00:00:31	1/1	1	G3	HS	CP14400

Abbreviations:

HS: Host send	PL: Polled local	MP: Mailbox print	CP: Completed	TS: Terminated by system
HR: Host receive	PR: Polled remote	RP: Report	FA: Fall	G3: Group 3
W: Waiting send	MS: Mailbox save	FF: Fax Forward	TU: Terminated by user	EC: Error Correct



Tender No. GTC/626/2014

TENDER No. GTC/626/2014

**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)**

Circular N°. 14

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

: _____

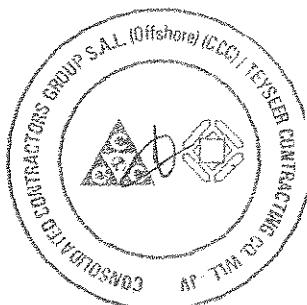
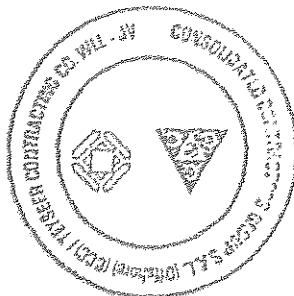
Company Name

: CCC / TCC - JV

Date

: 12/8/2014

Company Stamp :



Transmission Report

Date/Time : 2014-08-12 03:02:17 p.m.
 JobID : 44667053 Transmit Header Text
 Local Name 1 #-----#

**This document : Confirmed
 (reduced sample and details below)**

Document size : A4

Fax Server 0/12/2014 12:22:05 PM PAGE 1/105 Fax Server

Tender Submission

TENDER No. GTC/626/2014

**Construction of Meza Reservoir PRPSs (Packages A,
 B, C, D & E)
 Circular N°. 14**

The Bidder shall copy the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the tender for the required classification.

Signed

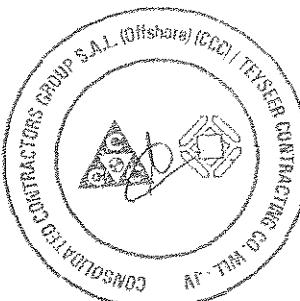
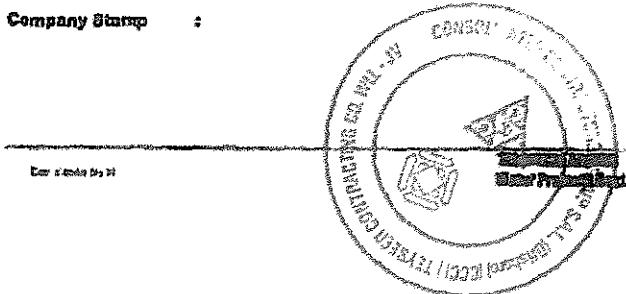
Company Name

CCC / TEC - JV

Date

12/8/2014

Company Stamp



Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	756	Kahramaa	03:00:28 p.m. 2014-08-12	00:00:27	1/1	1	G3	HS	CP14400

Abbreviations:

HS: Host send

PL: Polled local

MP: Mailbox print

CP: Completed

TS: Terminated by system

HR: Host receive

PR: Polled remote

RP: Report

FA: Fail

G3: Group 3

WS: Waiting send

MS: Mailbox save

FF: Fax Forward

TU: Terminated by user

EC: Error Correct



Tender No. GTC/626/2014

TENDER No. GTC/626/2014**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 13**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

: _____

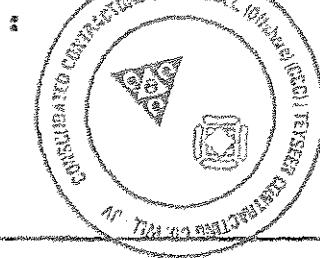
Company Name

: CCC/TCC-JV

Date

: 23/07/2014

Company Stamp

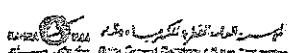


Transmission Report

Date/Time 2014-07-24 09:52:31 a.m. Transmit Header Text
 LocalID 1 44667053 Local Name 1 #-----#

This document : Confirmed
(reduced sample and details below)
Document size : A4

FAX Server 7/23/2014 12:47:47 PM PAGE 2/003 FAX Server


 Signature of the bidder
 Date: 23/07/2014

Technical Specifications

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) Circular N°. 13

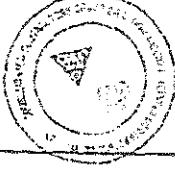
The Bidder shall make the revisions/classifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned Bidder hereby acknowledges receipt of the queries for the required classifications.

Signed : _____
 Company Name : CCC/TOC-JV
 Date : 23/07/2014

Company Stamp : 
 CCC/TOC JV
 CONTRACTORS GROUP S.A.L. (Offshore) / TEYSEER CONTRACTING
 Doha - Qatar - Doha - Qatar



Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	654	Kahramaa	09:51:36 a.m. 2014-07-24	00:00:31	1/1	1	G3	HS	CP14400

Abbreviations

HS: Host send	PL: Polled local	MP: Mailbox print	CP: Completed	TS: Terminated by system
HR: Host receive	PR: Polled remote	RP: Report	FA: Fail	G3: Group 3
WS: Waiting send	MS: Mailbox save	FF: Fax Forward	TU: Terminated by user	EC: Error Correct



Tender No. GTC/626/2014

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) Circular N°. 12

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

A handwritten signature is placed over a horizontal line.

Company Name

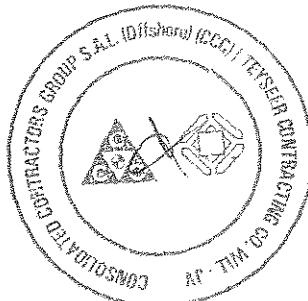
: CCC/TCC-JV

Date

: 14/7/2014

Company Stamp

A circular stamp containing the text "CONTRACTORS GROUP S.A.L (Offshore) (CCC) / TENDER CONTRACTOR QATAR" around the perimeter and "CCC/TCC JV" in the center, with two small diamond-shaped logos.

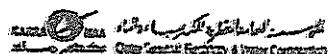


Transmission Report

Date/Time : 2014-07-14 08:02:12 a.m.
 Local ID 1 : 44557053 Transmit Header Text
 Local Name 1 : #-----#

This document : Confirmed
(reduced sample and details below)
Document size : A4

Nahrainas 7/13/2014 5:12:29 PM PAGE 57/957 Fax Server


 Nahrainas
 One Stop Facility & Work Corporation

Received by: [Redacted]

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) Circular N°. 12

The Bidder shall note the revisions/classifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned Bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed



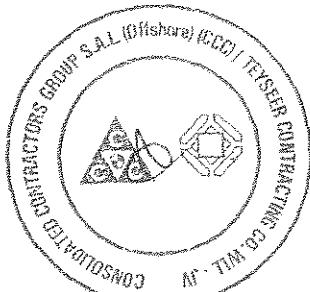
Company Name

CCC/TCC-JV

Date

14/7/2014

Company Stamp



Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	S95	Fax Server	08:01:20 a.m. 2014-07-14	00:00:27	1/1	1	G3	HS	CP14400

Abbreviations:

HS: Host send

PL: Polled local

MP: Mailbox print

CP: Completed

TS: Terminated by system

HR: Host receive

PR: Polled remote

RP: Report

FA: Fail

G3: Group 3

WS: Waiting send

MS: Mailbox save

FF: Fax Forward

TU: Terminated by user

EC: Error Correct



Tender No. GTC/626/2014

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) Circular N°. 11

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

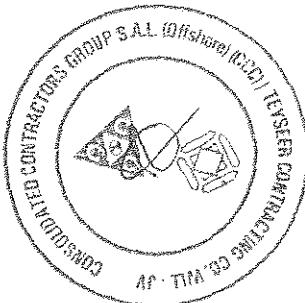
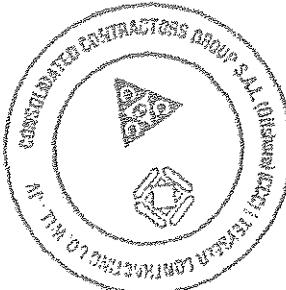
Signed

CCC/TCC-JV

Date

09/07/2014

Company Stamp

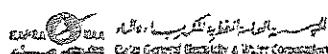


Transmission Report

Date Time 2014-07-10 08:11:33 a.m. Transmit Header Text
 Locs/ID 1 44667653 Local Name 1 #-----#

This document : Confirmed
(reduced sample and details below)
Document size : A4

Kahrzazan 7/9/2014 8:11:30 PM PAGE 2/002 Fax Server



Trade No GTC/626/2014

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) Circular N°. 11

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the quidies for the required clarifications.

Signed : _____
 Company Name : CCC/TCC-JV
 Date : 09/07/2014

Company Stamp :
Dra. Director No. 1

TELEFAX
Water Projects Dept.



Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	580	Fax Server	08:10:38 a.m. 2014-07-10	00:00:31	1/1	1	G3	HS	CP14400

Abbreviations:

HS: Host send
 HR: Host receive
 WS: Writing send

PL: Polled local
 PR: Polled remote
 MS: Mailbox save

MP: Mailbox print
 RP: Report
 FF: Fax Forward

CP: Completed
 FA: Fail
 TU: Terminated by user

TS: Terminated by system
 G3: Group 3
 EC: Error Correct



Tender No. GTC/626/2014

TENDER No. GTC/626/2014**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 10**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

: _____

CCC/TCC-JV

Company Name

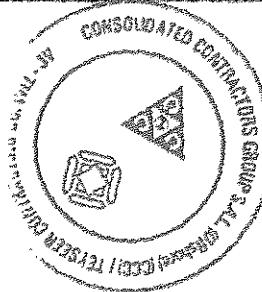
: _____

Date

: 07/07/2014

Company Stamp

: _____



Transmission Report

Date/Time
Local ID 1

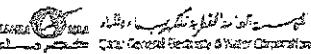
2014-07-08 10:16:08 a.m.
44567033

Transmit Header Text
Local Name 1

-----#

This document : Confirmed
(reduced sample and details below)
Document size : A4

7/7/2014 10:09:51 AM FAX: 12/012 FAX SERVER


Tarek El-Gohary
Chairman & CEO
Gulf General Contractors Operation

Tender No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 10

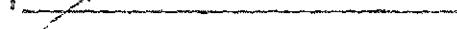
The Bidder shall note the revisions/classifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed :



Company Name :

CCC/TEC-JV

Date :

07/07/2014

Company Stamp :



Date: 07/07/2014

TECHNICAL SERVICES
Bidder Projects Dept.



Total Pages Scanned : 1
No. Job Remote Station
001 568 Kahramaa

Total Pages Confirmed : 1

Start Time	Duration
10:15:12 a.m. 2014-07-08	00:00:31

Pages	Line	Mode	Job Type	Results
1/1	1	G3	HS	CP14400

Abbreviations:
HS: Host send
HR: Host receive
WS: Waiting send

PL: Polled local
PR: Polled remote
MS: Mailbox save

MP: Mailbox print
RP: Report
FF: Fax Forward

CP: Completed
FA: Fail
TU: Terminated by user

TS: Terminated by system
G3: Group 3
EC: Error Correct



Tender No. GTC/626/2014

TENDER No. GTC/626/2014**Construction of Mega Reservoir PRP5s (Packages A,
B, C, D & E)
Circular N°. 09**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

Company Name

: CCC/TCC-JV

Date

: 6/7/2014

Company Stamp

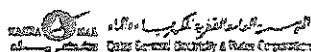


Transmission Report

Date/Time 2014-07-06 12:18:03 p.m. Transmit Header Text
 Local ID 1 44667053 Local Name 1 #-----#

**This document : Confirmed
 (reduced sample and details below)**
Document size : A4

Fax Server 7/6/2014 11:21:55 AM PAGE 31/031 Fax Service



Tender No. GTC/626/2014

**Construction of Mega Reservoir PRPSs (Packages A,
 B, C, D & E)
 Circular N°. 09**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the quotes for the required clarifications.

Signed : _____
 Company Name : CCC/TCC-JV
 Date : 6/7/2014

Company Stamp : 
 Date: Circular No. 27
 Bidder: CCC/TCC JV
 Bidder: CCC/TCC JV



Total Pages Scanned : 1			Total Pages Confirmed : 1						
No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	559	Fax Server	12:17:07 p.m. 2014-07-06	00:00:31	1/1	1	G3	HS	CP14400

Abbreviations:

HS: Host send	PL: Polled local	MP: Mailbox print	CP: Completed	TS: Terminated by system
HR: Host receive	PR: Polled remote	RP: Report	FA: Fall	G3: Group 3
WS: Waiting send	MS: Mailbox save	FF: Fax Forward	TU: Terminated by user	EC: Error Correct

Tender No. GTC/626/2014

TENDER No. GTC/626/2014**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 08**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

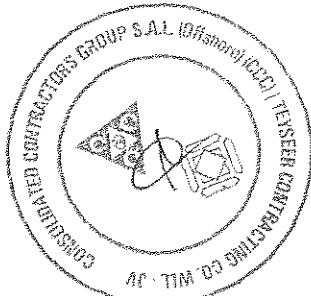
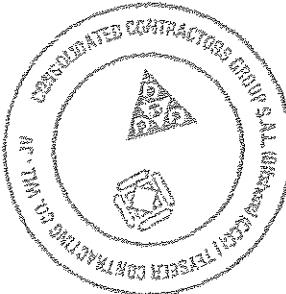
Company Name

: CCC/TCC-JV

Date

: 26/6/2014

Company Stamp

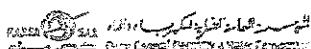


Transmission Report

Date/Time 2014-06-26 03:03:00 p.m. Transmit Header Text
 Local ID 1 44667053 Local Name 1 #-----#

This document : Confirmed
(reduced sample and details below)
Document size : A4

Kahzadas 6/26/2014 2:36:12 PM GATE 27/GTC Fax Server



Dawood CONTRACTORS

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) Circular N°. 02

The Bidder shall note the revisions/classifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

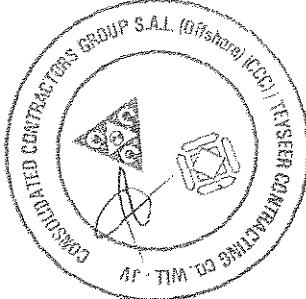
The undersigned bidder hereby acknowledges receipt of the quotes for the required clarifications.

Signed : 
 Company Name : OIL/TIC-JV
 Date : 26/6/2014

Company Stamp : 

Fax number No. 4

WADUD ALI
Master Project Exec.



Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	523	Fax Server	03:02:04 p.m. 2014-06-26	00:00:39	1/1	1	G3	HS	CP14400

Abbreviations:

HS: Host send
 HR: Host receive
 WS: Waiting send

PL: Polled local
 PR: Polled remote
 MS: Mailbox save

MP: Mailbox print
 RP: Report
 FF: Fax Forward

CP: Completed
 FA: Fail
 TU: Terminated by user

TS: Terminated by system
 G3: Group 3
 EC: Error Correct



Tender No. GTC/626/2014

TENDER No. GTC/626/2014**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 07**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

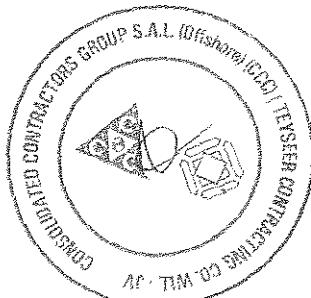
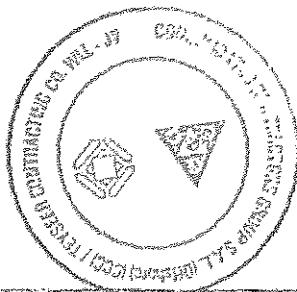
The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

Company Name

Date

Company Stamp



Transmission Report

Date/Time
Local ID 1

2014-06-24 09:46:19 a.m.
44667053

Transmit Header Text
Local Name 1 #-----#

**This document : Confirmed
(reduced sample and details below)**
Document size : A4

Reception Date 6/24/2014 9:41:36 AM PAGE 05/05 Fax Server

From: GTC/626/2014

TENDER No. GTC/626/2014
**Construction of Meza Reservoir PRPSs (Packages A,
B, C, D & E)**
Circular N°. 07

The Bidder shall note the revisions/classifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned Bidder hereby acknowledges receipt of the question for the required clarifications.

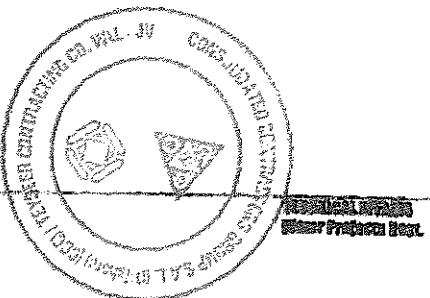
Signed

Company Name

Date

Company Stamp

Dan Alwadi No. 27



Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	516	Kahramaa	09:45:26 a.m. 2014-06-24	00:00:29	1/1	1	G3	HS	CP14400

Abbreviations:

HS: Host send

PL: Polled local

CP: Completed

TS: Terminated by system

HR: Host receive

PR: Polled remote

FA: Fail

G3: Group 3

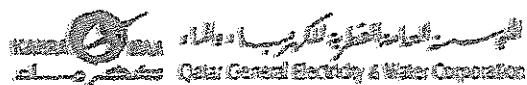
MS: Polling send

MP: Mailbox print

RP: Report

TU: Terminated by user

EC: Error Correct



Tender No. GTC/626/2014

TENDER No. GTC/626/2014**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 06**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

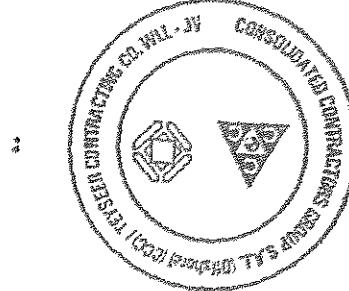
Company Name

: CCC/TCC-JV

Date

: 19/06/2014

Company Stamp



Transmission Report

Date/Time
Local ID 1

2014-06-19 10:35:33 a.m.
44667093

Transmit Header Text
Local Name 1

#-----#

This document : Confirmed
(reduced sample and details below)
Document size : A4

FAXNUMBER 6/19/2014 6 00:00 AM PAGE 22/22 FAX Server

EXXON MOBIL
SARL
Our Company & Our Contractor

Yasser El GTC/2014

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) Circular N°. 06

The Bidder shall note the revisions/classifications to the specifications and documents and incorporate them in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required classifications.

Signed : _____

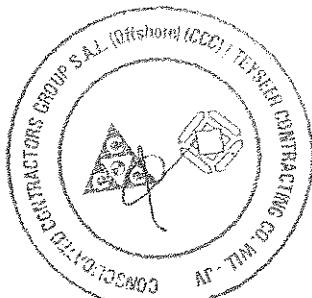
Company Name : CCC/TEC-JV

Date : 19/06/2014

Company Stamp : 

Document No. 001

RECORDED AND INDEXED
Sister Project Dept.



Total Pages Scanned : 1

No.	Job	Remote Station
001	500	Fax Server

Total Pages Confirmed : 1

Start Time	Duration
10:34:36 a.m. 2014-06-19	00:00:31

Pages	Line	Mode	Job Type	Results
1/1	1	G3	HS	CP14400

Abbreviations:

HS: Host send

HR: Host receive

WS: Waiting send

PL: Polled local

PR: Polled remote

MS: Mailbox save

MP: Mailbox print

RP: Report

FF: Fax Forward

CP: Completed

FA: Fail

TU: Terminated by user

TS: Terminated by system

G3: Group 3

EC: Error Correct



Tender No. GTC/626/2014

TENDER No. GTC/626/2014**Construction of Mega Reservoir PRBSs (Packages A,
B, C, D & E)
Circular N°. 05**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

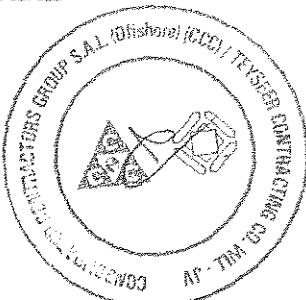
Company Name

CCC/TCC JV

Date

16/06/2014

Company Stamp



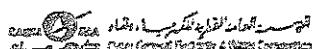
Transmission Report

Re Time 2014-06-16 08:09:30 p.m.
 Local ID 1 44667053

Transmit Header Text
 Local Name 1 #-----#

**This document : Confirmed
 (reduced sample and details below)**
Document size : A4

File Name : 5/16/2014 08:09:37 AM PAGE 10/310 Fax Server


 GTC - General Tender & Construction

Via e-mail circulation

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) Circular N°. Q5

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the quotes for the required clarifications.

Signed : 
 Company Name : GTC/TCI JV
 Date : 16/06/2014

Company Stamp : 

Doc number No. 00

TRANSMISSION ADDRESS
 GTC/TCI JV



Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	472	Fax Server	08:08:35 p.m. 2014-06-16	00:00:31	1/1	1	G3	HS	CP14400

Abbreviations:

HS: Host send
 HR: Host receive
 WS: Waiting send

PL: Polled local
 PR: Polled remote
 MS: Mailbox save

MP: Mailbox print
 RP: Report
 FF: Fax Forward

CP: Completed
 FA: Fail
 TU: Terminated by user

TS: Terminated by system
 G3: Group 3
 EC: Error Correct



Tender No. GTC/626/2014

TENDER No. GTC/626/2014**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 04**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate those in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

Company Name

Date

Company Stamp



Transmission Report

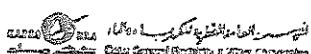
Job Time
Local ID 1

2014-06-10 16:35:35
44667053

Transmit Header Text
Local Name 1
#-----#

**This document : Confirmed
(reduced sample and details below)**
Document size : A4

FAX: 050 200 0000 GATEWAY & DIVISION FOR FAX: 471/11 FAX: 050 200 0000


General Manager, COX/JV

Tender No. GTC/626/2014

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) Circular N°. 04

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate those in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed : _____
Company Name : COX/JV
Date : 10/06/2014

Company Stamp : 

Doc Number 04

RECEIVED BY
State Projects Dept.



Total Pages Scanned : 1

Total Pages Confirmed : 1

No	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	451	Kahramaa	16:34:40 2014-06-10	00:00:31	1/1	1	G3	HS	CP14400

Abbreviations:

HS: Host send
HR: Host receive
WS: Waiting send

PL: Polled local
PR: Polled remote
MS: Mailbox save

MP: Mailbox print
RP: Report
FF: Fax Forward

CP: Completed
FA: Fail
TU: Terminated by user

TS: Terminated by system
G3: Group 3
EC: Error Correct

TENDER No. GTC/626/2014

**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)**
Circular N°. 03

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

: _____

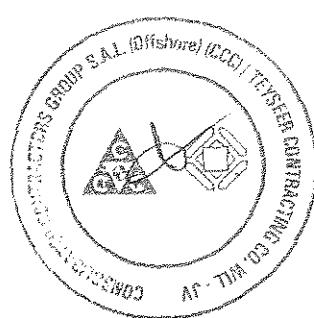
Company Name

: CCC/TCC-JV

Date

: 05/06/2014

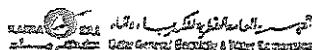
Company Stamp



Transmission Report

Type: Time Start Time: 2014-06-05 10:37:39
 Local ID: 1 Job ID: 44667633 Transmit Header Text:
 Local Name: 1 #-----#

This document : Confirmed
(reduced sample and details below)
Document size : A4



Document GTC/626/2014

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) Circular N°. 03

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

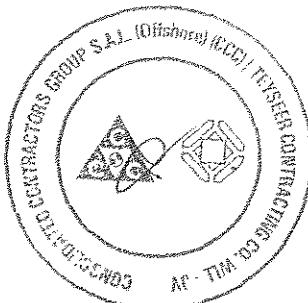
The undersigned bidder hereby acknowledges receipt of the quotes for the required clarifications.

Signed : 
 Company Name: CCC/TCC-JV
 Date: 05/06/2014

Company Stamp :



Tender Submission
General Conditions



Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	433	Kahramaa	10:36:44 2014-06-05	00:00:30	1/1	1	G3	H5	CP14400

Abbreviations:

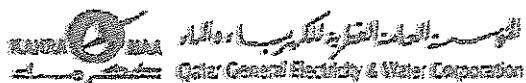
HS: Host send
 HR: Host receive
 WS: Waiting send

PL: Polled local
 PR: Polled remote
 MS: Mailbox save

MP: Mailbox print
 RP: Report
 FF: Fax Forward

CP: Completed
 FA: Fall
 TU: Terminated by user

TS: Terminated by system
 G3: Group 3
 EC: Error Correct



Tender No. GTC/626/2014

TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E) Circular N°. 02

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed

Company Name

CCC/TCC-JV

Date

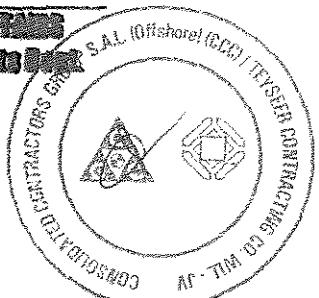
26/5/2014

Company Stamp



Doc. circular N°.02

**TECHNICAL DRAWINGS
Water Projects Sector**



Transmission Report

Date/Time
2014-05-26
21:06:49

15.06.49
44667053

Transmit Header Text:
Local Name ?

#-----#

This document : Confirmed
(reduced sample and details below)
Document size : A4

 *[Signature]*
Date: [Signature] Date Central Technical & Project Directorate

Tender No. GTC/626/2014

TENDER No. GTC/626/2014

**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 02**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed : 

Company Name : GTC/TCC-V

Date : 26/5/2014

Company Stamp : 

Document No. 22

RECORDED ADDRESS
[Signature]

Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	369	Kahramaa	15:05:55 2014-05-26	00:00:30	1/1	1	G3	HS	CP14400

Abbreviations:

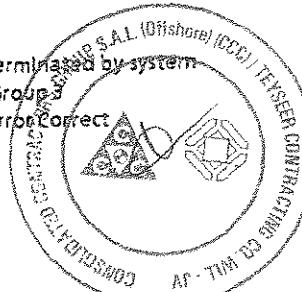
HS: Host send
HR: Host receive
WS: Waiting send

PL: Polled local
PR: Polled remote
MS: Mailbox save

MP: Mailbox print
RP: Report
FF: Fax Forward

CP: Completed
FA: Fail
TU: Terminated by user

TS: Terminated by system
G3: Grouped
EC: Error Correct



TENDER No. GTC/626/2014

**Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 01**

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

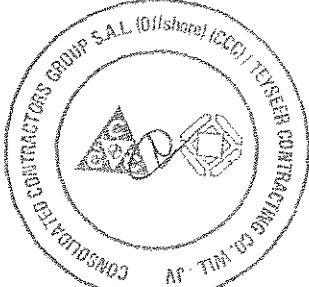
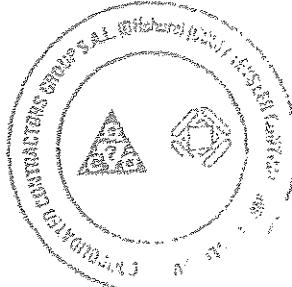
The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed : _____
Company Name : CCC/TCC -JV
Date : 06/05/2014

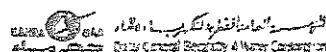
Company Stamp : _____



Transmission Report

Date/Time : 2014-05-06 09:54:46
 JobID : 42667033
 Transmit Header Text : Local Name : #-----#

This document : Confirmed
(reduced sample and details below)
Document size : A4



Tender No. GTC/626/2014

TENDER No. GTC/626/2014
Construction of Mega Reservoir PRPSs (Packages A,
B, C, D & E)
Circular N°. 01

The Bidder shall note the revisions/clarifications in the specifications and documents and incorporate these in his offer.

The bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed : _____
 Company Name : CCC/TCC - JV
 Date : 06/05/2014

Company Stamp :

Our number is:

Received Attest
Water Projects Dept.

Total Pages Scanned : 1

Total Pages Confirmed : 1

No.	Job	Remote Station	Start Time	Duration	Pages	Line	Mode	Job Type	Results
001	247	Kahramaa	09:53:59 2014-05-06	00:00:30	1/1	1	G3	HS	CP14400

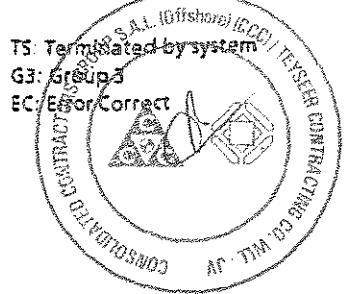
Abbreviations:

HS: Host send
 HR: Host receive
 WS: Waiting send

PL: Polled local
 PR: Polled remote
 MS: Mailbox save

MP: Mailbox print
 RP: Report
 FF: Fax Forward

CP: Completed
 FA: Fail
 TU: Terminated by user



SECTION 20: TENDER CIRCULARS

<u>Circular No.</u>	<u>Reference</u>	<u>Date</u>
Circular No. 1	TA/TW/TWM/14/FX/881	05.05.2014
Circular No. 2	TA/TW/TWM/14/FX/1009	26.05.2014
Circular No. 3	TA/TW/TWM/14/FX/1067	05.06.2014
Circular No. 4	TA/TW/TWM/14/FX/1098	10.06.2014
Circular No. 5	TA/TW/TWM/14/FX/1125	16.06.2014
Circular No. 6	TA/TW/TWM/14/FX/1139	19.06.2014
Circular No. 7	TA/TW/TWM/14/FX/1169	24.06.2014
Circular No. 8	TA/TW/TWM/14/FX/1177	26.06.2014
Circular No. 9	TA/TW/TWM/14/FX/1207	06.07.2014
Circular No. 10	TA/TW/TWM/14/FX/1213	07.07.2014
Circular No. 11	TA/TW/TWM/14/FX/1225	09.07.2014
Circular No. 12	TA/TW/TWM/14/FX/1246	13.07.2014
Circular No. 13	TA/TW/TWM/14/FX/1276	22.07.2014
Circular No. 14	TA/TW/TWM/14/FX/1327	12.08.2014
Circular No. 15	TA/DO/TW/14/FX/1337	18.08.2014
Circular No. 16	TA/TW/TWM/14/FX/1344	20.08.2014
Circular No. 17	TA/TW/TWM/14/FX/1399	26.08.2014
Circular No. 18	TA/TW/TWM/14/FX/1414	28.08.2014
Circular No. 19	TA/TW/TWM/14/FX/1460	08.09.2014
Circular No. 20	TA/TW/TWM/14/FX/1495	14.09.2014
Circular No. 21	TA/TW/TWM/14/FX/1496	16.09.2014

TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 05/05/2014	TOTAL PAGES: 7+1
To: All Bidders		Fax:
For the Attention of: General Manager		Our Ref.: TA/TW/TWM/14/FX-881
Subject: GTC 626/2014 – CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C,D & E)		

CIRCULAR No. 01

TENDER CLARIFICATION

1. Notice of amendment

1.1 Joint Ventures and Consortiums.

The tenderers are informed that Kahramaa shall accept bids, submitted by partnerships in only two partnership arrangements between the parties of the partnership.

- **Consortium partnership:**

That has a leader party who shall be authorized by the other parties to sign the Contract with Kahramaa and who will be responsible and liable for the execution and conclusion of the Contract. The other supporting parties will have no contractual relation with Kahramaa, (similar to the main Contractor/ Sub-contractor arrangement). The binding Consortium agreement will be considered by Kahramaa for bid evaluation, where the leader party shall state the part of the scope that will be provided by other supporting parties. Kahramaa will sign the Contract with the leading party, based on the qualification of the consortium parties. All bonds and guarantees shall be provided by the leader party.

The Leader party and the supporting parties shall secure their right according to their share in the project, as Kahramaa will sign the Contract with the leader Company only.

Kahramaa will not award any contract to any partnerships other than the above.

| Page 1

Warning: this fax and any attachments may contain information which is confidential. They should not be reproduced, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by e-mail or fax or telephone. Confidentiality is not assured or lost by electronic communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ : (974)44845333
م.ب : ٤١ - الدوحة - قطر



- Joint Ventures.

Kahramaa accept incorporated and unincorporated Joint Ventures. For the unincorporated Joint Ventures, the parties shall submit the Joint Venture (JV) agreement with their bids and shall satisfy the following conditions.

1. The JV shall have its own name and shall have its representative with full authorization (authorized by the JV parties) to bid for the tender and if awarded, to sign and execute conclude the contract with Kahramaa on the behalf of the parties of the joint venture with a well-defined decision making process.
2. The Joint Venture agreement shall comprise an agreement to form a separate entity that is formed from the parties of the Joint Venture.
3. The JV authorized representative shall be responsible and empowered for the execution and conclusion of the Contract with KAHRAMAA, including those responsibilities for coordination of all activities under the Tender and/or the Contract.
4. The JV agreements submitted with the bids shall be binding and final. Any amendments or revisions of this agreement shall be subject to Kahramaa Approval.
5. The Parties of the JV shall have no Termination Rights of the JV Agreement before fulfilling all contractual obligations toward Kahramaa.
6. Kahramaa cannot accept the concept of Lead and follower or supporting parties under the JV agreements.
7. Kahramaa shall have the contractual relation with the formed JV, not the individual parties of the JV.
8. All Joint ventures parties shall register their companies in Qatar in case of Award and before signing the contract.
9. The Joint Venture agreement for the established Joint Venture shall include the following main terms of agreement:
 - i. The Statement of Responsibility signed by the JV parties to the effect that the JV named in item (2) above and formed by the JV parties, legally represents the members of the Joint Venture for all issues, related to the Contract and that all firms participating in the Joint Venture are jointly and severally liable for the full execution of all works and all obligation under the Contract, notwithstanding, any agreement as between themselves to the contrary without any exceptions or limitation whatsoever.
 - ii. The Terms of the JV agreement shall explicitly state, that the parties have no rights to amend the terms or to terminate the Joint Venture agreements, whatsoever, without the consent of Kahramaa.
 - iii. The parties may register a joint Venture local Company, formed by the JV parties as shareholders. In this case no JV agreement is needed. Kahramaa shall sign the contract with the newly formed Company.

The bidder shall submit their **final, detailed and binding** Joint Venture agreement for the established unincorporated Joint Venture at this stage of Tendering. The JV agreement shall include the main terms of agreement between the parties and shall satisfy the above conditions.



The Joint Venture Agreement shall outline the purpose, provisions, responsibilities, performance expectations, cost and profit sharing, and Contract execution of the venture.

Based on the above, where applicable, the Tenderer is required to confirm the compliance of their offer with the above mentioned requirements and accordingly submit final Joint Venture/ Consortium agreements as part of the technical submission in accordance with the Instructions to Tenderers, IT16, Technical Package, reference j).

1.2 Boundary Wall

This tender includes drawings and specifications for the Boundary Wall for each of the sites. The Contractor is advised that these drawings are to be taken as a reference only and that Kahramaa reserves the right to modify the details of these at no extra cost to the contract.

1.3 Temporary Site Boundary Fence for PRPS1

For PRPSs 2, 3, 4 and 5, (Packages B, D, E and C) the contractor shall take over the ongoing maintenance and repair of the existing temporary site boundary fence.

For PRPS1 (Package A), the contractor shall comply with the following scope:

Design and construction of site boundary fence.

The Contractor shall submit his proposal (Shop Drawings) of a suitable site boundary fence for approval by the Engineer prior to erection. A sample section of the boundary fence shall be erected for approval by the Engineer. The Contractor shall construct site boundary fence conforming to the requirements of QCS (Section 1, Part 4 - 4.5) and the following:

- Minimum height: 2.5 m;
- Minimum design life: 5 years within minimal maintenance required;
- The fence shall be dismountable and re-locatable;
- The fence shall have sufficient stability and strength to resist the design live loading (wind, rain, etc), as defined in the relevant national specifications;
- The fence shall be painted and
- decorated with writing and pictures to the requirements of the Engineer. The detail of this shall be provided to the successful tenderer.
- The fencing sheets should be flat (not corrugated, as specified in QCS), galvanized with minimum thickness of 1mm.

1.4 Main Pumps - Bill Numbers 1, 2, 3, 4

The Contractor is now only required to submit a single Bill (Bill No. 1) for the main pumps and motors instead of 4 Bills. Therefore, Bill Numbers 2, 3 and 4 shall be deleted. Kahramaa reserves the right to award to any pump supplier from the Approved Kahramaa's vendor list on the basis of the prices given, without any variation in cost.



1.5 Main Pumps – Appendix I-3

The Contractor is still required to submit the sheets, contained within Appendix I for all of the Main Pump suppliers from the approved Vendor list.

1.6 Tender Queries

With immediate effect, Instructions to Tenderers Section IT9 shall be amended to read:

All queries shall be submitted on the prescribed form, issued with the Tender Documents of which a sample copy is shown in Attachment 9 and shall be returned as a soft copy using excel, on CD and hard copy attached to the letter.

Any queries relating to the Tender Documents or Tender submission must not be raised by telephone or personal contact but must be submitted in writing by letter, to the address below.

Technical Affairs
Qatar General Electricity & Water Corporation
19th Floor, Kahramaa Main Building, Al Ramez Tower
West Bay (Dafna)
P. O. Box 41
Doha - QATAR
Fax: (+974) 4484 5353

With a faxed copy only sent to:

**Secretary, General Tenders Committee
Qatar General Electricity & Water Corporation
35th Floor, Kahramaa Main Building, Al Ramez Tower
West Bay (Dafna)
P. O. Box 41
Doha - QATAR
Fax: (+974) 4484 5506**

Reply to Tenderers Clarifications

Please find below replies to your clarifications:

Q1. The tenderers have to make a very detailed and precise quantity take off study to be able to form a correct BOQ and to collect supplier prices. This study requires a great amount of man-hours on AutoCAD formatted files. But the project given in the tender documents are in pdf format, which definitely disables the quick and correct measurement abilities of the tenderers. Therefore, we kindly ask you to provide us the editable drawing files of the projects.

A1. Editable drawing files shall not be provided during the tender stage.



- Q2. PRPS 1 – Commercial – Quantities – Bill No. 8 – Page 8/26/1 – Item 8.2:**
Please provide the detailed BOQ for reservoirs, including all items and quantities.
- A2. The contractor is to respond on the BOQ given.**
- Q3. PRPS 1 – Commercial – Quantities – Bill No. 8 – Page 8/26/1 – Item 8.3:**
Please provide the detailed BOQ for Pumping stations, including all items and quantities.
- A3. The contractor is to respond on the BOQ given.**
- Q4. PRPS 1 – Commercial – Quantities – Bill No. 8 – Page 8/26/5 – Item 8.4:**
Please provide the detailed BOQ for site buildings, including all items and quantities.
- A4. The contractor is to respond on the BOQ given.**
- Q5. PRPS 1 – Commercial – Quantities – Bill No. 8 – Page 8/26/14 – Item 8.5:**
Please provide the detailed BOQ including all items and quantities for other structures like fuel storage facility, drainage lagoons, surge suppression tank, tanker filling stations, cable gallery etc.
- A5. The contractor is to respond on the BOQ given.**
- Q6. PRPS 1 – Commercial – Quantities – Bill No. 8 – Page 8/26/14 – Item 8.6:**
Please provide the detailed BOQ including all items and quantities for site works like road works, landscaping and various utility networks (Items 8.6.4 – 8.6.14).
- A6. The contractor is to respond on the BOQ given.**
- Q7. PRPS 2 – Commercial Quantities – Bill No. 8 – Page 8/24/1 – Item 8.2:**
Please provide the detailed BOQ for reservoirs including all items and quantities.
- A7. The contractor is to respond on the BOQ given.**
- Q8. PRPS 2 – Commercial Quantities – Bill No. 8 – Page 8/24/1 – Item 8.3:**
Please provide the detailed BOQ for Pumping stations, including all items and quantities.
- A8. The contractor is to respond on the BOQ given. .**
- Q9. PRPS 2 – Commercial Quantities – Bill No. 8 – Page 8/24/5 – Item 8.4:**
Please provide the detailed BOQ for site buildings, including all items and quantities.
- A9. The contractor is to respond on the BOQ given.**
- Q10. PRPS 2 – Commercial Quantities – Bill No. 8 – Page 8/24/12 – Item 8.5:**
Please provide the detailed BOQ including all items and quantities for other structures like fuel storage facility, drainage lagoons, surge suppression tank, tanker filling stations, cable gallery etc.
- A10. The contractor is to respond on the BOQ given.**



Q11. PRPS 2 – Commercial Quantities – Bill No. 8 – Page 8/24/13 – Item 8.6:

Please provide the detailed BOQ including all items and quantities for site works like road works, landscaping and various utility networks (Items 8.6.4 – 8.6.14).

A11. The contractor is to respond on the BOQ given.

Q12. PRPS 3 – Commercial – Terms of Payment – BQ No. 1 – Page 2/15 – Item 2.1.4:

The quantity of valves measured does not agree with the quantity assessed from the drawings.

A12. PRPS 3 – Bill No. 1-4 are only required to cover the Main Pumps and spare parts for the Main Pumps. No valves are included in the Bill No. 1. Pipes, fittings, valves and accessories shall be found in the Bill No. 6.

Q13. All PRPSs – Contractual – GCC – BQ N/A – Page N/A – Item N/A:

Is the main contractor of any of the Mega Reservoir packages allowed to construct a batching plant within or close to the project site area?

A13. The winning contractor will be allowed to construct batching plant within the project site area, subject to obtaining the following conditions:

- a) The Contractor shall obtain all licenses, permits, temporary permits, and authorizations, required by any applicable laws, rules and regulations for constructing the batching plant;
- b) The plant shall be solely used for the supply for the construction of the PRPS where it is located;

Q14. All sites – Contractual – ITT – Page 3/34 – Item IT.1.h:

Please clarify if we are allowed to have different JV partners in any one of the five (5) packages.

A14. The Bidder is allowed to have different JV partners for each of the five packages, however, each JV presented must comply with the rules given within the original documents, and as set out above.

Q15. All sites – Contractual – ITT – Page 8/34 – Item IT.1.14:

We understand that we may submit offers for one or more of the five packages. Please clarify whether the QAR 20 Million Tender Bond is for each one of the five (5) packages or should we pro-rate the QAR 20 Million according to the number of packages we wanted to participate.

A15. A QAR 20 Million Tender Bond is required to be submitted equal to the number of packages that the Tenderer considers it can undertake through contract or contracts with Kahramaa. E.g. the Tenderer may wish to price all 5 packages, however, should they feel that they only have the capacity to deliver 2 packages, they should only submit 2 tender bonds. Irrespective of whether they submit more winning bids, they shall then only be awarded a maximum of 2 packages.



Q16. All sites – Contractual – ITT – Page 13/34 – Item IT.25.1:

Please clarify whether the minimum annual turnover requirement of 850 Million (or percentage of the financial criteria in case of Joint Ventures) is applicable regardless of the number of packages we wanted to participate or should we pro-rate the 5 packages?

A16. The minimum annual turnover of QAR 850 Million is applicable regardless of the number of the packages submitted. This shall not be pro-rata'd.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,

**ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS**

CC-TW,GTC, File:

Page 7

relinquished this fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copies to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Court-Recievability is not waived or lost by signature or communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P.O BOX 41, DOHA - QATAR.

44845301 : -51 = 447544845337 : 0-51

Digitized by srujanika@gmail.com





TENDER No. GTC/626/2014

Construction of Mega Reservoir PRPSs (Packages A, B, C, D & E)

Circular N°. 01

The Bidder shall note the revisions/clarifications to the specifications and documents and incorporate these in his offer.

— The Bidder shall submit one signed copy of this cover page with his tender.

ACKNOWLEDGEMENT

The undersigned bidder hereby acknowledges receipt of the queries for the required clarifications.

Signed : _____

Company Name : _____

Date : _____

Company Stamp :

TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 26/05/2014	TOTAL PAGES: 6+2
To: All Bidders		Fax:
For the Attention of: General Manager		Our Ref.: TA/TW/TWM/14/FX- 1000
Subject: GTC 626/2014 – CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 02

TENDER CLARIFICATION

1. Extension of Tender Closing Date

Please note that the Tender closing date has been extended for three (3) weeks. The revised closing date shall be on Thursday, 26th of June 2014, at 12.00 noon.

2. Notice of amendment

2.1 CD for Collection:

The Contractor is advised that a CD may be collected from the 19th Floor of Kahramaa Main building, Tower 1.

This CD contains:

- AutoCAD drawings with enclosed drawings list. These drawings are issued for information purposes. The Tender drawings remain in the PDF set only. All drawings, issued remain the Copyright of Hyder Consulting Ltd. and Kahramaa, and shall not be used for any purpose other than tendering of this project without express authorization.
- Earthworks drawings for existing enabling works contracts, as referenced below.

2.2 Enabling Works Contracts:

The Contractor is advised that there is an enabling works contract for the following sites:

- PRPS2 (Package B) – Umm Slal
- PRPS3 (Package D) – Rawdat Rashid
- PRPS4 (Package E) – Abu Nakla
- PRPS5 (Package C) – Al Thumama

| Page 1

Warning: this fax and any attachments may contain information which is confidential. They should not be reproduced or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax to info@qgcw.qa. Confidentiality is not waived if loss of confidentiality is unintentional.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ - (974) 44845333 : ٤٤٨٤٥٣٣
ص.ب : ٤١ - الدوحة - قطر



The tendered drawings for this are given on the attached CD. The Earthworks shown within these enabling works drawing is in progress by others. The levels shown on these drawings shall form the levels of the PRPS sites at handover to the GTC626\2014 contractors at contract award. Excavation works not shown on these drawings, such as trimming, levelling, pipe excavation and localised excavation shall be completed under this contract.

The Contractor is advised that for **PRPS1 (Package A) – Umm Birka**, there is no enabling works contracts and all earthworks, required at this site shall be completed by the Contractor for GTC626\2014.

Reply to Tenderers Clarifications

Please find below replies to your clarifications:

- Q1. All PRPSs – Technical – Civil/Structural – Bill No. 8 – Page 8/26/1-15:**
The measured unit is in Lump sum (LS) and no quantity. Kindly provide us detailed BOQ as our major subcontractors and suppliers have required from us.
- A1. AutoCAD drawings are provided to facilitate easier measurement and the BOQ shall remain as given.**
- Q2. All PRPSs – Technical – Civil/Structural – Appendix – I:**
There are no approved Vendors for Civil Works and Architectural Finishes. Kindly provide.
- A2. The Contractor shall propose suitable Vendors, which shall be subject to Kahramaa review and approval.**
- Q3. All PRPSs – Contractual – App. C-k – All drawings:**
Please provide us with soft copies of AutoCAD files in Appendix F.
- A3. Sufficient AutoCAD drawings are provided within the attached CD. These are for provided to the bidder for assistance in the measurement process only. The PDF drawings shall take precedence and shall form the final contract.**
- Q4. PRPS 2 – Commercial – Item Coverage – Bill No. 8 – Page 8/24/1 – Note:**
The "note" on BOQ specifies that Site grading and Major excavation works are completed by Earthworks enabling contractor. Please clarify that levels showing on the tender drawing for the earthworks (profiles show existing earth level) are not present level of earthworks after completing of enabling contractor work. If not, please provide the latest drawings.
- A4. Major Excavation works are in progress by the enabling works contractors at PRPS2, PRPS3, PRPS4 and PRPS5. Contours shown are current ground levels. Earthworks drawings for the enabling works being completed by others are given in the attached CD. The levels shown on these drawings shall form the levels of the PRPS sites at handover to the GTC626\2014 contractors at contract award.**

This document plus fax and any attachments may contain information which is confidential. They should not be distributed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by e-mail or fax as soon as possible. Confidentiality is not guaranteed in case of mistaken communication.



- Q5. PRPS 2 - Commercial – Item coverage – Bill No. 8 – Page 8/24/1 – Note:**
 The 'note" on BoQ specify that Site grading and Major excavation works are completed by Earth works enabling contractor. Please confirm that this work is done by others.
- A5. Refer to A4.**
- Q6. PRPS 1 - Commercial – Item coverage – Bill No. 8 – Page 8/26/1 – Note:**
 The 'note" on BoQ (PRPS 2) specify that Site grading and Major excavation works are completed by Earth works enabling contractor. Please confirm that this work is done by others in the case of PRPS 1.
- A6. There are no enabling works for the PRPS 1 site.**
- Q7. PRPS 1 – Technical – Civil/Structural – Appendix F – Landscape Drawings:**
 Please provide the missing landscape drawing from the tender documents. The missing drawings as per drawing register and transmittal are MQ174-R1-DH-LE-2001 to MQ174-R1-DH-LE-7002.
- A7. These are enclosed in the attached CD.**
- Q8. PRPS 1 – Technical – Architectural – MQ174-R1-DH-AR-9505-A:**
 The drawing No. MQ174-R1-DH-AR-9505-A is missing from the Architectural drawings. Please provide the drawing.
- A8. This is enclosed in the attached CD.**
- Q9. PRPS 1 – Technical – Civil/Structural – GTC626 2014-AppA1A-PRPS2 Scope rev 1
Page 9/70 – Item 1.1.3.3:**
 Kindly provide scope of work for the earthwork contract and detailed drawings showed outline of structure and border of excavation.
- A9. Refer to A4.**
- Q10. PRPS 1 – Technical – Civil/Structural – GTC626 2014-AppA1A-PRPS2 Scope rev 1
Page 9/70 – Item 1.1.3.4:**
 Earthworks Contract for the site will be in progress at the start of this PRPS Contract and will continue concurrently for some months. Please clearly clarify the earthwork contractor take over time in convenience to PRPS2-5 contractor make it project executive plan.
- A10. The GTC626\2014 contractors shall be given possession of the sites at Contract Award.**
- Q11. All PRPSs - Technical – Civil/Structural – MQ174-R1-DH-Cl-1001:**
 Can you provide us the site plan CAD format drawings for PRPSs 1-5?
- A11. Refer to A3.**
- Q12. All PRPSs - Technical - Civil/Structural:**
 Can you provide us the CAD format drawings?
- A12. Refer to A3.**



- Q13. All PRPSs - Technical - Civil/Structural – MQ174-R1(R2/R3/R4/R5)-DH-ST-2010:**
Please confirm specific region of inter distribution chamber.
- A13. The Inlet Distribution Chamber is located within reservoir No's 1 and 2 of each site. This may be found within drawing series MQ174-R1 (R2/R3/R4/R5)-DH-CI-6000.**
- Q14. We respectfully draw your attention to the noted discrepancies regarding the number of Reservoirs. In view hereof, we would fully appreciate your earliest clarification and issuance of the consistent Revised Tender documents.**
- A14. As referenced in the BOQ, the numbers of reservoirs to be constructed under this contract are:**
- PRPS1 (Package A) Umm Birka 4 No;
 - PRPS2 (Package B) – Umm Slal 5 No;
 - PRPS3 (Package D) – Rawdhat Rashid 5 No;
 - PRPS4 (Package E) – Abu Nakla 5 No;
 - PRPS5 (Package C) – Al Thumama 5 No;
- Additional reservoirs shown on the drawings are marked as "future" and are not required to be constructed under this contract.**
- Q15. All PRPSs – Logistic & Quality Control – General:**
Is it allowed to install a concrete plant at site for better control of material & production?
- A15. The Awarded Contractor will be allowed to construct batching plant within the project site area, subject to obtaining the following conditions:**
- a) The Contractor shall obtain all licenses, permits, temporary permits, and authorizations required by any applicable laws, rules, and regulations for constructing the batching plant.
 - b) The plant shall be solely used for the supply for the construction of the PRPS where it is located.
- Q16. All PRPSs – Technical – Civil/Structural – ITT – Page 6/34 – It. 7:**
Will there be an official site visit arranged by Kahramaa? If not, could Tenderers visit the site privately without any hindrances?
- A16. No official site visits are to be arranged. As the following sites are subject to enabling works any contractor wishing to visit these, shall complete and submit the attached form to Kahramaa for authorization by KM's Head of Main Water Projects. This shall apply to:**
- Package B, PRPS 2 – Umm Slal
 - Package D, PRPS 3 – Rawadat Rashed
 - Package E, PRPS 4 – Abu Nakhla
 - Package C, PRPS 5 – Al Thumama
- The contractor is free to visit Package A, PRPS 1 – Umm Birka at any time as this is open land and is not affected by enabling works.**

Within this fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by return of fax or telephone. Confidentiality is not guaranteed for lost or delayed communication.

Tele: (974) 4484 5388 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 - فاكس: (974) 44845393
ص. ب : 41 الدوحة - قطر



- Q17. All PRPSs – Technical – Civil/Structural – Appendix A – Section 1, Page 4 – Item 1.1.3.4:**
We understand that main excavation for the reservoir is under a separate contract and not included in the GTC 626 contract. Please provide us the as built / final drawings for the mentioned excavation contracts done by OTHERS at all locations.
- A17. These drawings are provided in the attached CD.**
- Q18. All PRPSs – Technical – Tender Circular No. 1 – It. 9 (1.6):**
Can we submit electronic copy by e-mail and hard copy of Tender Queries by Fax. If so, please provide the email id.
- A18. No. Tender Queries must be submitted by CD, with letter. Only the copy to the GTC may be a faxed copy as referenced in Tender Query 1.**
- Q19. All PRPSs – Contractual:**
Please clarify the following:
a. App. A1 Scope – Page 29 of 60 – Item 1.2.3 & 1.2.4:
Milestones 3 & 4 are within 35 months from the effective date of contract.
b. ITT – Page 34 of 34 – Summary of Contract, 09:
Contract duration 36 months from effective date of contract.
- A19. This is confirmed.**
- Q20. All PRPSs – Technical – Geotechnical:**
For what quantity and duration is dewatering to be done or to be maintained during the construction period?
- A20. The contractor is to make his own assessment of this.**
- Q21. All PRPSs – Technical – Civil/Structural – Appendix B – Page 8/26/1 – Item 8.2.1-8.2.5:**
Please provide itemized BOQ for reservoirs.
- A21. The contractor is to price the BOQ given.**
- Q22. All PRPSs – Contractual – ITT – Instruction to Tenderers – Page 8/34 – It. 14:**
As discussed in the mid-tender meeting, it is our understanding that no more than two tender bonds are required to be submitted, even if offers for all packages are given.
- A22. The contractor may submit offers for 5 packages and should then submit the number of tender bonds according to the number of packages they feel they can deliver. Should the contractor consider they can deliver 2 of the sites, then this should be 2 tender bonds.**
- Q23. We are tendering for Package B – PRPS 2 at Umm Slal. With reference to Instructions to tenderers IT.7 Worksite visit and other meetings, we would like to visit the site and to take photos. Our business development engineer shall be ready for the visit.**
- A23. Refer to A16.**
- Q24. All PRPSs – Technical – Civil/Structural:**
Please provide editable drawing files of the project.
- A24. Refer to A3.**

Warning: This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not guaranteed in long distance communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : تلفون: (974) 44845333
عنوان: 41 - الدوحة - قطر



Q25. All PRPSs – Technical – Civil/Structural – Appendix A/A1

General Scope of Work & Specification – Page 7 – Item 1.1.2 – Brief Scope of Work:

We understand that "Bulk excavation" of each reservoir site will be carried out by other contractors under separate contracts. Regarding to the scope of description, we kindly ask you to confirm that the excavation for reservoirs, the foundation of excavation of buildings as well as the excavations for lagoon's will be excluded from the scope of the Construction of Mega Reservoirs PRPS for all packages.

A25. This information is included on the drawings given on the attached CD.

Q26. PRPS 2 – Technical – Civil/Structural – Appendix A – Item 1.1.3.4:

In 1.1.3.4 it is mentioned that "the Earthworks contractor will hand over the site in 2 phases as shown on the drawings". We cannot find these drawings. Please give the drawing numbers or submit the missing drawings.

A26. Refer to A4.

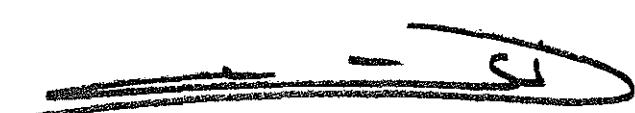
Q27. All PRPSs – Contractual – ITT – Page 8/34 – IT. 14 Bank Guarantee:

As per Circular No. 1 maximum of two packages will be awarded to any bidder. If a bidder has the capacity of doing one site only but to widen the winning chance, willing to participate/submit in all five packages, how many bid bonds have to be supplied to KM? In the Technical and commercial submissions, if they enclose copy of one Bid bond to all the 5 sites, will you accept?

A27. For this scenario, only one bid bond is required.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,


ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW,GTC, File

Important: This fax and any attachments may contain information which is confidential. They should not be disclosed, Disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not breached or lost by inadvertent communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ - ٩٧٤٤٤٨٤٥٣٣
ص.ب: ٤١ - قطـر

| Page 6



TECHNICAL AFFAIRS – WATER PROJECTS

SECURITY PASS APPLICATION
FOR ENTRY TO KAHRAMAA MEGA RESERVOIRS SITES

TO:	KAHRAMAA - MAIN WATER PROJECTS DEPT.
PROJECT:	GTC 626/2014
DATE: / / 2014

COMPANY:			
NAME (In full as in passport)			
Mobile:			
NATIONALITY:			
VISA / QID NO.:			
PROFESSION:			
REQUIRED PASS TIME:	FROM:		
	TO:		
	<input type="checkbox"/> PACKAGE B – Umm Slal		
	<input type="checkbox"/> PACKAGE C – Al Thumama		
	<input type="checkbox"/> PACKAGE D – Rawadat Rashed		
Representative from:		<input type="checkbox"/> PACKAGE E – Abu Nakhla	
		<input type="checkbox"/> Kahramaa	
		<input type="checkbox"/> Hyder	

AUTHORIZED BY : _____

SIGNATURE: _____

Date: _____

TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 05 /06 /2014	TOTAL PAGES: 14+1
To: All Bidders		Fax:
For the Attention of: General Manager		Our Ref.: TA/TW/TWM/14/FX - 1067
Subject: GTC 626/2014 – CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 03

TENDER CLARIFICATION

1. Notice of amendment

1.1 Advance Payment

The Contractor is advised that the following section of each BOQ is not required to be completed and should be deleted from the summary page of the BOQ for each Package.

- **"No Down Payment Cost Adjustment"**

Optional Item: Adjustment to Contract Price should Kahramaa not provided Advance Payment"

This advance payment is not optional and shall be provided, as given in the details of the contract.

Reply to Tenderers Clarifications

Please find below replies to your clarifications:

Q1. PRPS 1 – Commercial – Item Coverage – Bill No. 8 – Page 8/26/12 – Item 8.4.11:

As per BOQ 5 nos. (17-17 d) of water quality monitoring building shall be constructed. The building no. 17 d is the part of Reservoir No. 5, which is "not part of this contract". Please clarify the scope.

A1. Water quality monitoring buildings 17d, 17e and 17f are not required under this contract. Refer to the PI&D's for the dosing monitoring requirement in respect to the inlet and outlet of reservoir compartment.

| Page 1

Warning: This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by e-mail or fax asap. Confidentiality is not waived or lost by mislabeled communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 - تلفون: (974) 44845333
عنوان: 41 - الدوحة - قطر



- Q2. PRPS 1 – Commercial – Item Coverage – Bill No. 8 – Page 8/26/1 – Item 8.1.1:**
BOQ states "Site grading – cut and fill for proper levels". Please clarify that it included whole area within the boundary limit or the reservoir areas where this contract specify only.
- A2. The site grading is required for the full site up to the boundary limit as shown on the final site grading drawings number CI-series 2000.**
- Q3. All PRPSs – Technical – Civil/Structural – MQ174-R1-AR-0070, 71, 72, 73:**
We cannot find pay item BOQ for Shaded Car Parking. Kindly provide.
- A3. Car Parking is already referenced in the BOQ under item 8.6.1.**
- Q4. All PRPSs – Technical - Architectural – MQ174-R1-AR-1000 & 7000:**
We cannot find pay item BOQ for Kitchen Cabinets. Kindly provide.
- A4. This item is to be priced within the internal fit out of the structure.**
- Q5. All PRPSs-Technical – Civil/structural – Appendix A2 – Spec. 2.8 – Page 125/186 – Item 2.8.1:**
As per specification "Internal faces of water holding structures shall be painted by a waterproof non-toxic anti carbonation paint". Please provide vendor list for the said product.
- A5. Internal faces of concrete water holding structures shall NOT be painted. All concrete internal surfaces of the water holding structures shall be fair face concrete. Corresponding Tender documents will be revised and reissued through next circular(s).**
- Q6. PRPS 1 – Commercial – Terms of Payment – Appendix A**
Scope of work & specifications
Page 26/60 – Item 1.2.2:
The document specifying "Milestone 2 – Reservoir 1: Within Twenty One (21) months of the Effective date of Contract the Contractor shall complete the construction of reservoir Number 1." Please extend the milestone date when the contractor has to complete the enabling work for the project site and construction of the reservoirs.
- A6. This Milestone is related to commissioning of the system and shall not be extended.**
- Q7. All PRPSs – Technical – Geotechnical:**
Please clarify that the contractor has to do any additional geotechnical investigation at site.
- A7. No additional geotechnical investigations by Contractor are required.**
- Q8. PRPS 1 – Commercial – Item Coverage – Bill No. 10 – Page 10/12/19 – Item 10.6:**
BoQ showing Spare parts supply for Valves, Actuators and Flow Meters are Lump-Sum Quantities. Please give the specific number for each size.
- A8. This is to be provided for the Supply of manufacturer recommended Spare Parts for the items that are given within Bill No 6.**

Warning: this fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not guaranteed if lost by mislaid/lost communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

٩٧٤٤٤٨٤٥٣٩١ : ٩٧٤٤٤٨٤٥٣٣ : متر : ٩٧٤٤٤٨٤٥٣٣
صر. ب : ٤١ الدوحة - قطر



- Q9. PRPS 2 – Commercial – Item Coverage – Bill No. 10 – Page 10/17/19 – Item 10.6:**
BoQ showing Spare parts supply for Valves, Actuators and Flow Meters are Lump-Sum Quantities. Please give the specific number for each size.
- A9. This is to be provided for the Supply of manufacturer recommended Spare Parts for the items that are given within in Bill No 6.**
- Q10. All PRPSs – Technical – Civil/structural – GTC626 2014-App1A-PRPS(1—PRPS5)**
Scope rev1 – Pages 4/60, 10/70, 10/68, 10/70 – Item 1.1.3.6:
If the surplus material dispose off site to the Kahramaa approved location, please confirm where and how long the distance of this approved location from site is?
- A10. The Contractor is required to maximize the reuse of material taken from any sites for backfill. All surplus material will be disposed to a location that will be advised by Kahramaa at a later date. The disposal location will be within 80km radius of the site.**
- Q11. All PRPSs - Technical – Civil/Structural – MQ174-R1-DH-CI-1001:**
Can you provide us the site plan CAD format drawings for PRPSs 1-5?
- A11. Sufficient AutoCAD drawings were provided under Tender Circular No 2, to assist the bidder in his measurement process only. The PDF drawings shall take precedent and shall form the final contract.**
- Q12. All PRPSs - Technical - Civil/Structural - GTC626 2014-AppA1A(PRPS2-PRPS5) Scope rev1:**
Pages 9/70, 9/68, 9/70, 9/68 – Item 1.1.3.4:
Whether the "suitable excavated material" can be directly used for backfilling or used only after suitable treatment by PRPS contractor. If the latter, please indicate the grading of this suitable excavate material.
- A12. Under item 1.1.3.4, the contractor must confirm the quantity of stockpiled material and if necessary select further suitable material to reflect the final site grading. The contractor is obliged also to check and verify the suitability of the stockpiled material.**
- Q13. All PRPSs – Technical – Civil/Structural:**
Refer to the tender package Drawing list. It is observed that the enclosed list of drawings is missing or to be issued later (excel document in sheet 2). Please provide.
- A13. The drawings series number 1010 (marked as to be issued at later stage) are setting of plan or SOP's for the buildings and reservoirs and will be submitted to the successful bidder for use during construction.**
- Q14. All PRPSs – Technical – Mechanical – Appendix I-4:**
The vendors list provided in Appendix I-4 are mainly manufacturers outside the country. Kindly provide us local agents with complete contact addresses.
- A14. The Tenderer is required to contact the supplier for this information.**

This fax and any attachments may contain information which is confidential. They should not be reproduced, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not retained or lost by email/other communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ - (974) 44845333 : ٤٤٨٤٥٣٣
ج. ب : ٤١ - الدوحة - قطر



Q15. All PRPSs – Contractual – ITT – IT.1.h & IT 14-Bank Guarantee

Page 3/34 & 8/34 - Item IT.1.h & IT 14:

1. Within clause IT.1.h, it is stated that "...however, Kahramaa shall award no more than one PRPS package to each tender bidding..."
2. On the other hand, within IT 14, it is stated that "...The number of Tender Bonds, submitted shall be equal to the number of packages that Tenderer considers it can successfully deliver..."
3. Within Circular no. 01, A-15, it is stated that "A QAR 20 Million Tender Bond is required to be submitted equal to the number of packages that the tenderer considers it can undertake..."

For rectification of contradiction within above captioned items, we kindly ask you to clarify:

1. Whether more than one package may be awarded to any tenderer;
2. Whether a separate tender bond will be submitted for each tender package submitted.

A15. As Tender Circular 01, A QAR 20 Million Tender Bond is required to be submitted equal to the number of packages that the tenderer considers it can undertake.

Contractors may submit a tender for all 5 packages, but are only required to submit a tender bond for the number of packages that they consider they can deliver. Kahramaa may then wish to offer a single contractor one or more packages, however this remains subject to Kahramaa discretion and shall also be dependent upon the number of tender bonds that the successful contractor submits. **For example:** A contractor may tender 5 packages. If he is the lowest on three of those packages but has only submitted 2 tender bonds, he is only eligible to be awarded 2 packages. However during their evaluation, Kahramaa may consider that he is only able to deliver one of the packages and they reserve the right to impose this limitation and award him one package only.

Q16. All PRPSs – Technical – Mechanical – Appendix A1 – Scope of Work & Specifications:

As per scope of work it is said that: "The contractor shall supply, install, test and commission an electrically operated overhead travelling gantry crane of double girder type with a lifting capacity of 20 tones." But in the BOQ there is no separate item for considering price of crane. Kindly also delineate the ultimate capacity of the crane to be supplied and if any auxiliary hoist is required along with it or not. Kindly clarify.

A16. This is found under BOQ item 9.1.14 (lifting equipment). For the main pumping station, this shall cover the overhead crane which shall be of double girder type with auxiliary's hoist and all necessary fittings to be supplied and installed for the main pumping station.

Q17. All PRPSs – Commercial – Item Coverage – Bill NO. 10:

Supply of Spare parts:

In Bill No. 10 "Price of Spare parts" for same item is asked in two ways - one in Lump sum (LS) form and other are against some item & quantity given therein. For the items and quantities which are already given in the BOQ there is no problem in putting the price. But for LS items there will not be any parity in the price of various Bidders. Since some Bidders can consider the additional spare parts for which quantities are given as sufficient for 2 years and hence may put N/L against LS price. Please consider and clarify this point.

A17. There are 2 items for the spare parts, first part is lump sum for the manufactures recommended spare part and the second part is with quantity in accordance with KAHRAMAA requirement and set in this contract.



Q18. All PRPSs - Technical – Civil/Structural – Civil Drawings:

It is seen that the civil drawings have shown thickness of various Slabs, walls and other PCC/RCC structures. But reinforcement drawing for the same could not be located. We humbly request M/s Kahramaa to provide us with the reinforcement drawings, so that the reinforcements required can be assessed for every structure.

A18. The reinforcement details drawings are provided under the drawing folder referenced 'structures' for all PRPS sites.

Q19. All PRPSs – Contractual – App. C-K – Appendix E:

The Appendix E Annexure (1) asks for details of Contractor Personnel to be engaged for the said project. We believe that the details of the same are to be given after award of Contract. Please confirm. If we have to delineate the same during Tendering stage, we believe that during execution stage the successful contractor is free to choose their own manpower personnel in line with the requirements of the tender conditions for Contractor's personnel. Please confirm.

A19. This is not accepted. The Contractor shall provide the Personnel listed within his tender submission. Should the Contractor be intending to deliver the contracts at more than one PRPS site, he shall identify the appropriate number of personnel within his set of tenders submitted.

Q20. All PRPSs – Contractual – App. C-K – Appendix E:

The Appendix E, Annexure (5) – "Suppliers" – it calls for details of "names and addresses of all suppliers/manufacturers as well, as the same of nominated alternative suppliers/manufacturers name from where it proposes to procure goods: "We believe that the same to be given before placing order on the Vendors. However, the Vendor will be from Approved list, mentioned in the Tender.

A20. Whilst the Vendors shall be taken from the Vendor list for the items shown, there are other items for which Vendors should be identified that are not covered in the vendor list. Further the Vendor list contains a number of alternative suppliers. For these items, the contractor must confirm which of the approved vendors he intends to use.

Q21. All PRPSs – Contractual – App. C-K – Appendix E:

The Annexure (9) calls for Utilization of National Products & National Origin. We understand that by national products it means the procurement of goods within the employer's country and from the manufacturer's of employer's country. We also believe the same shall be non-binding during actual execution phase. Please confirm.

A21. National products refer to the procurement of goods within the employer's country and from the manufacturer's of employer's country. The Contractor shall identify these within his tender. Should he be awarded the tender, and then wish to use alternative vendors for the products identified in this table, they shall then submit a formal request for approval of this change to Kahramaa.

Q22. All PRPSs – Commercial – Item Coverage – Appendix B:

Kindly provide us the itemized quantity of different types of Power cables, MCCs & cable trays, required for all the packages, the same is not mentioned in the BOQs. Also, HT power cables for bringing power from plant boundary to the Pumping Station are also not found in Bill 5.



A22. Refer to bill number 9 under item 9.2.1 within which these items are listed. This shall be priced as lump sum. Details on the length of the power/control cabling will not be provided and the same shall be taken from the drawings.

Q23. All PRPSs – Commercial – Item Coverage – Appendix B:

Kindly provide us the itemized quantity of different types of Control cables required for all the packages. The same is not mentioned in the BOQs.

A23. Refer to bill number 9 under item 9.3.1 within which these items are listed. This shall be priced as lump sum. Details on the length of the power/control cabling will not be provided and the same shall be taken from the drawings.

Q24. All PRPSs – Commercial – Item Coverage – Appendix B:

Kindly provide us the itemized quantity of different electromechanical items intended for the fire-fighting system for all the packages, only fire and hydrant pumps are mentioned in Bill 5 but items like manual call points, safety shower, 2 loop UL Listed Intelligent Analogue system, Addressable Fire Alarm Panel, detectors, BMS integration card, Graphic Display Software with type of PC, Multi smoke sensor, heat sensor, addressable sauna cum strobe, receptor panel, FRLS armored cable, false ceiling detectors etc. – the same are not mentioned in the BOQs.

A24. All items required for the fire protection and alarm system shall be allowed for. The price of these shall be included within the items given.

Q25. All PRPSs – Commercial – Item Coverage – Appendix B:

Kindly provide us the itemized quantity of different electromechanical items, intended for the AC & Ventilation systems for all the packages. The same is not prevailing in the existing BOQs.

A25. All required details are provided in the tender drawings.

Q26. All PRPSs – Commercial – Item Coverage – Appendix B:

The Bill 6 of all the packages delineates different Pipes, Valves, spool Pieces and fittings for the packages. Kindly confirm that the Bill 6 covers all the pipes, valves, fittings, specials & spool pieces, required for the packages and no extra item is required to be procured apart from the depicted list in Bill 6.

A26. The Bill number 6 describes the items schedules are estimated. The contractor shall read the drawings to satisfy himself with quantity and any discrepancy find shall be highlighted during the tender process. Please refer to clause 1.3 and 1.8 Appendix B, notes on pricing and schedules of prices.

Q27. All PRPSs – Commercial – Item Coverage – Appendix B:

As per Scope of Work there is a requirement of "Surge Suppression" system. But no itemized electro-mechanical items have been listed under its name, nor any LS BOQ item to quote its price. Kindly clarify the same.

A27. Refer to bill number 9 under 9.1.9 in respect to item surge system. The bidders shall include in his price for all equipment's deemed for complete installation.

Q28. All PRPSs – Commercial – Item Coverage – Appendix B:

As per Scope of Work, there is a requirement of "IT and telephone systems". But no itemized electro-mechanical items have been listed under its name, nor any LS BOQ item to quote its price. Kindly clarify the same.



A28. Refer to bill number 9 under item 9.2.10 in respect to IT and telephone system. The bidders shall include in his price for all equipment's deemed for complete installation, as well as the costs of connection charges.

Q29. All PRPSs – Commercial – Item Coverage – Appendix B:

As per Scope of Work, area lighting & street lighting is in bidder's scope. But no itemized electro-mechanical items have been listed under its name, nor any LS BOQ item to quote its price. Kindly clarify the same.

A29. Refer to bill number 9 under item 9.2.9 in respect to street lighting and security lighting. The bidders shall include in his price for all equipment's deemed for complete installation.

Q30. All PRPSs – Commercial – Item Coverage – Appendix B:

As per Scope of Work, CCTV and Physical Security Intruder Systems are in bidder's scope. But no itemized electro-mechanical items have been listed under its name, nor any LS BOQ item to quote its price. Kindly clarify the same.

A30. Refer to bill number 9 under item 9.3.2.1 in respect to CCTV and security. The bidders shall include in his price for all equipment's deemed for complete installation.

Q31. All PRPSs – Commercial – Item Coverage – Appendix B:

As per Scope of Work, Furniture and Equipment are in bidder's scope. But no itemized electro-mechanical items have been listed under its name, nor any LS BOQ item to quote its price. Kindly clarify the same.

A31. The bidders shall price for all furniture's and equipment's deemed necessary for setting out site office as listed in Appendix A- scope of work and specification. For permanents furniture, the Contractor shall submit to KAHRAMAA a final list for review and approval for each site.

Q32. All PRPSs – Contractual – ITT – All drawings – Page 8/34:

Kindly allow Contractor to provide the tender bond/s without mentioning the package/s name/s.

A32. Contractors are allowed to provide Tender Bonds without mentioning packages/names. They must simply refer to GTC626/2014.

Q33. All PRPSs – Technical:

Please provide the AutoCAD Files of all the drawings (in Appendix F) for Quantity takeoffs and Design verification.

A33. Sufficient AutoCAD drawings were provided under Tender Circular No 2, to assist the bidder in his measurement process only. The PDF drawings shall take precedent and shall form the final contract.

Q34. All PRPSs – Technical – Civil/Structural:

Please provide preferred vendor list for ESVC pipes supply.

A34. There is no specified vendor for these. The Contractor shall submit his proposal for Kahramaa review and approval.



Q35.PRPS 1 – Technical – Architectural - MQ174-R1-DH-AR-2010-A:

Please provide drawing details and material type for "Kahramaa Logo" shown in drawing MQ174-R1-DH-AR-2010-A.

A35.Drawing details shall be provided to the successful bidder. Material shall be precast panels as referenced above.

Q36.PRPS 1 – Commercial – Quantities – Bill No. 9 – Page 9/18/1 – Item 9.1.4 – 9.1.9:

Please provide the number of pumps required for the said locations.

A36.The total of Main Pumps are 9 under this contract (SS1A requires 4 pumps and SS1B requires 5 pumps). There are no Corridor Main pumps on this site.

Q37.PRPS 1 – Technical – Architectural - MQ174-R1-DH-AR-2011-A:

Please clarify, which type of material to be used for the fixing of the PC elements, mechanical or bonding and please specify.

A37.The approved Arabic fretwork panels and the Arabic arch are to be made from GRC and fixed into drilled holes in the wall using epoxy glue to secure the stainless steel 316 fixing bolts behind the panels.

Q38.PRPS 2 – Commercial – Quantities - MQ174-R2-DH-CI-1001-A:

Please confirm that the 6, 7 & 8 are not part of the scope of works since there is no comment on the drawing as on other site plans.

A38.Confirmed that reservoirs number 6, 7 and 8 are not part of this contract.

Q39.All PRPSs – Contractual – ITT:

Qualification of Local Subsidiary Qatari company vs. Non-Qatari Parent company. Please advise whether a well-established subsidiary local contracting company can pre-qualify utilizing financial credibility, technical knowhow and past experience of its parent non-Qatari company.

A39.This will be evaluated during the Technical Evaluation Process, noting that the main evaluation shall be of the company who submits the tender bond.

Q40.As part of a site visit, we observed that the earthworks contracts are under execution by other contractors. We kindly ask you to clarify our following queries:

- a) What is the final completion and handover date to each PRPS contractor of existing bulk excavation contracts?
- b) What is the tolerance level (\pm cm) for the ongoing excavation scope of the contracts and in what precision value the ground level will be handed over to the contractors of Mega Reservoirs PRPS packages?
- c) What is the work area width considered in excavation plan to be able to make calculation for backfilling?
- d) We observed stocked material (surplus, backfill, sub-base etc.) within the site working areas. Please clarify the responsibility of the PRPS contractor with this stocked material.
- e) If the stocked materials will not be removed by the existing contractors, please provide the bidders the final area plan of each site indicating the area to be occupied, quantity and quality of stocked material to be delivered to the PRPS contractors.



- A40.a)** The GTC626/2014 Contractor shall be given possession of the sites at Contract Award.
- b) ± 7.5cm; however as the earthwork activities still ongoing, the contractor will have to verify the accuracy of the final levels and allow within their price for any trimming required.
 - c) Due to excavation in rock, the excavation size is approximately 0.5m bigger than the final dimensions shown on the drawings for the construction of the main works.
 - d) Apart from PRPS 1, all the other PRPS sites will have 1) crushed material to be used for backfilling and 2) top soil material to be used for finishing and final leveling. It is the PRPS contractor responsibility to ensure that this material complies with the specifications of their intended use.
 - e) The material will be placed in the stockpile area; however, as the earthwork activities still ongoing it is not possible to provide you with final plan showing the extent of the area to be occupied.

Q41. All PRPSs – Technical – Architectural – Appendix A3

Architectural Specification – Item 3.1.1.1-9:

In order to submit a more economic offer, please confirm that the contractor can use architectural precast panels from other supplier/sub-contractor than United Precast concrete.

A41. The bidders can submit other suppliers for precast panels at the condition they meet the specification.

Q42. All PRPSs – Commercial – Item Coverage – General:

Please confirm that the building permit and the Civil Defense approvals for Design have been obtained already and is the responsibility of the Client.

A42. Building Permits and Civil Defense approvals are the responsibility of the Client. Applications for these are ongoing.

Q43. All PRPSs – Technical – Civil/Structural – Drawings St-4760 – PT Beams:

Please clarify if the PT-beams used in the main pumping stations are intended to be Precast or In-Situ beams and if they will be Pre-tensioned or Post-tensioned. Or is it the free choice of the Contractor? It is worth to mention that the weight of one Precast beams has a weight of more than 100 tons.

A43. The beams are pre-cast and post-tensioned before lifting into position and the final stitching to the column carried out. Note the Contractor is to allow in his procurement and detailing for the temporary lifting condition.

Q44. All PRPSs – Technical – Civil/Structural – Appendix F – All pages – Drawings:

As per the mid-tender meeting, it was advised to us that the selective Cad drawings will be supplied for the Quantity take-off purpose. We kindly request timely release of Cad drawings for our in-depth preparation.

A44. Sufficient AutoCAD drawings were provided under Tender Circular No 2, to assist the bidder in his measurement process only. The PDF drawings shall take precedent and shall form the final contract.



Q45. All PRPSs – Technical – Civil/Structural –

Dwgs. MQ174-R1-DH-ST-1023 & MQ174-R1-DH-CI-6030:

Protection Concrete for waterproof Membrane:

Any protection for waterproofing membrane for raft foundation of Reservoirs, Main and Auxiliary Pumping Station and Tunnel was not foreseen on dwg. MQ174-R1-DH-ST-1023: Standard Details Movement Joints and Waterproofing Sheet 01 of 02. However, 50 mm Protective Screed Grade OPC 20 was foreseen on dwg. MQ174-R1-DH-CI-6030: Reservoir Typical Under Floor Drainage Plan. We believe that protection is essential for waterproofing membrane, absolutely. Would you please clarify what will be used for protection of waterproofing membrane?

A45. A 75mm Blinding is required underneath all types of waterproofing membranes (bonded or unbonded). Blinding concrete mix shall be SRPC grade 20 as shown on the specs clause 2.1.3.1. A 50mm Screed protection will be provided ONLY on top of the un-bonded waterproofing membrane. Screed concrete mix shall be grade 20 OPC.

Q46. All PRPSs – Technical – Civil/Structural –

Dwg. MQ174-R1-DH-ST-3504/3506/3507/3508/3534/3567/3569/3576 and other related dwgs:

High Quantities of reinforcement:

We observe such high quantities of reinforcement in the design of reservoirs:

- Roof slab: 300 kg. reinforcement in 1 m³ concrete;
- Base slab: 260-450 kg. reinforcement in 1 m³ concrete;
- Retaining walls: 350-600 kg. reinforcement in 1 m³ concrete;

Could you please give us the engineering calculations why so high quantities have been calculated?

A46. These designs have been completed by the designers. Calculations shall not be provided to the contractors.

Q47. All PRPSs – Contractual – ITT – Instructions to tenderers – Page 13/34 – It. 25/25.1:

Minimum Requirements for Tenderers:

According to Item 25.1 of Instructions to Tenderers, rev. 1: One of the minimum requirements which tenderers must be able to satisfy is: "Have completed similar major civil/electro-mechanical contracts of similar nature containing water retaining structures, large pumping stations and large diameter pipework in the last 10 years."

- a) We understand from "water retaining structure" is "concrete dam" or similar reservoir structures with remarkable piping and pump stations with equivalent contact figure to this project. Please confirm.
- b) We refer to the pre-bid meeting. How many numbers of projects are the bidders allowed to provide references to fulfill the contract amount? In other words, what is the "cap" for the number of the projects that the bidders can show for qualification? Is the "cap" 1, 2, 3 or 100?
- c) We refer to the pre-bid meeting. If the sum of the completed contracts by the Tenderer in 10 years does not contain all above mentioned works like as water retaining structures, large pumping stations and large diameter pipework and/or contains one or two of them only, will be approved like as minimum requirements or not?
- d) If water ponds shall be accepted as similar projects, we would like to ask the following questions: If a pond contractor provides 50 numbers ponds within last 10 years amounting to the contract value of one reservoir package, will it be accepted?



A47.a) Yes.

- b) The Bidder should provide a full list of relevant projects for the last 10 years.
- c) & d) This shall be considered by Kahramaa during the evaluation process.

Q48.Q133. All PRPSs – Technical – Civil/Structural – BOQ – PRPS

Bill 8 & 9 for Packages B, C, D & E and dwg. MQ174-R1-DH-CI- from 1101 to 1114:

Existing Excavation: A note was observed for excavation on the Page No. 1 of BOQ – PRPS – Bill 8 & 9 for Packages B, C, D & E: "Note – Primary Site grading and major excavation works for main structures (Reservoirs, Main Pump Station) and main process pipe works have been completed by the Earth Works Enabling Contractor. Stabilization of excavated areas, backfilling where required and final site grading are main contractor's responsibility." This note means that all excavation for reservoirs and main pump stations was realized by Earth Works Enabling Contractor. However, we understand that those excavations have not been finished whenever we see existing line and proposed line of ground on the related sections on dwg. MQ174-R1-Dh-CI- from 1101 to 1114. Would you please explain the situation?

Q48.Drawings showing the enabling works contracts for PRPS2, 3, 4 and 5 have been issued under Tender Circular 2.

Q49.All PRPSs – Technical – Civil/Structural – Dwg. MQ174-R1-DH-ST- from 2000 to 2032

QCS 2010 Section 05 Part 14 – Protective Treatment for Concrete (Page 12/19; Item 14.5.5)

Appendix A Section 2 – Civil & Structural Specification (Page 125/186; Item 2.8.1):

Protection of all internal surfaces of reservoirs: A note was observed on dwg. MQ174-R1-DH-ST- from 2000 to 2032 for protection of all internal surfaces of reservoirs: "All internal surfaces to be coated with two components high build, non-toxic, solvent free epoxy coating according to 14.5.5 of QCS 2010". However, Appendix A Section 2 – Civil & Structural Specification, Page 125/186 Item 2.8.1 says that "Internal faces of water holding structures shall be painted by a waterproof non-toxic anti-carbonation paint, based on cementitious material which has the property of sealing voids and protecting concrete from any corrosive action". Would you please inform which material will be used for protection of internal surfaces of reservoirs and other water holding structures?

A49.Internal faces of concrete water holding structures shall NOT be painted. All concrete internal surfaces of the water holding structures shall be fair face concrete. Corresponding Tender documents will be revised and reissued through next circular(s).

Q50.All PRPSs – Contractual – App. A1 – Scope Dwg. MQ174-R1-DH-CI-6500

Appendix A/A1 – General Scope of works by site – Page 29/60 – It.1.2.1:

Scope of Milestone 1:

"Appendix A/A1 – General Scope of Works by site/ GTC 626_2014 – App. A1A PRPS 1 Scope, Rev. 1/ Scope of Work & Specifications/1.2.1 Time for Completion Milestone 1 – Bypass Pipeline" says:

"Within 12 months of the Effective Date of Contract the Contractor shall complete the bypass pipeline between the incoming Corridor Main and the Transmission Main including installation of valves and construction of valve chamber to allow water to be passed into service. To achieve this Milestone the completed work shall include final dwg. MQ174-R1-DH-CI-6500."

However, dwg. MQ174-R1-DH-CI-6500 shows chambers only, not bypass pipeline. Please indicate what it is the number of the drawing/s which show/s bypass pipeline and explain the scope of the bypass pipeline works by pointing start and end of the works.



A50.Please refer to process pipes drawing number CI 3050 to CI 3068 for bypass arrangement and in particular on drawing number CI 3055. The objective of this milestone is to bypass the PRPS site while in construction and the corridor/transmission mains are in services.

Q51.All PRPSs – Commercial – Quantities – BoQ: PRPS 1-5 (Bill 8 & 9)

MQ174-R1&2&3&5-DH-CI-1001 – PRPS 1-5 Bill 8 (Civil) – PRPS 1-4 8.4.11/PRPS 5 8.4.12:

The quantity of Water Quality Monitoring Building showed on the BoQ sheets and the drawings is different. Please clarify.

A51.PRPS1 has 4 number Water Quality Monitoring buildings, PRPS2, PRPS3, PRPS4 and PRPS5 has 5 numbers Water Quality Monitoring buildings for each PRPS site.

Q52.All PRPSs – Technical – Civil/Structural - MQ174-R1&R2&R3&R4&R5-DH-ST-1023 & 1024

Detail 1,3,4,5,6,7,8,A,E,H,J:

Please clarify the material and technical requirements of protection board and screed, special screed grade.

A52.A 75mm Blinding is required underneath all types of waterproofing membranes (bonded or unbonded). Blinding concrete mix shall be SRPC grade 20 as shown on the specs clause 2.1.3.1. A 50mm Screed protection will be provided ONLY on top of the un-bonded waterproofing membrane. Screed concrete mix shall be grade 20 OPC.

Q53.All PRPSs - Technical – Civil/Structural - MQ174-R1&R2&R3&R4&R5-DH-ST-1028

Sections A & B:

Please clarify the pipe diameter of steel handrail.

A53.The bidder should refer to CI-6213 for the hand rail standard detail.

Q54.All PRPSs - Technical – Civil/Structural - MQ174-R1&R2&R3&R4&R5-DH-ST-1028:

Please clarify the material and technical requirements of coating for steel walk way.

A54.Please refer to drawing CI-6206.

Q55.With reference to the above mentioned tender, we hereby request you to provide AutoCAD drawings for tendering purpose.

A55.Sufficient AutoCAD drawings were provided under Tender Circular No. 2, to assist the bidder in his measurement process only. The PDF drawings shall take precedent and shall form the final contract.

Q56.The quantity of reservoirs is shown to be 8 each within dwg. MQ174-R2-DH-CI-1001-A without being annotated as "Not part of this Contract" or "Future" as in other tender packages. However, The quantity reservoirs are stated to be 5 each within Scope of Works document GTC 626-AppA1B-PRPS_2_Scope_Rev.1. We kindly ask you to clarify.

A56.The number of reservoirs to be constructed for Package B, PRPS2 under this contract is 5. We will add note stating the reservoirs which are Not part of this contract.



Q57. All PRPSs – Civil/Earthworks:

Can you clarify that when the earthwork contractors will finish their excavation works and when will the complete PRPS Sites be delivered to the PRPS contractors?

A57. The GTC626\2014 contractors will be given possession of the sites at contract award.

Q58. All PRPSs – Technical – Civil/Structural:

Can you clarify that when the earthwork contractors will transport the stockpiled materials away from the sites?

A58. This shall be completed as part of his contract for all stockpiled material except that which is left for the permanent works contractor.

Q59. All PRPSs – Technical – Civil/Structural:

Can we use the stockpiled suitable materials as backfilling around the reservoirs? If yes, what are the scheduled quantities for those stockpiles to be left on site by the Earthwork contractors?

A59. Under item 1.1.3.4, the contractor must confirm the quantity of stockpiled material and if necessary select further suitable material to reflect the final site grading. The contractor is obliged also to check and verify the suitability of the stockpiled material.

Q60. All PRPSs – Technical – Civil/Structural:

What is the tolerance at the excavation of the formation, as plus or minus cm?

A60. ± 7.5cm; however as the earthwork activities still ongoing, the contractor will have to verify the accuracy of the final levels and allow within their price for any trimming required.

Q61. PRPS 1 – Technical – Civil/Structural – BoQ PRPS 1 (Bills 8 & 9) – PRPS 1 Bill 8 (Civil)

Items 8.3.4.2/8.3.4.3/8.3.4.4:

The said drawings are missing.

A61. Please refer to Drawing number CI 6440 to CI 6444.

Q62. All PRPSs – Technical – Architectural AppA1A (PRPSs 1 – 5) Scope Rev. 1:

There are only control building drawings in TFS station architecture drawings. Please provide us the parts of pump house architecture drawings.

A62. Please refer to Drawing CI 6380 to CI 6394.

Q63. PRPS 1 – Technical – Architectural:

Please advise floor and wall finishes for main pump station.

A63. Please refer to drawing AR-1500.

Q64. PRPS 2 – Technical – Civil/Structural – MQ174-R3-DH-C1-6442:

Please provide us the manhole schedule of PRPS 2.

A64. Please refer to drawing CI-0001, CI-0006.



Q65. All PRPSs – Technical – Civil/Structural:

Existing Ground Levels:

We could not find any drawings which have existing ground levels for all packages. Therefore, we are not able to calculate the volume of excavation. Would you please submit the drawings which have existing ground levels for all packages?

A65. The ground levels that the site shall be found at are provided in Tender Circular 2, as the Earthworks Enabling Package drawings.

Q66. PRPS2/4-Commercial-Appendix B -Schedule of Prices (BOQ):

In the BOQ, the column "quantity" is fixed and cannot be edited, which caused the Tender cannot calculate automatically the Column "Amount". Please provide the editable BOQ.

A66. This will not be provided as column may not be changed. The contractor can create the sum by using manual equations.

Q67. All - Technical - Civil / structural - Appendix A:

Referring to the mid tender meeting, it was mentioned that the Client will provide the tender documents (or a part thereof) of the enabling packages for PRPS 2-4. Please confirm when we will receive these documents since methodology, time and cost depend heavily on this information. Please specify also the tolerances and quality the enabling contractor has to achieve.

A67. These have been provided in Tender Circular 2. The Tolerance that the contractors are working to is +/- 7.5cm.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,


ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW,GTC, File

Warning: This fax and any attachments may contain information which is confidential. They should not be reproduced or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax immediately. Confidentiality is not retained or lost by unauthorised communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ : ٠٦٦ ~ (974) 44845333 : ٠٦٦
ج. بـ - فـ. جـ. ٤١ : ٤١ - بـ - جـ.



TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 10/06/2014	TOTAL PAGES: 15+1
To: All Bidders		Fax:
For the Attention of: General Manager		Our Ref.: TA/TW/TWM/14/FX-1098
Subject: GTC 626/2014 – CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 04

TENDER CLARIFICATION

Reply to Tenderers Clarifications

Please find below replies to your clarifications:

Q1. PRPS 1 - Technical - Civil/Structural:

We noticed that PRPS 1 is located on an existing quarry and certain quantity excavated material and crushing, screening material is stockpiled on site. Kindly clarify if it is the quarry owner or the PRPS contractor's responsibility to disposal this stockpile. If for PRPS contractors, please point the dumping area.

A1. This shall be the responsibility of the Quarry Owner.

Q2. All PRPSs – Technical – Electrical – BOQ No. 5 – Page 5/1 – Item 5.1.1.3:

The rated powers of generators are as high as 4 MVA and 3 MVA for the packages. We kindly ask you to clarify whether it is acceptable to propose 2 units of 2MVA rated generators operating synchronous and 2 units of 1.5MVA rated generators operating synchronous instead of 4 MVA and 3 MVA units respectively.

A2. The contractor must submit a compliant tender proposal, however, the contractors may propose alternative generator ratings as an option cost providing the generators are rated adequately to supply 1 No. process pump in each sub system. To take PRPS 2 as an example, it would include 1 No. pump from Corridor Pumps 1, 1No. pump from Sub System 2A and 1No. pump from Sub System 2B. It will be the contractors' responsibility to evaluate, include in his price and design any effects of this change including, but not limited to, increased building spaces to accommodate this increased quantity of generators, changes to fuel storage and distribution systems, changes to firefighting systems, changes to electrical distribution systems etc.

| Page 1

Warning: this fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by return of fax or e-mail. Confidentiality is not waived or lost by a blanked communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

٤٤٨٤٥٣٩١ : مكّس : ٩٧٤ - ٤٤٨٤٥٣٣ : تلفون :
ج. ب : ٤١ - ٩٧٤ - فاكس :



Q3. All PRPSs – Technical – Civil/Structural – Appendix A – item 1.1.3.4:

In 1.1.3.4 it is mentioned that "67, 500 cbm of suitable excavated material will be stockpiled for the use of backfilling. Please confirm the following. Please clarify that if the available backfilling material fails to achieve the required quality or quantity.

- a) The stockpile is located on site;
 - b) The Contractor has to verify the suitability of this stockpiled material;
 - c) In case the material is found as not suitable, the Client will pay the costs for the replacement (either imported or processed material and disposal of unsuitable material);

A3. All Material stockpiled is crushed and graded. If it is not suitable for reuse, Kahramaa shall evaluate this on a case by case basis.

Q4. All PRPSs – Technical – Specifications:

Please confirm that the "Regulations for the installation of Electrical Wiring, Electrical Equipment and Air Conditioning Equipment" has precedence over the "Project Specification".

A4. The Contractor shall include for the most onerous requirement and it is the contractors' responsibility to obtain Kahramaa approval on all material submissions.

Q5. All PRPSs – Technical – Civil/Structural:

Is there any other type of materials at site as screened or crushed? If yes, can we use it for our road works? What are the quantities and classes of these materials to be left on site by the Earthwork contractors?

A5. In addition to the crushed material, some top soil material shall be left on site (quantity differs from site to site), which can be used for final leveling.

Q6. All PRPSs – Technical – Civil/Structural:

What is the working space between the edge of the excavation boundary and structure's wall, which the Earthwork contractor is subject to?

A6. The Enabling Earthworks contractor will excavate according to the drawings provided in Tender Circular 2. The GTC626 tenderer can see from each of these drawings the working space allowed within the excavations.

Q7. All PRPSs – Technical – Civil/Structural:

As per the shop drawings, between two reservoirs normally there is a part that will not be excavated. Did the Earthwork contractor excavate entire of this working site at once including the sections between the reservoirs?

A7. The area between the reservoirs has been excavated to the lower level, to provide working area and allow for pipe and service installation.

Q8. All PRPSs – Technical – Civil/Structural:

Can we accept the width of trench excavation for pipe lying as $1,5 D + 50$ cm? (D is the diameter of the pipe);



A8. This is related to the contractors' method statement and shall be referred to therein. The contractor shall note that some of the excavation works for the pipes has been completed under the enabling works contracts, on the associated sites.

Q9. PRPS 1 – Technical – Civil/Structural:

Did you assign any disposal area for the materials which will be excavated here? If yes, what is the distance of these sites to each PRPS site?

A9. All surplus material will be disposed to a location that will be advised by Kahramaa at a later date. The disposal location will be within 80km radius of the site

Q10. PRPS 1 – Technical – Civil/Structural:

Are we going to arrange a screamer and/or crusher for the excavated materials? If yes, what will be produced from this excavated materials, as sub-base, road-base, ordinary backfilling materials etc.? Are there any planned quantities for those materials?

A10. For PRPS 1, the contractor may wish to process the excavated material for use on site. Should the contractor wish to do so, then it shall be their responsibility to obtain all the permits, licenses, approvals required for doing so, including crushing and screening. The Contractor should make his own assessment of material excavated for reuse and the associated volumes.

Q11. PRPS 1 – Commercial – Item Coverage - BoQ No. 8 – Pages 8/24/1 8/24/2 – Item 8.3.1 8.3.2:

Please add BoQ item for Retaining wall of main pump station.

A11. This wall is part of the pumping station structure, rather than a retaining wall.

Q12. PRPS 3 – Technical – Civil/Structural:

The said drawing is not completed.

A12. The drawings series number 1010 (marked as to be issued at later stage) are setting of plan or SOP's for the buildings and reservoirs and will be submitted to the successful bidder to be used for construction.

Q13. Please clarify the optional item ("No Down Payment" Cost Adjustment) if it should be added to Total Project Cost (yes or no)? Is it mandatory to the contractor to fill the amount of the optional item?

A13. This requirement has been deleted in Tender Circular 3.

Q14. Further to the above tender, we would like to draw your attention to the following items which require clarification from your side:

- Kindly provide us the "Existing Topographic Survey Map" to serve as reference in calculating the cut and fill requirement against the Plan Topographic Survey Map;
- Please confirm if Roads, Hard Landscaping and Soft Landscaping around future reservoirs are part of the Contract.
- Kindly provide Geotechnical Investigation Report in order for the Piling Contractor to propose their Design Requirement.



A14.The cut and fill shall be against the Bulk Earthworks drawings not against the original Topographic survey. Road, Hard Landscaping and Soft Landscaping for future reservoirs are outside of the Limit of the works shown on drawings ref CI-1001 and are not required under this contract. Geotechnical Investigation reports are given in Appendix A9.

Q15.PRPS 5 – Technical – Civil/Structural – PRPS Factual Report Rev. 1:

Lack of Bore-Hole Logs:

We could not find the bore-hole logs in your documents. Would you please supply the bore-hole logs?

A15.These are provided in Appendix A9, Factual report.

Q16.All PRPSs – Technical – Civil/Structural

Dwg. MQ174-R1-DH-CI-3019-3020&MQ174-R1-DH-CI-3320 & QCS 2010 – Section 5, Part 14: Discrepancy between drawings & specification for protection of internal surfaces of foul sewage & oil interceptor manholes. GRP Lining will be used for protection of internal surface of foul sewage manholes according to Dwg. MQ174-R1-DH-CI-3019 & 3020 & 3320. However, "two components polyamide coal tar epoxy" will be used for the same treatment according to QCS 2010 Section 5 Part 14 Item 14.5.4. On the other hand, according to Note 5 of dwg. MQ174-R1-DH-CI-3019 & 3020 & 3320 "Where there is a discrepancy between the requirements in the specification and those shown on this drawing the specification shall be followed unless directed otherwise by the engineer". Would you please inform us which material will be used for protection of internal surfaces of foul sewage manholes?

Note: The GRP covering of internal surfaces of the chambers was cancelled by Ashghal for LRDP-DW015-Package 2 project.

A16.For sewage applications, the Contractor should refer to QCS 2010 Section 8, Part 4, item 4.4.1 - Manholes for sewerage, refer to bullet point 5: The interior face of manholes and access shafts shall be prefabricated GRP liners at least 6mm thick permanent lining.

Q17.PRPS 2 – Contractual – App. A1 Scope – Appendix A1 – Package B:

Page 36 of 70 – 1.2.2 Milestone 2 – Reservoir 1:

Completion Date of Milestone 2 for all packages is twenty one (21) months from Effective Date of Contract except Package B (18 months). Please clarify.

A17.This is confirmed and is related to the commissioning of the overall project.

Q18.All PRPSs – Commercial – Item Coverage – BQ No. 8 0 P. 14/26 – Item 8.5.3:

Please confirm whether the bulk excavation for lagoons 1, 2 and 3 is within the scope of this tender.

A18.For PRPS 1, this shall be included in this contract. For all other sites, please refer to the enabling works drawings issued in Tender Circular 2.

Q19.All PRPSs – Technical – Civil/Structural – BQ. 8 - P. 1/26 – Item 8.1.2:

Our understanding is that excavation works for all reservoirs and buildings are not part of this contract (done by others). Please provide/advise on the following: Finished excavated levels, availability of working space in the excavated areas, availability of access into excavated areas, has dewatering been allowed by excavation contractor, is the excavated material tested and approved for use as structural fill.



A19.As referenced in Tender Circular 2, Enabling works tenders are only being completed at PRPS2,(Package B), PRPS3 (Package D) PRPS4, (Package E), PRPS 5 (Package C). There is no enabling works contract at PRPS1 (Package). These enabling works only covers the reservoirs, pumping station and drainage lagoons areas (it does not include other buildings) and the finished levels shall be as shown on the drawings provided in tender Circular 2. Ramps provided for access in the earthworks contracts shall be left in place. However any other temporary works such as ladders shall not be left. During the earthworks, water has only been identified under the formation level for the pumping station at PRPS 5. No dewatering has been required at this site to complete the enabling works, and no other dewatering has been required for any of the other sites. The material left on site has been crushed and graded, however its suitability for fill in different locations shall be considered on a case by case basis.

Q20.All PRPSs – Contractual – App. A1 Scope – Circular 1 – Page 3/7 – Item: 1.3:

Page 3 of Circular 1 refers to site boundary fence. Please advise which item in the BoQ should cover this fence.

A20.The Temporary Boundary fence is only required at PRPS1. As temporary works, the contractor is to provide for this in his rates.

Q21.Water supply: Please clarify if the site has the water pipe connection point to connect the external water supply system?

A21.Water for the permanent site is included within the contract and is taken from within the site. Water for the contractors site offices and for temporary works, shall be arranged by the contractor.

Q22.We refer Appendix B Bill of Quantities all packages:

- Bill No 1 "Supply of Main Pump, Motors and Spares – Preferred Supplier"
- Bill No 2 "Supply of Main Pump, Motors and Spares – Alternative Supplier No 2"
- Bill No 3 "Supply of Main Pump, Motors and Spares – Alternative Supplier No 3"
- Bill No 4 "Supply of Main Pump, Motors and Spares – Alternative Supplier No 4"

Please confirm our understanding that each of these Bills are required to be priced but only the total of Bill No 1 shall be carried forward into the grand summary. (i.e. Bill's 2, 3, 4 are alternative pricing only for the Clients consideration).

A22.Further to Tender Circular 1, Bill No 2, 3 and 4 are no longer required to be completed.

Q23.We refer Appendix B Clause 2.2 Payments on BQ items, please confirm if the Contractor (prior to award) submits a fully quantified bill of quantities for those items indicated as "Lump sum" than he shall be paid in accordance with his quantified items in preference to the arbitrary percentages indicated within clause 2.2.1.

A23.The contractor shall be paid in accordance with Appendix B, Clause 2.2 irrespective of any additional breakdowns he may provide.

Q24.We refer to Appendix B Clause 2.6.2, please confirm the time frame in which Kahramaa shall return the Contractors Work Statement with any necessary remarks or amended quantities.

Warning: This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the named recipients of this fax, any attachments, and copies, please notify the sender by e-mail or fax immediately. Confidentiality is not guaranteed or legal by electronic communication.

Tele: (974) 4484 5363 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ : ٠٩٧٤ - ٤٤٨٤٥٣٦٣ : ٠٩٧٤
ج.ت. : ٤٤٨٤٥٣٩١ : ٠٩٧٤ - ٤٤٨٤٥٣٦٣ : ٠٩٧٤



A24. All Contractors Work Statements shall be returned to the Contractor within 14 days if they are not found to be suitable to process.

Q25.PRPS 2 – Technical - Appendix F – 02 Civil and Mechanical - MQ174-R2-DH-CI-1001-A:

In other packages, Reservoirs which are coded '2036', are marked as "Not part of this Contract". Also in the Appendix A, A1 - General Scope of Works by site for PRPS -2, Item 1.1.3.7, it is defined that five reinforced concrete reservoirs will be constructed. But in the refer drawing, there are 8 reservoirs and the '2036' coded ones are not marked as "Not part of this contract". Please confirm our understanding of 5 nos reservoirs will be constructed under this contract.

A25. This understanding is correct. Only 5 of the reservoirs are to be constructed at this site. Those marked 2036 are not to form part of this contract.

Q26. All PRPRs – Contractual - App. A1 Scope – General:

Please confirm if excavation and enabling works is part of our scope.

A26.This is as shown on the earthworks drawings referenced & enclosed in Tender circular 2.

Q27.All - Technical - Electrical - DC and UPS power supply:

No Single Line Diagram is submitted for DC or UPS systems.

A27. These are to be provided by the vendor for review and approval by Kahramaa.

Q28-PRPS_1 - Technical - Electrical - MQ174-R1-DH-SE-2201.pdf and MQ174-R1-DH-SE-2202.pdf:

Please confirm MV switchgears in single line diagram as per document MQ174-R1-DH-SE-2201.pdf and MQ174-R1-DH-SE-2202.pdf for Kahramaa Substation are not part of scope of supply

A28.Confirmed. The Contractors scope of work shall begin at the site boundary.

Q29.All - Technical - Electrical - BOQ PRPS 1 - BIII 5 M&E Supply - Item 5.2.2.1:

SoW as per document BOQ - PRPS 1 - Bill 5 - M&E- Supply.pdf Item 5.2.2.1 indicates the rating of MV variable frequency drives at 1.400 kW. Scope of work as per document GTC626_2014-AppA5_PRPS_Elec_Spec_Rev1, clause 5.2.4.2 is requesting motor power output 1.15 times the required power. Please confirm that BoQ rating 1400 kW is including 15% margin.

A29. The KW rating of motor in the BOQ is indicative only. The final KW rating shall be based on the specification and vendor selection and will include 15% margin.

Q30. SoW as per document BOQ - PRPS 1 - Bill 5 - M&E- Supply.pdf Item 5.2.2.1 requires 5 Nos. 1400 kW VFD units including phase shift transformers and frequency converter. Scope of work as per document GTC626_2014-AppA5_PRPS_Elec_Spec_Rev1, clause 1.1.3.22 requests 6 Nos. phase shift transformers. Please confirm the 6th VFD set shall provide without VFD converter and motor.

A30.Only 5 number VFD's to be supply for subsystem 1B under this Contract , the contractor should consider a feeder on the 11kv switchgear, space, capacity and all other necessary provisions for the 6th VFD, transformer, cables, protection and other equipment.



Q31.SoW as per document BOQ - PRPS 1 - Bill 5 - M&E- Supply.pdf Item 5.2.2.1 shows the rating of MV variable frequency drives at 1.400 kW. Scope of Work, as per document GTC626_2014-AppA5_PRPS_Elec_Spec_Rev1, clause 5.2.1.2 requests design ambient temperature 50°C. Please confirm that BoQ rating 1400 kW is at ambient condition and de-rating is already included.

A31.All ratings in the design are and will be stated according to the ambient temperature. Furthermore, the KW rating of motor in the BOQ is indicative only, final rating shall be based on the specification and vendor selection.

Q32.Specification GTC626_2014-AppA7.4_PRPS_MEPElectrical_Rev 1.pdf clause 8.4.4 gives reference to document Section 26 0548 "Vibration and Seismic Controls for Electrical Systems." which is not part of the received RFQ documents. Kindly submit Document Section 26 0548 "Vibration and Seismic Controls for Electrical Systems."

A32.The contractor can disregard this referenced specification and its requirements.

Q33.Specification GTC626_2014-AppA7.4_PRPS_MEPElectrical_Rev 1.pdf clause 7.4.1:

It gives reference to MEICA specification, GTC626_2014-ppA5_PRPS_Elec_Spec_Rev1.pdf, saying that it gives specification for Medium voltage phase shift transformers. However document GTC626_2014-AppA5_PRPS_Elec_Spec_Rev1.pdf doesn't contain any specification for Phase shift transformers. Submit technical specification for MV phase shift transformers.

A33.Please refer to section 5.3.4.1 for phase shift transformer specification.

Q34.SoW as per document BOQ - PRPS 1 - Bill 5 - M&E- Supply.pdf Item 5.1.1.5 and 5.2.2.4 show qty of transformers at 6 nos. (beside the phase shift transformers), whereas single line diagram as per documents MQ174-R1-DH-SE-2204.pdf and MQ174-R1-DH-SE-2205.pdf show 7 Nos. What is the right number? (We assume TX-10 is MPS is missing in item 5.2.2.4).

A34.TX-10 is future equipment. Panels are to be provided for all future equipment supplies.

Q35.SoW as per document BOQ - PRPS 2 - Bill 5 - M&E- Supply.pdf Item 5.2.2.2 indicates qty of LV variable speed drives at: 4 Nos. and single line diagram as per document MQ174-R2-DH-SE-2251.pdf shows: 4 Nos. and 2 No. FUTURE. However, SoW as per document GTC626_2014-AppA1A-PRPS_2_Scope_rev 1, clause 1.1.3.22 requests 3 No. 11/0.415kV transformers for process. Pumping. Please confirm delivery of FUTURE without VSD drives and VSD motors.

A35.4 number VFD's to be supplied for subsystem 2B under this contract. The delivery of the 2 number future pumps, do not form part of the contractors scope under this contract. The contractor shall consider a feeder on the switchgear, space, capacity and all other necessary provisions for the future VFD/transformer, cables, protection and other equipment.

Q36.Single line diagram as per document MQ174-R1-DH-SE-2201.pdf and MQ174-R1-DH-SE-2202.pdf shows: 31.5 kA. It is expected that all downstream MV switchgears will have $I_{sc} = 31.5\text{kA}/1\text{ sec}$. as per the below documents:

- MQ174-R1-DH-SE-2203.pdf; MQ174-R1-DH-SE-2204.pdf; MQ174-R1-DH-SE-2205.pdf;
- MQ174-R1-DH-SE-2206.pdf;

| Page 7

Warning: this fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachment, and copies, please notify the sender by email or fax number. Confidentiality is not retained in fax or e-mail communications.

Tel: (974) 4484 5333 - Fax: (974) 44845391
 P O BOX 41, DOHA - QATAR.

٤٤٨٤٥٣٩١ : ٩٦٦ - (٩٧٤) ٤٤٨٤٥٣٣ : ٩٦٦
 ٤٤٨٤٥٣٩١ : ٩٦٦ - ٢٠٢١ ٤١ : ٩٦٦



A36.11 kV switchgear shall have a SSC of 31.5 kA. Main LV switchgear shall have a SSC of 80 kA. Contractor is obligated to verify these values by calculations, taking in consideration the exact types and lengths of cables and connection point to the Kahramaa network. Contractor is obligated to verify these values by calculations, taking in consideration the exact types and lengths of cables and connection point to the Kahramaa Network.

Q37. Please provide the preliminary hydraulic study of the tender stage of each package as well as the hydraulic study of the overall system (combination of the packages).

A37. This shall be provided to the successful bidder.

Q38.All - Technical – Operational Philosophy:

Please provide the preliminary operation philosophy of all packages.

A38. This shall be provided to the successful bidder.

Q39. To verify the hydraulic investigation study during the tender stage, we need the intentions from Kahramaa, how the whole system shall be operated with (i.e. operation philosophy).

A39. This shall be provided to the successful bidder.

Q40. Please clarify whether the reservoir dewatering is under the GTC 626 contract or is it in the Enabling Earthwork contracts Scope.

A40. During the enabling earthworks contacts water has only been identified under the formation level for the pumping station at PRPS 5. No dewatering was required at this site to complete the enabling works, and no other dewatering has been required for any of the other sites, therefore any dewatering required under contract GTC626/2014 shall be provided under this contract.

Q41.All - Technical - Electrical - Appendix A - Scope of Work - Item 1.25:

Please clarify when permanent power will be provided by the Client in order to do testing & commission.

A41.The bulk consumer application has been submitted to Kahramaa and connection will be achieved in timely manner in order to achieve the Tender Milestones.

Q42.AII - Technical - MEPF - App. A7.4 - Page 92/263 - Item 8.4.3:

Please confirm which specs to follow for 11kV Distribution Switchgears, this specs or Kahramaa ENA specs EP-MS-P4/S2-082, noting that Distribution Switchgears shall strictly follow Kahramaa ENA specs and not any other specs.

A42. The Contractor shall include for the most onerous requirement.

Q43.All - Technical - MEPF - App. A7.4 - Page 102/263 - Item 8.4.3/1.10D:

Please confirm fault level (?kA /?sec) for the Main Intake 11kV Switchgear, Generators Parallelizing/Synchronization Switchgear, and all other 11kV switchgears and indicate the same on the relevant electrical SLD's

A43.11 kV switchgear shall have a SSC of 31.5 kA. Main LV switchgear shall have a SSC of 80 kA. The Contractor is obligated to verify these values by calculations, taking in consideration the exact types and lengths of cables and connection point to the Kahramaa Network.



Q44.All - Technical - MEPF - App. A7.4 - Page 102/263 - Item 8.4.3/1.11A:

This clause calls for IP42 and clause 1.12B calls for IP41 (minimum), while Kahramaa ENA specs for Distribution Switchgears accepts IP4X, please confirm that IP4X is acceptable.

A44.The Contractor shall include for the most onerous requirement.

Q45.All - Technical - MEPF - Page 107/263 - Item 8.4.3/1.14B:

Revenue Metering: "If approved by the Utility, the Utility measuring transformer may be combined with the Qatar Cool Incomer ..." Please clarify the role of "Qatar Cool" in this project.

A45.Please disregard the last sentence of this clause.

Q46.All - Technical - MEPF - App. A7.4 - Page 107/263 - Item 8.4.3/1.14:

Revenue Metering: The requirement of energy meters on all incoming and outgoing feeders is not required in Kahramaa ENA specs for 11kV Distribution Switchgears. Please confirm if it is required.

A46.Revenue Metering is required.

Q47.All - Technical - Electrical - App.A5 - Page 12/32 & 16/32 - Item 5.3.1.2.1 & 5.3.4.2.1:

MV VFD: Design ambient temperature is different between the two clauses; 50 deg C and 45 deg C. Please confirm which one to be considered.

A47.The ambient temperature to be considered for the VFD operation is 50 degrees C.

Q48.All - Technical - MEPF - App. A7.4 - Page 133/263 - Item 1.16B:

The IP specified as IP42 which contradicts with QCS 2010 that specifies IP for all indoor equipment as IP54, please confirm which one to be followed.

A48.The contractor shall apply the most onerous requirement.

Q49.All - Electrical - BOQs - P. 9/18/12 & 9/17/12 - Item 9.2.9.2 & 4.2.8.2:

Security Lights. There is no scope given for security lights.

A49.This is included in the site wide lighting indicated on dwg. series MQ174-RX-DH-SE-41XX.

Q50.All - Technical – Mechanical:

Does the pump casing have to be cast at a foundry in the country of origin of the pumps?

A50.Vendors are approved by specific locations of manufacture, including foundries. Certificates shall be produced to demonstrate compliance with this.

Q51.All - Technical – Mechanical:

Are Chinese/Indian/Korean foundries acceptable for casting of pump casings?

A51.Vendors are approved by specific locations of manufacture, including foundries. Certificates shall be produced to demonstrate compliance with this.



Q52.All -technical - Electrical - App. 5 & 7:

Testing Agency Qualifications. Member of NETA (National Electrical Testing Association). Testing Agency Field Supervisor: Currently certified by NETA to supervise on-site testing. There is only one member of NETA in the Middle East, AYT Electrical LLC Dubai, who specialize in supplying test equipment. Does this mean that the contractor has to employ an engineer from this company to supervise the on-site testing?

A52. The contractor may propose an alternative testing agency for Kahramaa's review and approval.

Q53. As per BOQ there are 24 Reservoirs while there are 40 reservoirs in the drawings.

A53. See response to Q14 in Circular 2. There are 24 reservoirs in total to be constructed under this contract.

Q54.PRPS 1 – Technical – ICA/Scada – Appendix A Section 8 - Automation Specification

Page 165 – Item 8.11.7:

Fiber Optic Cable: We understand that fiber optic cable supply, installation and commissioning for interconnecting all 5 stations to each other is not in the scope of this project . Please confirm the understanding.

A54. It is confirmed that fiber optic cable supply, installation and commissioning for interconnecting all 5 stations to each other is not in the scope of this project.

Q55.AII - Technical - ICA/SCADA:

Interfacing of all 5 new pumping stations with each other is not in the scope of this project. Please confirm the understanding.

A55.Confirmed. The interfacing of all 5 new sites with each other will be covered under a separate package outside of GTC626.

Q56.All – Technical – ICA/SCADA – Appendix F – 07 Automation & Control – SCADA RACK Details:
(MQ174-R1-DH-SC-2110-01 to 2122-0) - SCADA Rack drawings do not indicate the marshaling arrangement in the panel. We understand that marshaling to be done at the rear side of the panel. Please confirm.

A56. Confirmed all Service Modules in PLC are prewired cabling to DIN Rail Mounted terminal blocks.

Q57.(MQ174-R1-DH-SC-2110-01 to 2122-01) - As indicated in the SCADA Rack Drawings UPS and batteries shall be installed in all the field mounted PLC panel. Please confirm.

A57. Confirmed.

Q58.All – Technical - ICA/SCADA - P. 239 and 240 - Appendix A Section-8, Automation Specification:

We understand that Profibus and CIP over Ethernet are only two protocols shall be used for Field mounted PLCs communication. Please confirm the understanding.

A58-Confirmed-



Q59.(MQ174-R1-DH-SC-2130-01 to 2150-01) - As per the Control Level Schematic Diagram, We understand that Condition Monitoring System(CMS) is required. Do we need to install CMS in the field or control room? Please provide the location for installation for CMS.

A59.CMS will be installed in the control room.

Q60.(MQ174-R1-DH-SC-2130-01 to 2150-01) - As per Control Level Schematic Diagram, Individual CMS require for each pump. We understand that CMS system will be common for group of pumps, however sensor and transmitters will be different. Please confirm the understanding.

A60.CMS is required for each Pump please refer to P&IDs.

Q61.PRPS 1 –Technical - ICA/SCADA - Appendix A Section-8. Automation Specification;

We understand that for telecom system only DWDM multiplexer and demultiplexer are required, which are part of this project. And no SDH system is required. Please confirm.

A61.Correct no SDH is required. The Project will use DWDM.

Q62.PRPS 1 - Technical - ICA/SCADA - MQ174-R1-DH-BE-1087 and 1088:

These drawings do not indicate 5nos.Water Quality Monitoring Building and 7nos. KIOSK building fire alarm system integration with MFACP. We understand that integration with MFACP is required. Please confirm the understanding.

A62. Refer to ring 2 Infrastructure drawings and rack locations. Refer to Electrical SCADA schematics for Fire Alarm interface points

Q63. We refer to the Mid-tender meeting, please issue the DWG format of drawings to assist contractors BOQ & tender preparation as agreed.

A63.Sufficient Dwg files were issued in tender Circular No. 2 to assist the contractor in preparation of their tender price. The PDF copy of the drawings shall remain the contract

Q64. Please issue the Hydraulics Model and Hydraulics Technical Report prepared by Hyder for

A64. This shall be provided to the successful bidder.

Q65.A1 - Technical - General - general Conditions of Contract

Contractor to remove from any location of Kahramaa or fr

The intent of this Clause is unreasonable and not in keeping with the intent of the Contract, please

The intent of this Clause is unreasonable and not in keeping with the intent of the Contract, please consider amending to include a requirement for Kahramaa to provide it's reasons for requesting removal of agents from the site.

A65. The GCC shall not be modified. This clause shall remain.

Warning: this fax and any attachments may contain information which is confidential. They should not be reproduced, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax as soon as possible. Confidentiality is not ensured by electronic communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P.O.BOX 41, DOHA - QATAR.

卷之三十一

$b_1 = 2 \times 10^{-11} \text{ eV}$



**Q66.All - Technical - Electrical - GTC626 2014-AppA7.4 PRPS MEPF-Electrical Rev 1.pdf - 8.4.16
26 3301 - DC Battery Systems and Uninterruptable Power Supplies -1.8 110V DC SERVICE**

EQUIPMENT 'A. General Design Requirements:

Specification requests that control, protection, alarm and indication devices, tripping and closing circuits, emergency power and lighting shall be supplied by a 110 V DC safe supply.

It is understood from the same document 8.4.20 26 5200 - Emergency Lighting, 1.16 CENTRAL BATTERY – INVERTER SYSTEMS that lighting system shall get its own battery and charger system. Furthermore it is expected from the same chapter 1.10 240 V AC UNINTERRUPTIBLE POWER SUPPLY will get UPS system including its own battery and charger. For the control, protection, alarm and indication devices, tripping and closing circuits of MV and LV switchgears one separate 110VDC system shall be provided. Please confirm that our understanding is correct.

A66.Emergency lighting shall be supplied from dedicated 240V AC central battery units complying with Civil Defense requirements. Essential power supplies for communications and security equipment shall be supplied from 240V AC UPS systems. For the control, protection, alarm and indication devices, tripping and closing circuits of MV and LV switchgears one separate 48VDC system shall be provided.

**Q67.All - Technical - Electrical - GTC626 2014-AppA7.4 PRPS MEPF-Electrical Rev 1.pdf - 8.4.16
26 3301 - DC Battery Systems and Uninterruptable Power Supplies -1.8 110V DC SERVICE**

EQUIPMENT 'A. General Design Requirements:

Specification requests that control, protection, alarm and indication devices, tripping and closing circuits, emergency power and lighting shall be supplied via a 110 V DC safe supply. However, document 8.4.3 26 1300 - Medium Voltage Switchgear, 1.12 11 KV INCOMING SWITCHGEAR, F. Control Power Supply requires control voltage:

1. Protection relay: 48Vdc.
2. Metering relay: 48Vdc.
3. Indication lights: 48Vdc.
4. Voltage transformers: 110VAC.
5. Charging circuit breaker spring: 240VAC.
6. Space heaters: 240VAC.
7. Electrical Interlock: 48Vdc.
8. Voltage Indicator lamps: TBA

Furthermore the same document 7.4.9 26 0573 - Overcurrent Protective Device Coordination, 1.14 ENVIRONMENTAL REQUIREMENTS, C. Electrical Environment requests: The protection systems shall be capable of being energised from a DC auxiliary energising voltage of 110 V (nominal). Please confirm application of 110VDC for MV and LV switchgears control voltage power supply for control, monitoring, tripping and closing circuits.

A67.Control Power Supply requires control voltage:

1. Protection relay: 48Vdc.
2. Metering relay: 48Vdc.
3. Indication lights: 48Vdc.
4. Voltage transformers: 110VAC.
5. Charging circuit breaker spring: 240VAC.
6. Space heaters: 240VAC.
7. Electrical Interlock: 48Vdc.
8. Voltage Indicator lamps: 240VAC.

| Page 12

Warning: this fax and any attachments may contain information which is confidential. They should not be reproduced or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by return fax or telephone. Confidentiality is not guaranteed if copied by independent communication.

Tele: (974) 4484 5336 - Fax: (974) 44846391
P O BOX 41, DOHA - QATAR.

44846391 : س.-(974)44846391 : ٤٤٨٤٦٣٩١

ج. ب. : ٤١ - ب. ج. ٢ -



Q68.All- Technical - Electrical - GTC626 2014-AppA7.4 PRPS MEPF-Electrical Rev 1.pdf - 8.4.16

26 3301 - DC Battery Systems and Uninterruptable Power Supplies -1.8 110V DC SERVICE

EQUIPMENT 'A. General Design Requirements:

Specification requests that control, protection, alarm and indication devices, tripping and closing circuits, emergency power and lighting shall be supplied by a 110 V DC safe supply.

However, same document 1.10 240 V AC UNINTERRUPTIBLE POWER SUPPLY, A. General Design Requirements, 8. Rated input voltage is 110V DC and output 240V AC, 50Hz, while UPS power supply is not listed in 1.8 as to be fed from 110VDC. Please confirm that UPS shall get its own battery and charger system, getting voltage level as required for the UPS load, but not necessarily 110VDC.

A68.Emergency lighting shall be supplied from dedicated 240V AC central battery units complying with Civil Defense requirements. Essential power supplies for communications and security equipment shall be supplied from 240V AC UPS systems. For the control, protection, alarm and indication devices, tripping and closing circuits of MV and LV switchgears one separate 48VDC system shall be provided.

Q69.All - Technical - Electrical - GTC626 2014-AppA7.4 PRPS MEPF-Electrical Rev 1.pdf - 8.4.5

26 2413 - Low Voltage Switchgear - 1.16 GENERAL DESCRIPTION:

Part A. Internal Separation: Form 4, type 7 for MDB's, type 4 for SMDB's and MCC's above 800A rated is requested in general. However same document 8.4.7 26 2419 - Motor Control Centres, 1.14 CONSTRUCTION, G. Form of separation shall be Form 4 Type 7 is requesting Form 4 Type 7 in general for all MCCs. Please confirm Form 4 Type 7 only for MCCs above 800A.

A69.Internal Separation shall be Form 4, type 7 for MDB's, type 4 for SMDB's above 800A rated. Form of separation shall be Form 4 Type 7 for all MCCs.

Q70.All - technical - Electrical - GTC626 2014-AppA7.4 PRPS MEPF-Electrical Rev 1.pdf - 8.4.5 26 2413 - Low Voltage Switchgear - 1.16 GENERAL DESCRIPTION:

(First Portion) Part A. Internal Separation: Form 4, type 7 for MDB's, type 4 for SMDB's and MCC's above 800A rated is requested in general. However Single line diagrams indicate different forms of separation:

- R1-MPS-EMDB-11, 3000A, MQ174-R1-DH-BE-1081, Form 4 Type 6
- R1-MPS-EMCC-1, 1600A, MQ174-R1-DH-BE-1081, Form 4 Type 2
- R1-MPS-ESMDB-1, 250A, MQ174-R1-DH-BE-1081, Form 3b
- R1-MPS-EMDB-10, 3000A, MQ174-R1-DH-BE-1082, Form 4 Type 6
- R1-MPS-EMCC-2, 800A, MQ174-R1-DH-BE-1082, Form 4 Type 2
- R1-MPS-ESMDB-3, 400A, MQ174-R1-DH-BE-1082, Form 3b
- R1-MPS-ESMDB-4, 400A, MQ174-R1-DH-BE-1082, Form 3b
- R1-MPS-EMDB-12, 3000A, MQ174-R1-DH-BE-1083, Form 4 Type 6
- R1-MPS-ESMDB-2, 800A, MQ174-R1-DH-BE-1083, Form 3b
- LV SWB-1 (.3)/SS-1A, 1600A, MQ174-R1-DH-SE-2251, Form 4 Type 7
- R1-MVG-GMDB-01, 3200A, MQ174-R1-DH-SE-3201, Form 4 Type 6
- R1-MVG-MDB-01, 2500A, MQ174-R1-DH-SE-3201, Form 4 Type 6
- R1-RG1-GMDB-01, 1600A, MQ174-R1-DH-SE-3202, Form 4 Type 6
- R1-RS1-MDB-01, 1000A, MQ174-R1-DH-SE-3202, Form 4 Type 6
- R1-RS2-MDB-01, 1000A, MQ174-R1-DH-SE-3202, Form 4 Type 6

Please confirm form of separation as indicated as above to be acceptable.

| Page 13

Disclaimer: This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by e-mail or telephone. Confidentiality is not guaranteed if copied by unauthorized communication.

Tele: (974) 4484 6333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ - (974) 44845333 : ٤٤٨٤٥٣٣٣

ج.ع. ٤٤٨٤٥٣٣٣ : ٤٤٨٤٥٣٩١ - ب.ج.ع.



A70. Internal Separation shall be Form 4, type 7 for MDB's, type 4 for SMDB's above 800A rated. Internal Separation shall be Form 4, type 3b for MDB's, type 4 for SMDB's below 800A rated. Form of separation shall be Form 4 Type 7 for all MCCs.

**Q71. All - technical - Electrical - GTC626 2014-AppA7.4 PRPS MEPF-Electrical Rev 1.pdf - 8.4.5 26
2413 - Low Voltage Switchgear - 1.16 GENERAL DESCRIPTION**

(Second Portion) - Part A. Internal Separation: Form 4, type 7 for MDB's, type 4 for SMDB's and MCC's above 800A rated is requested in general. However Single line diagrams indicate different forms of separation:

- R1-RS3-MDB-01, 2500A, MQ174-R1-DH-SE-3203, Form 4 Type 6
- R1-RS4-MDB-01, 2500A, MQ174-R1-DH-SE-3204, Form 4 Type 6
- R1-MCW-ESMDB-01, 630A, MQ174-R1-DH-SE-3205, Form 2
- R1-WTF-ESMDB-01, 300A, MQ174-R1-DH-SE-3205, Form 2
- R1-MVG-ESMDB-01, 630A, MQ174-R1-DH-SE-3205, Form 2
- R1-UPS-ESMDB-01, 300A, MQ174-R1-DH-SE-3206, Form 2
- R1-RS1-ESMDB-01, 300A, MQ174-R1-DH-SE-3206, Form 2
- R1-RS2-ESMDB-01, 400A, MQ174-R1-DH-SE-3206, Form 2
- R1-ACB-ESMDB-01, 300A, MQ174-R1-DH-SE-3207, Form 2
- R1-CHL-ESMDB-02, 400A, MQ174-R1-DH-SE-3207, Form 2
- R1-ETFS-ESMDB-01, 300A, MQ174-R1-DH-SE-3207, Form 2
- MCC-1 Aux. Pump St., 1250A, MQ174-R1-DH-SE-3251, Form 4 Type 7
- MCC-2 Aux. Pump St., 400A, MQ174-R1-DH-SE-3251, Form 4
- MOV Panel, 20A, MQ174-R1-DH-SE-3251, Form 2
- MCC Pump Hall Drain, 250A, MQ174-R1-DH-SE-3252, Form 4
- MCC Tanker Filling St., 250A, MQ174-R1-DH-SE-3253, Form 4
- MOV Panel, 20A, MQ174-R1-DH-SE-3253, Form 2
- MCC Compressor Room, 630A, MQ174-R1-DH-SE-3254, Form 4
- MOV Panel, 20A, MQ174-R1-DH-SE-3254, Form 2
- DB Chlorination Bldg., 200A, MQ174-R1-DH-SE-3255, Form 2
- MCC Utility Pp. Station, 80A, MQ174-R1-DH-SE-3256, Form 4

Please confirm form of separation as indicated as above to be acceptable.

A71. Internal Separation shall be Form 4, type 7 for MDB's, type 4 for SMDB's above 800A rated. Internal Separation shall be Form 4, type 3b for MDB's, type 4 for SMDB's below 800A rated. Form of separation shall be Form 4 Type 7 for all MCCs.

Q72. We assume that all 11kV cable connections from the KAHRAMAA MV-SWGR (BB-KM-PRS1-01 and BB-KM-PRPS1-02) are not in the scope of ABB.

A72. It is the Contractors responsibility to extend the Kahramaa cabling from the site boundary to the MV and Generator Building.

**Q73. All - technical - Electrical - GTC626 2014-AppA7.4 PRPS MEPF-Electrical Rev 1.pdf - 7.4.3 26
0513 - Conductors and Cables - 1.13 11kV CABLING A General:**

Our understanding is that 11kV XLPE cables of cross section 240 mm² or smaller require lead sheath as well. Is this correct?

A73. Lead sheathing is required for all direct buried cabling where corrosive soil conditions exist.

Warning: This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by return fax or telephone. Confidentiality is maintained by law by stringent communication.

Tele: (974) 4484 5383 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : س. - (974)44845383 : ٥٤٣

ص.ب : ٤١ - البحرين



Q74.PRPS 1 - Technical - Geotechnical - Every Building - Earth Work:

Please confirm the existing floor levels to be considered in excavations

A74.The existing ground levels are to be considered as those given in the enabling earthworks drawings provided in tender circular no 2.

Q75.All - technical ICA/SCADA - App. A Section 8 AUTOMATION SPECIFICATION - Page no. 165 of 316 - Clause no. : 8.11.5 Ethernet over DWDM:

Customer is requested to provide the following requirements related to DWDM:

- No. of degrees
- No. of lambda's required at each DWDM nodes.

A75.See Optical ADD/DROP requirements in Hardware specifications, also please see Tunable laser requirements for DWDM line interfaces C-Band i.e. 80 discrete wavelengths at 50 Ghz spacing.

Q76.All - Technical - ICA/SCADA - APPENDIX A SECTION 8 - AUTOMATION SPECIFICATION

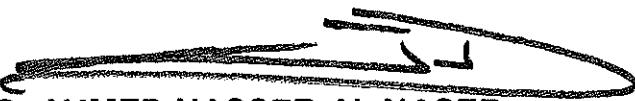
Page no. 257 of 316 - CCTV Surveillance PTZ Type Dome IP Full HD Camera (Outdoor Type) - Features and Specification:

As per given clause point no. a, zoom shall be 12X, whereas as per point no. k, zoom shall be 20X. Customer is requested to clarify.

A76.These should be set to operate at 20x optical zoom.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,


ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW,GTC, File



| Page 15

Disclaimer: This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not retained in that by electronic communication.

Tele: (974) 4484 5003 - Fax: (974) 44845391
P O BOX 41, DORA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ : ٠٦٣ ~ (974)44845333

ص.ب : ٤١ - الدوحة - قطر



TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 16/06/2014	TOTAL PAGES: 8+1
To: All Bidders		Fax:
For the Attention of: General Manager		Our Ref.: TA/TW/TWM/14/FX/1125
Subject: GTC 626/2014 - CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 05

TENDER CLARIFICATION

1. Notice of amendment

1.1 Pipe Wrapping

Kahramaa now require that wrapping tapes with self-adhesive bituminous resin on PVC backing layer shall be applied with 55% overlap on the DI pipes & Fittings regardless of whether there is high water table or not. This shall supersede other references given in specifications and drawings.

Reply to Tenderers Clarifications

Please find below replies to your clarifications:

Q1. All PRPSs – Technical – Geotechnical – Appendix A:

Pages: A9A-GI,A9B-GI,A9C-GI,A9D-GI,A9E-GI:

Refer to the tender package geotechnical information "Soil bearing capacity" is missing for the proposed locations of the reservoir. Please provide.

A1.

Site	PRPS 1	PRPS 1	PRPS 2	PRPS 3	PRPS 4	PRPS 5
Footing Shape	Safe Allowable Bearing Capacity (kN/M ²) Simsima Limestone	Safe Allowable Bearing Capacity (kN/M ²) Rus Formation	Safe Allowable Bearing Capacity (kN/m ²)			
L/B=1	500	330	440	1000	1000	750
L/B=2	400	250	330	800	800	570
L/B=5	280	170	220	500	500	390

| Page 1

Warning: this fax and any attachments may contain information which is confidential. They should not be distributed, Disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not assured for items by mistake or misdirection.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

٤٤٨٤٥٣٩١ : ٩٧٤ - ٤٤٨٤٥٣٣ : ٩٧٤
ص.ب : ٤١ الدوحة - قطاع



Q2. Kindly provide the size of Automatic air release valve (Item ref. Pkg. A 6.4.4).

A2. The air valves are double orifice air release type with a small orifice of 38mm.

Q3. We refer the Instructions to tenders Clause IT.7 with regard to visiting the sites, please confirm if the Tenderer is required to obtain pre approval from Kahramaa to visit and enter the sites.

A3. As identified in Tender Circular 2, the tenderer is required to get Kahramaa authorization to visit the sites.

Q4. We refer the Instructions to tenders Clause IT.17 which states the tenderer may submit an Alternative tender however any Alternative offer must be submitted with a fully conforming tender free from any qualification, please confirm Appendix K is only required to be submitted with the Alternative tender (if any).

A4. The Contractor is required to submit Appendix K in all circumstances. If there is no deviation to the tender requirements, then the tenderer must state the same therein.

Q5. We refer Appendix A1 Clause 1.8 (All packages) please confirm the Tenderer will be granted access to the sites to undertake his own additional investigations including ground sampling.

A5. The Contractor is granted access to the site to view, however, the only physical site investigations accepted shall be sampling of the stockpiles. No other physical investigations shall be allowed.

Q6. Please confirm if the tenderer is required to comply with the new worker accommodation & welfare laws currently being legislated within Qatar.

A6. Confirmed.

Q7. We refer Appendix A1 Clause 1.44 (All packages) please confirm the number of site sign boards required to each site.

A7. One Signboard shall be required at the access road to the site, and one signboard shall be required at the main entrance to the site.

Q8. We refer Appendix A1 Clause 1.71 (All packages) With regard to Offices and Equipment's supplied to Kahramaa, please confirm same offices and equipment's will remain the property of the Contractor.

A8. All Offices and equipment provided shall remain in the property of the Contractor upon the completion of the works.

Q9. Please confirm the status of the Projects DC1 and DC2 approval applications.

A9. DC1 has been granted for PRPS2 and 5. For PRPS 1, 3 and 4 DC1 applications are ongoing. DC2 applications are in preparation.

Q10. All - Contractual – ITT:

We refer Appendix B Clause 1.32 Application of Currency Pricing Formula, please confirm our understanding that this formula provides for a once off adjustment to the Tenderers tendered sum at the date of the Letter of Award (pre-award) for all items .Also please confirm that post award same formula shall only be applied to variation works affecting those items contained within Bills 1 to 4 (i.e. the Contractor must assume the currency fluctuation risk for all other elements of the project).

| Page 2

This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, box attachments, and copies, please notify the sender by email or telephone. Confidentiality is not waived or lost by recipient's acknowledgement.

Tele: (974) 4484 6338 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

٤٤٨٤٥٣٩١ : ٦٣ - (٩٧٤) ٤٤٨٤٥٣٣
ص.ب : ٤١ الدوحة - قطر



A10.Confirmed.

Q11.PRPS 1 - Technical - Civil/Structural

MQ174-R1-DH-ST-2016 & MQ174-R1-DH-CI-6021 – Reservoirs:

Please provide metal frames of the cover details.

A11.All the cover frames material are shown on the valves chambers and roof reservoirs opening in the relevant drawings series CI 6000.

Q12.All - Technical - Civil/Structural – Reservoirs:

Please provide existing infrastructure (i.e. electrical, etc.) layout.

A12.There are no known existing services within the site, however the contractor shall notify KAHARAMAA to any existing services encountered during the execution of the works, refer to section 1.14 of Appendix A1 scope of works and specification.

Q13.All - Technical - Civil/Structural – Reservoirs:

Please provide a layout plan for the bypass pipeline (Milestone 1).

A13.Please refer to process pipes drawing number CI 3050 to CI 3068 for bypass arrangement and in particular on drawing number CI 3055. The objective of this milestone is to bypass the PRPS site while in construction and allow the corridor/transmission mains to be put into service.

Q14.PRPS 1 - Technical - Electrical - MQ174-R1-DH-SE-2201.pdf and MQ174-R1-DH-SE-2202.pdf:

Single line diagram as per document MQ174-R1-DH-SE-2201.pdf shows short-circuit current with 80 kA, whereas document: MQ174-R1-DH-SE-2202.pdf shows: 31.5 kA.

It is expected that all downstream MV switchgears as per documents :

MQ174-R1-DH-SE-2203.pdf; MQ174-R1-DH-SE-2204.pdf; MQ174-R1-DH-SE-2205.pdf; MQ174-R1-DH-SE-2206.pdf will have $I_{sc} = 31.5\text{kA}/1\text{ sec}$, and that 80kA is a typing error.

A14.11 kV switchgear shall have a SSC of 31.5 kA. Main LV switchgear shall have a SSC of 80 kA. Contractor is obligated to verify these values by calculations, taking in consideration the exact types and lengths of cables and connection point to the Kahramaa Network.

Q15.All - Technical - Electrical - BOQ - PRPS 1 - Bill 5 - M&E- Supply.pdf

Item 5.1.2.1 and 5.1.3.1

SoW as per document BOQ - PRPS 1 - Bill 5 - M&E- Supply.pdf, Item 5.1.2.1 and 5.1.3.1 indicates types of MV panels each with:

- 2 Nos. Incomers;
- 1 No. Outgoing way;

It is expected that RMUs (Ring Main Unit) are suitable for this purpose, which do not require any external auxiliary control voltage supply, as indicated in document MQ174-R1-DH-SE-2402.pdf.

A15.The contractor is required to comply with the project requirements in full.

Q16.PRPS 1 - Technical - Electrical - MQ174-R1-DH-BE-1081.pdf:

Single line diagram as per document MQ174-R1-DH-BE-1081.pdf shows second incomer for LV switchgear R1-MPS-EMDB-11 from "Generator Switchboard in MV Generator Building" which cannot be identified. Document number of feeding switchgear is required.



A16.This generator supply should be sourced from panel reference R1-MVG-GMDB-01 located in the MV and Generator Building. See drawing MQ174-R1-DH-SE-3201.

Q17.PRPS 1 - Technical - Electrical - MQ174-R1-DH-BE-1082.pdf:

Single line diagram as per document MQ174-R1-DH-BE-1082.pdf shows second incomer for LV switchgear R1-MPS-EMDB-10 from "Generator Switchboard in MV Generator Building" which cannot be identified. Document number of feeding switchgear is required.

A17.This generator supply should be sourced from panel reference R1-MVG-GMDB-01 located in the MV and Generator Building. See drawing MQ174-R1-DH-SE-3201.

Q18.PRPS 1 - Technical - Electrical - MQ174-R1-DH-BE-1083.pdf:

Single line diagram as per document MQ174-R1-DH-BE-1083.pdf shows second incomer for LV switchgear R1-MPS-EMDB-12 from "Generator Switchboard in MV Generator Building" which cannot be identified. Document number of feeding switchgear is required.

A18.This generator supply should be sourced from panel reference R1-MVG-GMDB-01 located in the MV and Generator Building. See drawing MQ174-R1-DH-SE-3201.

Q19.PRPS 1 - Technical – Electrical:

GTC626_2014-AppA7.4_PRPS_MEPElectrical_Rev 1 - Clause 8.4.7 26 2419

Motor Control Centres:

1.13 MOTOR CONTROL CENTRE - Specification GTC626_2014-AppA7.4_PRPS_MEPElectrical_Rev 1, Clause 8.4.7 26 2419 - Motor Control Centres, 1.13 MOTOR CONTROL CENTRE does not explain how control voltage is provided for motor starter. Reference document/drawing required.

A19.This shall be proposed by the vendor.

Q20.All - Technical - ICA/SCADA - GTC626_2014-AppA6_PRPS_Instrument_Spec

10.04.2014 Rev.1.pdf - 12f 6.3.2 B, 'Design Considerations':

"The process and instrument connections of pressure gauge, transmitters and switches should be to NPT or BSS standards as specified in the project data sheets....".

"The process & instrument connections of pressure gauge, transmitters and switch should be to DIN or BSP standards or 1/2" NPT M".

Which statement is correct?

A20.1/2" NPT connections is the correct statement.

Q21.All - Technical - ICA/SCADA - GTC626_2014-AppA6_PRPS_Instrument_Spec-

10.04.2014 Rev.1.pdf - 14 f 6.3.3 A 2 / 3, 'Technical Requirements for Flow Instruments':

"The flow sensor shall be provided with robust powder coated die cast Aluminium or steel housing, certified to IP68 of IEC 60529 for remote transmitter version only and IP67 for integral transmitter version..."

"The flow meters and transmitters shall be protected to IP68...".

"The transmitter has to have an environmental protection of IP 67, NEMA 4X and should withstand 100% humidity".

Which statement is correct? Remote transmitters certified to IP68 are not available on the market, only the sensors are available with IP68.

A21.Sensor tube shall be to IP68, and remote transmitter shall be to IP67.



Q22.All - Technical - ICA/SCADA - GTC626 2014-AppA6 PRPS Instrument Spec

10.04.2014 Rev.1.pdf - 15 6.3.3 A 3, 'Technical Requirements for Flow Instruments':

"The unit shall have a range ability of 1000:1 to measure fluid velocities from 10mm/sec. to 10m/sec. with a specified accuracy". The minimum velocity that can be measured by a flow meter within a specified accuracy is 1 m/sec.

A22."Specified accuracy" refers to the manufacturer's specified accuracy as given in the product literature, which is low at lower velocities and high at higher velocities, i.e as per the vendors' accuracy/velocity curves. Therefore, the sensor shall be able to measure flows at the lowest velocity of 10mm/sec where accuracy can be lower than $\pm 0.2\%$, the accuracy shall improve as the velocity increases and shall reach $\pm 0.2\%$ at 1m/sec.

Q23.All - Technical - ICA/SCADA - GTC626 2014-AppA6 PRPS Instrument Spec

10.04.2014 Rev.1.pdf - 13 f. 6.3.3A.1 & 3, 'Technical Requirements for Flow Instruments':

"Accuracy shall be equal or better than $\pm 0.2\%$ of reading (actual flow rate) at flow velocity > 1 m/s

with repeatability within $\pm 0.1\%$ of flow rate...". "Accuracy: +/- 0.4".%

Which statement is correct?

A23. $\pm 0.2\%$ of reading shall be the correct statement.

Q24.All - Technical - ICA/SCADA - GTC626 2014-AppA6 PRPS Instrument Spec-

10.04.2014 Rev.1.pdf – 19 6.3.5B, 'Technical Requirements – Level Instruments':

"The switching element shall be hermetically sealed snap acting micro switch rated for 5 A at 240 V AC with gold plated contacts". Gold plated contacts with a rating of 5A at 240VAC are not available, because the gold-coating would evaporate during switching. The rating of the offered switches will be suitable for the SCADA requirements. If gold plating is not necessary, the specified rating can be fulfilled.

A24.Reference to 5A 240V AC shall be changed to 24V DC.

Q25.PRPS 2 - Technical - Electrical - MQ174-R2-DH-BE-1081.pdf:

Single line diagram as per document MQ174-R2-DH-BE-1081.pdf indicates rated bus bar current of 1600A for R2-MPS-EMCC-1, whereas the incoming circuit breaker is rated for 400 A only.

A25.The busbar rating should be a minimum of the next standard size greater than 250A. Please note that this incomer is actually 250A.

Q26.PRPS 2 - Technical - Electrical - MQ174-R2-DH-BE-1081.pdf:

Single line diagram as per document MQ174-R2-DH-BE-1081.pdf shows second incomer for LV switchgear R2-MPS-EMDB-18 from "Generator Switchboard in MV Generator Building" which cannot be identified. Document number of feeding switchgear is required.

A26.This generator supply should be sourced from panel reference R2-MVG-GMDB-01 located in the MV and Generator Building. See drawing MQ174-R2-DH-SE-3201.

Q27.PRPS 2 - Technical - Electrical - MQ174-R2-DH-BE-1082.pdf:

Single line diagram as per document MQ174-R2-DH-BE-1082.pdf showing second incomer for LV switchgear R2-MPS-EMDB-17 from "Generator Switchboard in MV Generator Building" which cannot be identified. Document number of feeding switchgear is required.

A27.This generator supply should be sourced from panel reference R2-MVG-GMDB-01 located in the MV and Generator Building. See drawing MQ174-R2-DH-SE-3201.

| Page 5

Warning: this fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not waived or lost by mistaken transmission.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : س. - (974)44845333 : تلفون
ج.ا - البريد الالكتروني : البريد الإلكتروني



Q28.PRPS 2 - Technical - Electrical - MQ174-R2-DH-BE-1083.pdf:

Single line diagram as per document MQ174-R2-DH-BE-1083.pdf shows second incomer for LV switchgear R2-MPS-EMDB-19 from "Generator Switchboard in MV Generator Building" which cannot be identified. Document number of feeding switchgear is required.

A28.This generator supply should be sourced from panel reference R2-MVG-GMDB-01 located in the MV and Generator Building. See drawing MQ174-R2-DH-SE-3201.

Q29.PRPS 2 - Technical - Electrical - MQ174-R2-DH-SE-2201.pdf and MQ174-R2-DH-SE-2202.pdf:

Please confirm MV switchgears as Single line diagram as per document MQ174-R2-DH-SE-2201.pdf and MQ174-R2-DH-SE-2202.pdf for Kahramaa Substation are not part of Scope of supply.

A29.Confirmed. The Contractors scope of work shall begin at the site boundary.

Q30.PRPS 2 - Technical - Electrical - BOQ 8.5.3.3 - 8/24/12:

Please provide detail / general arrangement sections for Drainage Lagoon (Standby).

A30.Refer to drawing series CI-6430.

Q31.All - Technical - Civil/Structural – Drawings:

Please confirm that the baffle walls in the reservoirs need to be watertight and have the same technical requirements in terms of water stops and concrete.

A31.Baffle walls do not need to be water tight and do not require Waterstop on construction joints, however all movement joints must contain Waterstop, irrespective of where they are located. The technical requirements for concrete remain the same throughout the structures.

Q32.All - Commercial - Terms of Payment - Appendix B - Clause 2:

Terms of Payment is our understanding that the Contractor is allowed to claim in his interim invoices parts of the percentages given in clause 2 as per the monthly progress on site; e.g. the Contractor completes half of the base slab in Reservoir 1, he is allowed to claim in his invoice for 50% of 10% (given in the table in clause 2) of the LS value of that reservoir. Please confirm.

A32.Confirmed.

Q33.PRPS 1 -Commercial - Item coverage - MQ174-R1-DH-SE-2103:

Please advise if we shall consider the HV cables from primary substation to other remote substations (cables No. R1A-100,200,300,400,500,600) DWG : MQ174-R1-DH-SE-2103

Note: the final location of the primary substation is not confirmed by KAHRMAA yet.

A33.The Contractors scope of work shall begin at the site boundary.

Q34.PRPS 1 - Technical – Electrical:

Please provide side wide load schedule sheet 4/10 – 10/10.

A34.Please disregard these drawings. There are only 3No. Site wide load schedule sheets, drawings MQ174-R1-DH-SE-7001, MQ174-R1-DH-SE-7002 and MQ174-R1-DH-SE-7003.

Q35.PRPS 1 - Technical - Electrical - MQ174-R1-DH-SC-002 & MQ174-R1-DH-SC-003:

Please provide typical details drawing no. MQ174-R1-DH-SC-002 & MQ174-R1-DH-SC-003.

Disclaimer: This fax and any attachments may contain information which is confidential. They should not be reproduced or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not guaranteed or lost by relay transmission.

Tele: (974) 4484 5330 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : +974 - (974)44845333 : ٤٤٨٤٥٣٣٣

ج.م.ب - ٤١ : +٩٧٤ - ٩٧٤



A35.Please disregard these drawings and refer to the SCADA package for details of the project security systems.

Q36.All - Technical - ICA/SCADA - Appendix-F, Drawing no: MQ174-R1-DH-SC-0002

Typical Details 1 of 2:

Bidders understand from the referred drawing that 4000 mm height camera poles shall be used for PTZ & flexi dome cameras in site. However we observed from drawing MQ174-R1-DH-SE-7207 - site wide security system details that 4500 mm height poles to be used for camera installation. Please confirm the height of the camera poles.

A36.The height of the poles shall be 4500mm.

Q37.All - Technical - ICA/SCADA - APPENDIX A SECTION 6

INSTRUMENTATION SPECIFICATION - Page no. 13 of 40 and 15 of 40:

Technical Requirements for Flow Instruments On page no. 13 it is specified that Accuracy shall be equal or better than $\pm 0.2\%$ of reading (actual flow rate) at flow velocity >1 m/s, whereas on page no. 15 it is specified that accuracy shall be 0.4%. Customer is requested to clarify.

A37. $\pm 0.2\%$ of reading shall be the correct statement.

Q38.All - Technical - ICA/SCADA - APPENDIX A SECTION 6

INSTRUMENTATION SPECIFICATION - Page no. 24 of 40

6.3.7 Vibration Monitoring System:

Bidder understand that transmitter based vibration monitoring system is required i.e. field vibration sensors will be connected to field mounted vibration transmitter, which in turn will be directly connected to PLC/SCADA through 4-20 mA signal. Please confirm that bidder's understanding is correct.

A38.The Bidders understanding is correct.

Q39.Refer to Appendix A, General Scope of works Clause 1.71 site offices for KM and Engineer, there is no provision in the BQ (Preliminaries Bill). Please clarify.

A39.There is no Preliminaries Bill in this Contract. The Tenderer is to allow for this in his pricing.

Q40.We understand that we need to provide five different bid bonds, each of value QAR 20 Million, if we intend to submit tenders for all five packages. Please confirm our understanding.

A40.The Tenderer may submit tenders for all 5 sites, should he wish. However they are only required to submit the number of tender bonds for the number of contracts that they consider they can deliver. For Example, if the tenderer considers they can deliver 2 of the contracts, then they should submit 2 tender bonds. If they prove to be cheaper on 3 sites, however they will still only be awarded 2 sites on the basis of their tender bonds.

Q41.We refer to the Form of Tender, which states that the BOQ is subject to final measurement. We also refer to the BOQ wherein the majority of items are without quantities. Kindly advise whether this job is re-measured or Lump Sum. If it is re-measured, kindly provide BOQ with quantities.

A41.Where items are shown as re-measurable, within the BOQ, they shall be re-measured according to the item given. However the tenderer is required to price for the work shown in the drawings, and re-measurement shall only be accepted where this is varied from the original contract scope.

| Page 7

Warning: this fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax asap. Confidentiality is not retained or kept by email or fax attachments.

Tele: (974) 4484 5233 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ : ٠٩٧٤-٤٤٨٤٥٣٩١
ج.م. - الدوحة ٤١ : ٠٩٧٤-٤٤٨٤٥٣٩١



Q42. Please confirm: as stated in the General Summary "Total Project Cost including the provision of an Advance Payment by KM" means the total sum for Bill nos. 1 to 10?

A42. Refer to Item 2.1 of Appendix B.

Q43. Which amount is to be transferred to the "Form of Tenderer" (with or without advanced payment)?

A43. This question is understood to relate to the optional item include on the grand summary in the BOQ for each site. This item has been deleted in Tender circular 3. The Form of Tender shall include the final costs from the Grand Summary.

Q44. We hereby request you to arrange a Site Visit at the earliest in order to get more information about the site and surroundings

A44. The Contractor is referred to the response regarding site visits as given in Circular 2.

Q45. Please confirm that QCS2010 is considered as the General Specification and Appendix "A" as the "Project Specification" where the project Specification has precedence over the General Specification.

A45. Confirmed.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,

ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW,GTC, File

聲明:此 fax 和任何附件可能含有 confidential 信息。它们应该不被分发、披露或复制给任何人，除非得到发送者的批准。如果您不是收件人或非授权的接收者，请通过电子邮件或传真通知发送者。保密性不能用于未经授权的分发或复制。

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ : ٩٧٤ - (974)44845333 : ٣٤٤
ج. ب : ٤١ الدوحة - قطر

| Page 8



TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: ١٩ / ٠٦ / ٢٠١٤	TOTAL PAGES: 20+1
To: All Bidders	Fax:	
For the Attention of: General Manager	Our Ref.:	TA/TW/TWM/14/FX/١٣٩
Subject: GTC 626/2014 - CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 06

TENDER CLARIFICATION

Reply to Tenderers Clarifications

Please find below replies to your clarifications:

Q1. Clause 1.1.3.8 says that there if there will be any delays by KM in the provision of water, the contractor will be allowed to claim for extension of time but will not be allowed to claim for any costs. In Clause 1.24 it is stated that in case of failure of the available water supply the contractor is obliged to provide at his own expense all necessary water required to continue all the works in the project and he may use water tankers for transportation to fulfill this object. Taking into consideration that the reservoirs have to be filled for testing at least 4 times each reservoir taking a volume of approximately 500, 000 cbm. Water, filling by tanker cannot compensate the non-availability of water. Please confirm that the Contractor will not be held liable for the non-availability of water, neither he needs to fill by tankers on his own expenses.

A1. Not confirmed.

Q2. All PRPSs – Technical – Electrical – Specs. A.5 – Page 3/32 – Item 5.1:

Specification Appendix A 5 relates to MV motors and drives as a "Project Specification". Appendix A 7 is provided as the "Project Specification" for the remaining electrical works. This specification is copy-pasted (with some bits modified to suit) from the Wisconsin Department of Administration. Division 26 – Electrical Master Specification – Design Guidelines. Much of this specification is tied to USA standards and refers to USA practice.

For example: Clause 8.4.6.M Testing Agency Qualifications. Member of NETA (National Electrical Testing Association). Testing Agency Field Supervisor: Currently certified by NETA to supervise on-site testing.

There is only one member of NETA in Middle East, AYT Electrical LLC, Dubai who specialize in supplying test equipment. Does this mean that the contractor has to employ an engineer from this company or a member company in the USA to supervise the on-site testing? These organizations will not be familiar with the requirements of the local electrical regulations.

| Page 1

Disclaimer: this fax and any attachments may contain information which is confidential. They should not be distributed, Disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by e-mail or telephone. Confidentiality is not assured to last by mistaken communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ - ٤١ : ٣٣٣٤٤٨٤٥٣٣
ج. ب: ٤١ الدوحة - قطر



A2. The specifications are based on Masterspec, which is a pre-written specification template produced by the American Institute of Architects (AIA). The principle is that these specifications were written with the minimum requirements of each element of the works, and the specifications are tailored to be made project specific by adding specific local requirements. However, it is normal practice to keep the same specification numbering since they are referenced throughout each specification. The contractor is required to comply with the project specifications in full. The contractor may propose an alternative testing agency for which shall be subject to Kahramaa's review and approval.

Q3. Appendix A 4, Clause 4.2.1.4 Standards and Codes, states "the works and equipment shall be designed in accordance with the following standards etc. ... except where otherwise specified. Can it be inferred from this statement that when specified takes precedence over the listed standards and codes.

A3. Particular Specifications shall take precedence over general specifications.

Q4. All PRPSs – Technical – ICA/SCADA – Specs. A.6 – Page 3/40 – Item 6.2.2:
Appendix A6 Clause 6.2.2 refers to KM Standards. Can we please have a copy of this document if different from the mentioned above?

A4. KM standards relate to those given in Appendix A.

Q5. All PRPSs – Technical – Specifications:

Please confirm that where errors exist between the "Project Specification", the Project Drawings and the BoQ that the order of precedence is 1. "Project Specification", 2. Project Drawings and 3. Bill of Quantities.

A5. Refer to General Conditions of Contract, article 2.11.

Q6. PRPS 1 – Technical – Civil/Structural – MQ174-R1-DH-ST-4522~4525:

It is shown piling layout/design to be provided by piling contractor in dwg. No. MQ174-R1-DH-ST-4522~4525, we understand that above mentioned pile works will be carried by other contractors and this work is not in our contract work scope. Please clarify.

A6. The piling is part of this contract.

Q7. PRPS 5 – Technical – Civil/Structural – MQ174-R1-DH-ST-4522~4525:

It is shown piling layout/design to be provided by piling contractor in dwg. No. MQ174-R1-DH-ST-4522~4525, we understand that above mentioned pile works will be carried by other contractors and this work is not in our contract work scope. Please clarify.

A7. The piling is part of this contract.

Q8. All PRPSs – Technical – Civil/Structural:

Please provide us the requirements about chloride penetrability of all concrete.

A8. Specification 2.1.1.2 refers to AASHTO T 277. Section 2.1.3.9 F (durability Tests) gives the requirements for chloride permeability test.



Q9. All PRPSs - Technical – Civil/Structural – MQ174-R1-DH-C1-6200:

Please specify the materials for cable channel and drain channel cover.

A9. The cable trench covers details shall be hot dipped galvanized steel bar grating.

Q10. PRPS 3 – Technical – Civil/Structural – MQ174-R3-DH-C1-3051:

The said drawing is missing.

A10. This drawing can be found under the subdirectory "Civil and Mechanical".

Q11. Refer to General Terms and Conditions, Design Clause 3.14 note as the Contractor shall check and verify the design, carried out by KM or by others, our understanding is contractor's responsibility to appoint Design Consultant in pre-tender stage and post-tender stage. Please clarify.

A11. The Contractor is required to verify designs related to final equipment\materials selection. For all other elements, the contractor is required to satisfy themselves, that the construction drawings provided are fit for construction. No other formal third party design verification is required. The contractor is still required to include for third party inspections for quality and testing.

Q12. (Item ref. PKG. A 6.7.25) for motorized actuator pillar with extension spindle, please clarify if "pillar" is applicable only for motorized valves.

A12. Confirmed.

Q13. Please clarify the thickness of the perimeter concrete precast panel type 2, as the structural drawings (MQ174-R2-DH-ST-5020) are showing a thickness of 150 mm while in the architectural drawings (MQ174-R2-AR-9511) it shows 200 mm thickness.

A13. The overall wall thickness is 200mm but the wall has 50mm deep recessed sections and panels reducing the thickness at these areas to 150mm. The minimum thickness of the wall is 150mm thick.

Q14. All PRPSs – Technical – Civil/Structural – Scope of Works & Specs. – P. 6/60 – Item 1.1.3.8:
Kindly advise where will the testing water be disposed after testing the reservoirs and pipelines.

A14. Water disposal shall remain the contractor's responsibility. Should the contractor wish to pass the water to a third party he must clearly identify that it has been used for testing purposes.

Q15. BOQ item No. 6.1.7-9: Please provide specification of Quick Closing Valve.

A15. Refer to butterfly valve specification section 4.3.3

Q16. PRPS 2/4 - Commercial - Appendix A1 - Scope of Work - Page 45/70 - Item 1.25:
Power supply: Please confirm if the primary substation is ready to supply power and if the Contractor can directly gain construction power from the primary station?

A16. Primary substations for the PRPS sites are not yet completed. The contractor shall locate his own construction power supply.



Q17. All PRPSs - Contractual - ITT - Page 8/34 - IT. 14 Bank Guarantee:

According to the requirements of the banks and due to the lack of dischargement procedure in the tender bond, we would like to insert the following sentence into the tender bond text:

"This Guarantee expires automatically and in full if we have not received your claim on or before the validity date. Upon expiry, this guarantee becomes null and void without regard to whether the original has returned to us or not". We kindly ask you to approve and confirm.

A17. The text on the tender bond shall not be modified.

Q18. All - Contractual – ITT:

We refer Appendix A1 Clause 1.55 (All packages) with regard to coordination with other contractors please provide the detailed scopes of works for the packages as listed within same clause in order for us to understand our coordination requirements.

A18.

- Earthworks Contract scope for all sites, is given in Enabling works drawings issued in Tender Circular 2.
- Mega Reservoir SCADA Integration Contract. This is a separate Contract for the overall integration for the SCADA for the 5 sites to a single control point.
- Pipelines for the Mega Reservoirs Corridor Main 2 (Package A and B) - These are GTC600 and GTC599, the main contracts for the installation and testing of the Corridor pipelines within the National Utility Corridor.
- Transmission Pipelines for Mega Reservoirs. This is GTC611, the contract for the installation and testing of the transmission mains outside of the National Utility Corridor. This also includes all connecting pipework to PRPS1 .
- Sub Station Construction Contract. This is for the construction of required substations associated with the PRPS sites.

Q19. All - Contractual - ITT:

We refer Appendix A1 Clause 1.56.10 (All packages) with regard to adjoining properties please confirm access to the sites is not through any adjoining properties for which Kahramaa cannot guarantee access.

A19. The Main access routes to the sites have been agreed with MMUP. All five sites have an approved ROW surrounding the PRPS sites which allows moving from and to each site. Those accesses are connected to a road, (whether existing, proposed road or under construction road).

Q20. All - Contractual - ITT:

We refer Appendix A1 Clause 1.71 (All packages). Please confirm the speed of the internet connection required.

A20. A 4-G internet connection is required.

Q21. All - Contractual - ITT:

Please confirm if the Contractor is required to make payment for authority connection fees and head works for power, water and sewer connections.

A21. The contractor shall be required to prepare and pay all temporary and permanent connection fees.



Q22.Please confirm if the Contractor is required to make payment for service provider connection fees and head works for telecommunications, internet and broadcasting connections.

A22.The contractor shall be required to prepare and pay all temporary and permanent connection fees.

Q23.All - Contractual - ITT - Attachments 7 and 10 - Pages 26, 31/31:

In Attachment 7 'Form of Agreement', "the Effective Date of the Contract" is written as 20 Months, but in Attachment 10 'Summary of Contract' Item 09, "Contract Duration including Mobilization and Demobilization" is written as 36 months (Also in Appendix A - Item 1.2). Please kindly clarify.

A23.Attachment 7 does not refer to 20 months, but requires the date to be completed. The 20 is the start of 2014 (i.e. the year). The Contract Duration is 36 months.

Q24.If the balance sheet of the year 2013 is ready before tender date, we prefer to submit the evidence of annual turnover for the last 5 years as 2009-2010-2011-2012-2013 and also want to fill the evaluation queries no.11 for the years of 2009-2010-2011-2012-2013. Please confirm.

A24.Confirmed.

Q25.PRPS 1 - Technical - Civil/Structural - MQ174-R1-DH-ST-2016 - Reservoirs:

We note Chamber slab TOC varies yet please provide level for reference.

A25.Refer to CI-6020 drawings for each site, for the Inlet distribution chamber slab levels.

Q26.PRPS 1 - Technical - Civil/Structural - Reservoirs:

Please advise on closest de-watering discharge point.

A26.The Contractor shall verify this for himself.

Q27.PRPS 1 - Technical - Civil/Structural - MQ174-R1-DH-CI-1001 Rev A - Reservoirs:

Please confirm that the Limit of Works as identified on MQ174-R1-DH-CI-1001 Rev A is correct and no permanent works outside of this boundary are in the Contractor's scope.

A27.The limit of works shown on this drawing are in respect of the pipelines and the external roads. The site grading however may affect areas outside of the site boundary due to the uneven topography in this area.

Q28.PRPS 1 - Technical - Civil/Structural - Reservoirs:

Please advise on the water table design level selected by the Client's Consultant.

A28.Reservoirs:

PRPS 1 +8.10 QNHD

PRPS 5 +9.20 QNHD

Other sites ground water table has been considered to be below foundation levels (i.e. no ground water pressure has been considered in the design).

Main pumping station:

PRPS 1 +9.20 QNHD

PRPS 5 +10.325 QNHD

Other sites ground water table has been considered to be below foundation levels (i.e. no ground water pressure has been considered in the design).

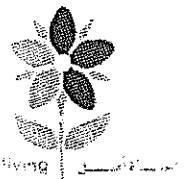
For all other ancillary buildings, ground water level has been considered to be at ground level.

| Page 5

Warning: This fax and any attachments may contain information which is confidential. They should not be reproduced or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax as soon as possible. Confidentiality is not waived or lost by mistaken communication.

Tel: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ : ٤٠٣ - (٩٧٤) ٤٤٨٤٥٣٣ : ٠٩٧٤
ج.م.ب : ٤١ - الـوـلاـقـةـ ~ قـطـرـ



Q29. All - Technical - Civil/Structural - Reservoirs:

Please provide a layout plan for the temporary roads.

A29. These are provided on the enabling work drawings.

Q30. PRPS 1 - Technical - Electrical - BOQ - PRPS 1 - Bill 5 - M&E- Supply

Item 5.1.1.1 and 5.1.1.2 and 5.1.1.6

SoW as per document BOQ - PRPS 1 - Bill 5 - M&E- Supply.pdf Item 5.1.1.1 and 5.1.1.2 and 5.1.1.6 and Single line diagram as per document MQ174-R1-DH-SE-2204 (2205, 2203).pdf do not indicate any:

- Measuring and bus bar earthing panels;

A30. These shall be provided as required in Appendix A7.4, sections 26 2713 - Metering and 26 0526 - Grounding and Bonding for Electrical Systems.

Q31. All - Technical - Mechanical:

There are discrepancies in the qty of pumps, as well as their design flow and head between:

- a) Scope of Work ,
- b) BoQ and
- c) Drawings .

Which document leads?

Please find here below three examples for these contradictions.

A31. Refer to the General Conditions of Contract article 2.11.

Q32. All - Technical – Mechanical:

We refer the documents and it states bidding parties to provide design verification for the project where required. Please provide a list of approved registered Consultants with Kahramaa to do this.

A32. Refer to A11.

Q33. PRPS 1 - Technical – Mechanical:

We request you to please provide a copy of Hyder's Surge Analysis Report for PRPS1 to PRPS5. Also, please confirm if the Contractor is just to verify Hyder's Surge Analysis (i.e. a 3rd party check) or actually do this design exercise with our own appointed consultant and issue for approval.

A33. The Surge Analysis report shall be provided to the successful bidder. The Contractor is required utilize existing models to verify that the final equipment proposed will not have any impact upon the designed system. Should any changes be required to equipment installed under this or other affected contracts, this shall be at the contractors costs. This final model will require Kahramaa review and approval. The Contractor may use their own consultant for this purpose, subject to Kahramaa's approval.

Q34. PRPS 1 - Technical - Civil/Structural - MQ174-R1-DH-CI-6033 - Reservoirs :

Please provide details of GRP platform as specified in Section A.

A34. Details for GRP ladder fixing, platform and support are part of the contractor design during construction and shall be subject to Kahramaa review and approval.

| Page 6

Warning: This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by e-mail or fax or telephone. Confidentiality is not assured by lost or mistaken communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : س.ا - (974)44845333 : س.ا
ج.ا - ٤١ : س.ا



Q35. All - Contractual - Article 3: Scope of Works clause 3.1.2:

We refer Article 3: Scope of Works clause 3.1.2 "all items not specifically referred to or described in the Contract which nonetheless are required to complete the Works and achieve the effective and efficient use and operation of the Works". This clause places an unreasonable requirement onto the Contractor as it has not been sufficiently detailed. Please consider deleting this clause OR alternatively provide some examples of where it might apply.

A35. The GCC shall not be modified.

Q36. All - Contractual - Article 3: Scope of Works clause 3.1.3:

We refer Article 3: Scope of Works clause 3.1.3 "all items referred to in one or more of the Contract Documents or otherwise necessary for the Works to be fit for the purposes required by the Contract but omitted from other Contract Documents (those omitted items are included in the scope of the Works, unless the context requires otherwise"). We understand from the Clause that the Contractor has to assume responsibility for the design, if our understanding is correct please provide the Client's briefing document as issued to the Consultants in order that we can ascertain whether or not the current design is fit for purpose.

A36. The Consultants brief shall not be provided. Refer to A11.

Q37. All - Technical - Civil/Structural - ST-1023 - Reservoir Roof Slab:

In our opinion, detail 3, Alternative 2 is not complete (e.g. the build-up of the roof such as screed, insulation, membrane, gravel, etc. are missing in the detail. Please clarify.

A37. This information can be found on the drawings referenced CI-6031.

Q38. All - Commercial - Quantities - App. B - BOQ - General:

Which mechanism will be followed by the Client during the commercial tender evaluation if one of the bidder has obviously taken wrong quantities? How will he compared to the other competitors?

A38. The Contractor shall price the BOQ given. Any wrong quantities in the BOQ shall be notified to Kahramaa through tender queries before the closing date. Items shown as Lump Sum shall be considered and priced as such.

Q39. All - Technical - Quantities - Specification - App. A, 2.8:

Please confirm that the Internal Coating in the Scour, Outlet and Inlet Chambers of the reservoirs is a Coal Tar Epoxy coat as noted on the civil drawings Note 4, and not as inside the reservoir a anti-carbonation non-toxic solvent free epoxy coat as mentioned on the structural drawing Note 8.

A39. All chambers internal surfaces to be coated with waterproofing non-toxic paint based on cementitious material which also has the property of sealing voids and protecting concrete from any corrosive action.

Q40. PRPS 3 - Technical - Electrical - MQ-174-R3-DH-CI-6442 - (Utility Building Sections 02 of 04:

A part of the drawing is not shown in the drawing area and is needed for checking. Please send to us the complete drawings related to Utility building.

A40. Utilities buildings can be found on Drawing series CI 6440 to CI 6444.





Q41. All - Technical - Civil/Structural - MQ174-R1-DH-ST-4760:

Bar size (diameter) & spacing are not specified for PT beams in the drawings. Kindly provide us the details.

A41. Design of the PT beam is within contractor's remit. The details provided in the structural drawing are purely schematic. The contractor needs to design the beam taking into account all loads including type of construction and methods of handling. The design needs to be submitted to Kahramaa for review and approval. Please refer to the notes on the drawing.

Q42. All - Commercial – Architectural:

Kindly provide us the drawings showing palm trees showing along the Boundary wall.

A42. The Palm Trees to be provided along the boundary wall are deleted, however the Palm Trees at the front of the site shall remain.

Q43. Further to the above tender you are kindly requested to provide the missing drawings of the following structures BOQ ref. 8.5 "Other Structure" as mentioned hereunder:

- BOQ Item 8.5.1 Main Bulk Fuel Storage Facility
- BOQ Item 8.5.2 Single Bulk Fuel Storage Facility
- BOQ Item 8.5.3 Drainage Lagoon
- BOQ Item 8.5.4 Surge Suppression Plant as per Contractor Design
- BOQ Item 8.5.5 Tanker Filling Station
- BOQ Item 8.5.6 Cable Gallery

A43. Refer respectively to Drawings, CI-6320 to CI-6321, CI-6322 to CI-6323, CI-6430 SERIES, CI-6340 to CI-6341, CI-6380 to CI-6382 & CI-6390 to CI-6394, and to Architectural Drawing No. AR-1505.

Q44. PRPS 1 - Technical - Civil/Structural - MQ 174-R1-DH-AR-4000 & MQ 174-R1-DH-ST-5310:

Architectural Drawing MQ 174-R1-DH-AR-4000 and Structural Drawing MQ 174-R1-DH-ST-5310 of Auxiliary Pumping station do not match each other. We kindly request that you clarify the same.

A44. The auxiliary pumping station control room Architectural drawing AR-400 shall be read with Structural drawing ST-5312. For the basement plan of the Auxiliary pumping station the referred structural drawing is ST-5310.

The overall layout can be find in the civil drawing CI-6330.

Q45. All - Technical - MEPF - App. A7.4 - 102/263 - 8.4.3/1.11B:

This clause specifies air insulated or GIS switchgears, please confirm that GIS switchgears can be used, noting that 11kV Distribution Switchgears shall be only Air Insulated according to Kahramaa ENA specs for Distribution Switchgears.

A45. Type of switchgear will be subject to Kahramaa approval.

Q46. All - Contractual - App. C-K - App. I-4 Electrical 0 28 of 45 - Item 4:

11kV Switchgear: to our knowledge, only "TAMCO" is approved by Kahramaa ENA for 11kV Distribution Switchgears (and its approval is now on hold) while other manufacturers are NOT. Please confirm the manufacturers list, noting that Kahramaa ENA shall NOT approve/energize any switchgear outside their approved list.



A46.The current ENA approved list of vendors for 11kV switchgear is:

- TAMCO, Malaysia
- Siemens ,India;
- Al Ahlia, Kuwait;

The Bidder should be aware that this list is subject to change at Kahramaa's discretion without justification and that all suppliers must be reviewed and approved by KM ENA Distribution Department Materials section.

Q47.All - Contractual - App. C-K - App. I-4 Electrical 0 28 of 45 - Item 5:

Distribution Transformers: to our knowledge, none of the listed manufacturers are approved by Kahramaa ENA Distribution Dept. (only Schneider France (not Turkey) is approved for Dry Type Transformers).

Please confirm the manufacturers list, noting that Kahramaa ENA shall NOT approve/energize transformers outside their approved list

A47.The current ENA approved list of vendors for Oil Type Transformers is:

- UTEC Transformers , KSA;
- Emirates Transformers, UAE.
- For Dry type transformers:
- TESSAR, Italy;
- IMEFY, Italy;
- SGB Germany;
- ABB, Schneider;

The Bidder should be aware that this list is subject to change at Kahramaa's discretion without justification and that all suppliers must be reviewed and approved by KM ENA Distribution Department Materials section.

Q48.All - Technical - MEPF - Appendix A7.4 - Page 134/263 - 1.17A:

LV switchgears are specified as fully withdrawable type which is not in line with QCS2010 and Kahramaa regulations for installation of electrical wiring... Please confirm if fixed type switchgears can be used, noting that the main ACB incomers will be only withdrawable according to Kahramaa regulations for installation of electrical wiring... clause 4.8.0

A48.There are no KM wiring regulations that give the requirement to have outgoing feeders of fixed type. Therefore, proceed in accordance with Project Specifications.

Q49.All - Technical - Mechanical - App. A4 - Mech. Spec. - P. 79/108 - 4.8.3.2:

Please confirm that for pipes diameter DN600 up to DN1400, LSAW (Longitudinal Submersed Arc Welding) pipes can be used, note that ERW pipes are not a standard for pipes diameter more than DN500.

Please confirm that Spiral Welded pipes (SSAW) can be used for large pipes sizes (DN1600 and above). Noting that SSAR (Spiral submersed arc welding) is the standard production method for such sizes.

A49.Confirmed.

| Page 9

Warning: this fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or telephone. Confidentiality is not reduced or lost by mistaken communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ج.ع - (974)44845333 : ٤٣٣
ج.ع - ٤٣٣ : م.د



Q50.All - Technical - Mechanical - App. A4 Mech. Spec. - 80/108 - 4.8.3.3:

"Branch connections shall be made from equal tees or reducing tee, integral reinforced branch fitting as approved by Kahramaa/Engineer".

Paragraph is not clear, please confirm that reinforced welded branch fittings is permitted especially for nonstandard branches sizes.

A50.Non-standard Tee's will be accepted for use subject to KM/engineer approval during construction, however not all Tees shall be accepted. (For example Kahramaa do not accept Y Tees.)

Q51.All - Technical - Mechanical - MQ174-R1-DH-CI-6207:

Please confirm that preliminary stress analysis have been conducted for the main pumping stations piping system, and the SUPPORTS indicated in this drawings have been designed according to the preliminary stress analysis.

If so, please provide stress analysis.

A51.Preliminary pipe stress analysis has been done on the carbon steel pipework inside the pumping station for the design shown. Analysis shall be made available to the successful bidder. Should the bidder wish to modify the arrangement shown on the detailed design drawings, then it shall be his responsibility to re run the Pipe stress Analysis for the modified design.

Q52.All - Technical - Mechanical - MQ174-R1-DH-CI-6200:

Please confirm that preliminary stress analysis have been conducted when designing the piping system ARRANGEMENT in the main pumping stations. If so, please provide stress analysis.

A52.Refer to A51.

Q53.All - Contractual - Circular 1 - 6/8 - A15:

Refer to the said clause, we understand that Only one tender bond is required if the contractor wish to be awarded any one package of this project and Only two tender bonds are required if any two packages are expected while five packages' price shall be submitted.

Please confirm.

A53.Confirmed, except the contractor is not obliged to submit a price for all of the five packages.

Q54.All - Technical - Civil/Structural - BOQ 8 - 8.6.9:

Please provide or indicate the drawings (waste water collection network) related to the said BOQ item.

A54.Refer to the drawing series CI-3000.

Q55.All - Technical - Mechanical - App. A4 Mech. Spec. - 71/108 - 4.7.3:

- Clarify and provide the events referred to "Changes in transmission conditions".
- Confirm if the changes in transmission system affect the pumps or equipment or arrangement installed at the reservoir site a VO will be issued to the Contractor for all amendment required by such changes inside of the reservoir site but the changes along the transmission mains will be undertaken by the pipeline contractors.



A55.The hydraulic design caters for the design at horizon 2016, 2026 and 2036. The contractor is obliged to select the pumps based on the specification and data sheets provided. Changes in Transmission conditions refer to the potential changes that may arise from normal and abnormal operation of the systems. Changes in transmissions condition will always be within the pump range operation as shown on the system curves and no variation will be accepted related to this.

Q56.All - Technical - Mechanical - App. 4 mech. Spec. - 71/108 - 4.7.3:

Clarify the potential requirement for the surge tanks as due to high pumping head such structures are not feasible for construction in the area where the height of structures is restricted by the municipalities.

A56.Refer to surge vessels drawings series CI-6340. As the vessels are installed horizontally, the issue of height structure restrictions from the municipalities is not relevant.

Q57.All - Technical - Mechanical - App. A4 Mech. Spec. & DWG CI 6200 - 80/108, DWG CI 6200:

Steel fittings; Confirm that long tees with branches positioned non symmetrically along the main tee body will be accepted by Kahramaa as shown on the drawings instead of standard length tees as it is a case with DI tees.

A57.This is accepted, subject to meeting the installation equipment and arrangement of the pump layout. Also subject to Kahramaa review and approval.

Q58.All - Commercial - Item Coverage - Scope of Works & Specification - 1 of 60 - 1.1.1:

If a bidder submits 5 packages with full 5 tender bond provisions and in case he is the lowest bidder in all packages, how many packages will the bidder be awarded?

A58.This shall be at Kahramaa's sole discretion.

Q59.Kindly provide the vendor list of the following:

- 11kV MV Switchgear
- 11 -kV and 415 V Generator Set
- Dry and Oil-type Distribution Transformer
- 415 -V LV Switchgear
- 3.3 -kV and 415V Variable Frequency Drive
- Passenger and Goods lift
- Instrumentation and Control System
- Fire Alarm System
- 11 -kV, 3.3kV and LV Cables
- Earthing and Lighting protection system
- Bulk Fuel Tanks and Fuel system
- Small Power Wiring Devices
- Lighting Luminaries
- Steel Poles and Lighting
- Telecommunication System
- Public Address System
- Access Control System
- CCTV System
- Emergency Lighting System
- SCADA system
- UPS system

| Page 11

Statement: This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not waived or lost by inadvertent communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : تلفون - (974) 44845333 : فاكس
ج.م.ب ٤١ - الدوحة : قطر



A59.Vendor Lists are provided in Appendix I. Where a vendor list is not provided, the Contractor shall proposed vendors and submit the same for review and approval to Kahramaa.

Q60.All - Technical - Civil/Structural - Specification Section 2.8.1 - Page 125/186 - 2.8.1:
Specification mentions Potable Water Holding Structures.
Please identify these structures/buildings.

A60.For the potable water holding tank, refer to drawing CI-6440 to CI6-444.

Q61.All - Technical - Civil/Structural - MQ174-R1-DH-ST-5450/A

MQ174-R1-DH-ST-5413/A - MV & Gen Room:

Drawings No. MQ174-R1-DH-ST-5450/A - Roof Slab Reinforcement schedule, S07 & S08 slab thickness shows 250mm but Drawing No. MQ174-R1-DH-ST-5413/A Roof framing plan shows 200mm. Please confirm your requirements.

A61.The thickness is 250 mm.

Q62.All - Technical - Civil/Structural - MQ174-R1-DH-ST-5311 - Auxiliary Pumping Station:

Please identify the slab type / slab mark of the tank roof located at ground floor level +0.500 at GL A/2-4.

A62.Slab tag is S03 (Y-axis) and S05 (X-axis) similar to the tag in GL H-I/4-5. Drawings will be updated and issued to the tenderers.

Q63.All - Technical - Civil/Structural - MQ174-R1-DH-ST-5810 & 5850 - TFS Pumping Station:

Please clarify the thickness of roof slab. It is shown in the drawing as 250mm thk slab however in the slab schedule it is 300mm thk.

A63.Dimensions in the plan are correct. MCC Roof Slab is 250mm thick.

Q64.All - Technical - Civil/Structural - MQ174-R1-DH-ST-1370 - MAIN GUARD HOUSE BUILDING:

Please provide standard details of Capping Beam

A64.Please refer to the standard structural drawings MQ174-R1-DH-ST-1022-A; sections 6 & 7.

Q65.All - Technical - Architectural:

Is there any cabinet at Cold Room Samples as shown on drawing no. MQ174-R1-DH-AR-3901 Rev. A? If yes, please provide the details/drawings.

A65.Standard 4 tier cold room shelf Stainless steel 900(W) x 500(D) x 1800(H).

Q66.All - Technical - Architectural:

Is there any locker at Male Changing Room and Female Changing Room as shown on drawing no. MQ-174-R1-DH-AR-1538 Rev. A? If yes, please provide the details/drawings.

A66.Wet area Aluminum/ Solid Grade Laminated Lockers, composed of powder coated 1.5mm aluminum carcass with 10mm Solid Grade laminated Doors. Sizes: 300(W) x 450(D) x 1800(H).

Notice: This fax and any attachments may contain information which is confidential. They should not be distributed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by return fax or telephone. Confidentiality is not assured in electronic communication transmission.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ : ٠٩٦٦ - (٩٧٤) ٤٤٨٤٥٣٣٣ : ٠٢٢
ج. ب : ٤١ - الدوحة ٤١



Q67.All - Technical - Architectural:

Kindly provide the details/drawings of WQM cabinet as shown in drawing no. MQ174-R1-DH-AR-9000 Rev. A.

A67.These are aluminum cabinets. Sizes: 1200(W) x 400(D) x 1600(H).

Q68.All - Technical - Architectural - MQ174-R1-DH-AR-5000 A - MQ174-R1-DH-AR-5390 A:

In the drawing no. MQ174-R1-DH-AR-5000 A, door number D-08A shows as swing door whilst in MQ174-R1-DH-AR-5390 A, the schedule of drawing shows rolling shutter. Please clarify it and provide the details with specification for the same.

A68.D-08A is a single leaf metal swing door.

Q69.All - Technical - General - General Conditions of Contract:

We refer Article 6: Materials, Equipment & Plant Provided by Contractor clause 6.4 which states "Contractor shall be responsible for all necessary certifications for all equipment and materials to be provided by Contractor". Please clarify the intent of this clause as the Contractor does not have the liberty to amend the design if the specified equipment or materials are not locally certified.

A69.This shall not be clarified further. The contractor's obligation remains.

Q70. All - Technical - General - General Conditions of Contract:

We refer Article 6: Materials, Equipment & Plant Provided by Contractor clause 6.9 which states "Contractor shall submit to Kahramaa a written firm commitment issued by him or by its Subcontractors for the continuous availability of all necessary spare parts"...

Please provide a proforma content for the described "Firm commitment"

A70.There is no specific proforma. The contractor shall comply with the General Conditions of Contract.

Q71.With respect to samples provided for the purpose of approval, please confirm same samples maybe incorporated into the works at the appropriate times during execution of the Contract.

A71.This shall be considered on a case by case basis.

Q72.We refer Valve Chamber Drawing No: MQ174-R2-DH-CI-6500 which states the bypass line dimension shall be DN1600 however we note drawings MQ174-R2-DH-PI-1011 & MQ174-R2-DH-CI-3056 indicate same as DN1200, please clarify correct line dimension.

A72.The drawings referenced are correct, 1200mm bypass is required for SS2B transmission main in addition there are 3 bypass for 1600mm lines feeding the 2 corridor main system and SS2A system.

Q73.It is our understanding only one bypass line shall be completed within the scope of Works of Milestone No: 1. All other bypass lines (shown on drawings No: MQ174-R2-DH-PI-1011) including valve chambers between incoming Corridor Main and the transmission SS2A & The corridor(PRPS 3) are not included in scope of works MS No.1. Please confirm our understanding of the scope is correct.

| Page 13

Important: This fax and any attachments may contain information which is confidential. They should not be reproduced or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not breached or lost by publishing your interpretation.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ : ٩٧٤٤٤٨٤٥٣٣ : ٣٢٤
ج. ب. ٤١ - الدوحة - قطر



A73.Not correct. All Bypass lines are required under milestone 1, to allow the corridor mains to be diverted directly into transmission, without passing through the new PRPS site.

Q74.Refer to Dwg. MQ174-R5-DH-Cl-6027A - Reservoir Distribution Over-flow Chamber. The Chamber is incomplete, the length is not shown. Please check and advise.

A74.The chamber is complete. The break line is given to show the cut on the channel and the reservoir in plan view.

Q75.We refer Circular No 1 dated 5/5/14 Tender Clarification item 1.4 which notes that Kahramaa reserves the right to award to any pump supplier from the Approved vendor list .

The tender Circular response is unquantifiable by the Tenderer, please confirm if Kahramaa nominate a pump supplier they will guarantee the nominated supplier will match the Contractors allowance contained within its Contract Bill of quantities for the nominated items.

A75.Kahramaa shall study the Bidders submittal and shall make strategic decision on this basis. Every Bidder shall allow in his offer for Kahramaa to choose the pump manufacturers based upon their wider strategy and the overall project.

Q76.PRPS 1 - Technical -MQ174-R1-DH-AR-2500 - GF / Air compressor bldg.:

Please confirm if the Heavy duty checkered plate cover to trench is not part of Contractor's scope as it is noted on the drawing as "by others".

A76.This is part of the contractor's scope.

Q77.PRPS 1 - MQ174-R1-DH-AR-2510 Sec.C - GF / Air compressor bldg.:

Please confirm if the Lifting Hooks is not part of Contractor's scope as it is noted on the drawing as "by others".

A77.This is part of the contractor's scope.

Q78.PRPS 1 - Technical - MQ174-R1-DH-AR-4500 - GF / Workshop Building:

Please confirm if the Overhead Gantry to Workshop 1 is not part of Contractor's scope as it is noted on the drawing as "by others".

A78.This is part of the contractor's scope.

Q79.Kindly clarify the bolts and nuts for Steel pipe & DI pipe are stainless or galvanized.

A79.All bolts shall be mild steel hot deep galvanized for the carbon steel and DI pipes fittings.

Q80.All - Technical - MQ174-R2--DH-SE-2200 (typical) - Notes 4. & 5. - 11kV Cables:

Reference to these notes are made to Kahramaa standards. Please provide these standards/specification

A80.The Bidder shall refer to Appendix A.



Q81.PRPS 2 - Technical - MQ174-R2-DH-CI-3056:

The drawing shows the inflow Corridor Mains (2 Nos 1600mm and 1 no 1200mm) and outflow Corridor and Transmission Mains (4 nos. 1200mm & 1no. 1200mm) to be connected or tied-in to pipelines done by others. Kindly provide the tie-in connection location and details.

A81.The final connection point and elevation shall be coordinated between the contractor for GTC626 and the contractor for either GTC600 or GTC599 (Corridor Mains). The corridor mains contractor shall provide a blank flange with a temporary thrust block, if the GTC626 contractor is not ready at the relevant time.

Q82.PRPS 2 - Bill 9 - Page 9/4/18:

Specification of Double arm Tanker filling Station has not been provided please provide.

A82.The contractor shall follow the arrangement on drawing reference CI-6394.

Q83.PRPS 2 - Technical - 9.1.14.3 & 9.1.14.4:

Ref Drg No: MQ 174-R2-DN-CI-6383A has also been within the list of drawings of tender documents, please provide.

A83.This drawing is not referenced on the drawing list. The series CI-6380 to end at C-6382.

Q84.All - Contractual - ITT:

Tenderers must be able to satisfy the following minimum requirements :

- Minimum annual Turnover Qar. 850 Million
- Minimum Working Capital Qar. 150 Million

(Working capital = Current Assets - Current Liabilities) Joint Venture tenders will be accepted with the lead partner achieving 70 % of the financial criteria and other partners achieving 40 % of the financial criteria. We would like to draw your kind attention to that the lead company in our JV is achieving 40 % of the turnover. Will KM accept the local (Grade A) JV partner in that case?

A84.This condition shall not be waived. The Contractor shall comply with the requirements of the ITT and Tender Circular 1.

Q85.Structural drawing MQ174-R5-DH-St-1001 - Standard Notes:

Substructure is defined in the aforesaid drawing under note ref. "Item C of D". Therefore, we request you to confirm that the given Mix-design is applicable to all sub-structures, including Valve Chambers deemed under this project.

A85.Yes, the concrete mix for all under-ground structures shall be triple blend grade 32/40 as specified on the project specifications clause 2.1.3 - B Concrete mix design - table at page 25 of 193 class "C".

Q86.PRPS 3 - Tecchnical - Civil/Structural - External Work - Landscape:

Landscaping drawings existing areas not marked separately. Please provide the demarcations.

A86.There is no existing landscape areas. Areas not defined or specified are to be left in a natural clean state.



Q87. PRPS 1 - Technical - Architectural :

As per the section drawing MQ174-R1-DH-AR-4045-A a 50 x 50mm wire mesh is shown. Is it applied for the ground floor internal areas.

A87. 50x50x1.5mm diameter wire mesh will be provided on ground floor internal areas where 50mm thick screed are laid.

Q88. PRPS 1 - Auxiliary Building - Water proofing:

Please clarify whether Auxiliary pumping station ground floor suspended slab requires water proofing. If it required water proof treatment. Please provide the details.

A88. The referred slab is a slab on grade (not suspended). A waterproofing membrane is required to be installed underneath. Furthermore, all external faces for basement structures (base and walls) are waterproofed with membrane including the auxiliary pumping station

Q89. PRPS 4 - Technical - (MQ174-R4-DH-ST-5850-A) & (MQ174-R4-DH-ST-5810-A)

TFS Pumping:

In TFS pumping station slab thickness in plan is differ with the schedule. Hence the dimension given in plan is considered as correct.

A89. The Bidder shall follow the dimension given on the plan.

Q90. PRPS 1 - Technical - Every Building - Earth work:

Assumed existing ground level as +0.00 level for all the buildings (for excavation purpose). Please confirm.

A90. Levels are given in QNHD on the architectural drawings.

Q91. PRPS 1 - Technical - Every Building - Structural work:

Assumed 75mm thick blinding concrete under all drains, ground beams, ramps & ground slabs unless otherwise. Please confirm/clarify.

A91. Confirmed.

Q92. PRPS 1 - Technical - Every Building - Structural work:

Assumed 250mm thick mass concrete fill under all column & strip footings as per the building details drawings. Please confirm.

A92. Thickness is at least 250mm. In the case of the mass concrete for TFS and APS, additional specification is provided in the drawings.

Q93. PRPS 1 - Fuel storage tanks and Cable Gallery Tunnel - Architectural:

We have not received Architectural drawings for Bulk fuel Storage Tank for Centralized 11kVA Generator, Bulk fuel tank for 1000, 500kVA (Generators, 1, 2&3) and Cable Gallery Tunnel Buildings. We measured floor and wall areas as not received finish. Please clarify/provide Architectural drawings for above buildings.

A93. We are not producing architectural drawings of structures below ground. Please refer to structural drawings for details.



- Q94. PRPS 1 - MQ174-R1-DH-ST-5530 - Water testing facility:**
 Please refer attachment 1 drawing and provide detail drawing for filling, waterproofing & blinding should applicable underground slab.
- A94. A waterproofing membrane shall be installed underneath the slab on grade. For waterproofing details for the pad foundation and strip footings, refer to sheet MQ174-R2-DH-ST-1024-A, detail (J).**
- Q95. All - Technical - Instrumentation Specification - Appendix A6 - 24/40:**
 Confirm that no insertion type sensors are required at suitable locations inside of the reservoirs to monitor the water stagnancy in case of low out-flow rates during the testing, commissioning and warranty period.
- A95. Tenderer to provide instruments as shown on the Tender Drawings and Documents only.**
- Q96. All - Technical - Instrumentation Specification, App. A6, 24/40:**
 Confirm that the Contractor will not be responsible to any deterioration of water quality caused by water stagnancy in the reservoirs during the testing, commissioning and warranty period due to Kahramaa design of reservoir hydraulic.
- A96. Tenderer's responsibilities shall be in accordance with the Tender Drawings and Documents only.**
- Q97. All - Instrumentation Specification - App. A6:**
 Confirm that in case of water stagnancy in the reservoirs during the testing, commissioning and warranty period and due to Kahramaa design of reservoir hydraulic the Contractor will have no responsibility to discharge the stagnant water or pay for the fresh water required to replace stagnant water in the reservoirs. Confirm in such case Kahramaa will issue a time and costs related VO.
- A97. Tenderer's responsibilities shall be in accordance with the Tender Drawings and Documents only.**
- Q98. PRPS 2 - Storm water - DWG R2-DH-CI-3151&3152:**
 Distance between MH B03-CB03A and Oil Interceptor is 170m. Confirm no additional manhole is required.
- A98. There is no correlation between MH B03-CB03A and the Oil Interceptor as these two branches are different. As per ASHGHAL standards, a distance of 200m between two manholes may be permitted and hence no intermediate manhole is required.**
- Q99. PRPS 2 - Storm water - DWG R2-DH-CI-3160:**
 Reservoir No.6. Provision for reservoir overflow pipe is shown but not for the reservoir No.8. Please clarify.
- A99. Reservoir No 8 is not required under this contract.**
- Q100. PRPS 2 - Storm water - DWG R2-DH-CI-3169&3183:**
 Confirm that 150 mm dia flap valve is required on dwg 3183 and include it in the schedules of flap valves given on dwg 3169.
- A100. All pipes entering Lagoon will require flap valves.**



Q101.All - Geotechnical/Structural:

General terms and conditions require the contractor to verify the design. Structural Drawings, note 10. states "Design is based on Subgrade of Modulus Reaction of 3250 kN/m²/m". Please note that standard references indicate that this value would correlate to loose sand, whereas the blow counts which correspond to the previously seen geology of the area would appear a much stronger soil and much higher Modulus Reaction. As the information to determine the Modulus of Subgrade Reaction is not available in the Geotechnical Report, please provide in Kahramaa design that analysis so that it may be confirmed by the Contractor as requested by Kahramaa.

A101.The Contractor is not required to verify this level of design. Refer to A11.

Q102.All - SoW and Specification:

General terms and conditions require the contractor to verify the design. In order to do so, please provide the anticipated lateral earth pressures for the at-rest, active and passive cases for the different sites.

A102.The Contractor is not required to verify this level of design. Refer to A11.

Q103.All - Technical - SoW and Specification:

General terms and conditions require the contractor to verify the design. In order to do so, please provide the anticipated total and differential settlements, including distance over which the differential settlement is accepted to occur, for the different sites.

A103.The Contractor is not required to verify this level of design. Refer to A11.

Q104.All - Technical - ICA/SCADA - Appendix A Section 6:

Please confirm that besides aluminum terminal box specified alternative terminal box including Fiber Glass reinforced polyamide and stainless steel housing can also be acceptable as this does not affect functionality in any way.

A104.Tenderer to comply with Specification requirement.

Q105.All - Technical - Appendix A Section 6 - 6.3.3 A 2:

Ambient temperature 70 deg C: Please confirm that the transmitters will be mounted remotely and not on the sensor itself. Remote transmitter will enable easy reading and verification.

A105.Transmitters shall be remote type.

Q106.All – Technical - ICA/SCADA:

Please confirm that sensor will be IP68 with remote transmitter and IP67 with compact transmitter. Transmitter IP rating will be IP67 in remote & compact version.

A106.Sensor tube shall be to IP68, and remote transmitter shall be to IP67.

Q107.Contradictory specs as external and inbuilt continuous verification calibration are specified. Please confirm that external verification is acceptable. Inbuilt verifications may also need calibration and will lead to O & M difficulties.

A107.Tenderer to provide both inbuilt and external type.



Q108.OIML R49, Type 'P' standards applicable for domestic water meters only. This OIML type approval is not applicable for Bulk meters in the Water distribution network. Please delete this clause.

A108.Tenderer to comply with Specification requirement.

Q109.Capacitive sensors are ceramic sensors, for higher pressure application ceramic sensors are not suitable. Please confirm that Piezoresistive metallic sensors are acceptable.

A109.Piezoresistive type will be acceptable only if the required range is not available from the vendor.

Q110.Please confirm that for Ultrasonic Transmitters shall be IP 65 only as no vendor may be able to offer IP 67.

A110.Tenderer to comply with the specifications.

Q111.Please confirm that PVDF sensor housing with self anti-condensate features, suitable for water applications with a longer life is acceptable.

A111.Tenderer to comply with Specification requirement.

Q112.Please confirm that Civil Defense Approval has been achieved for this project already.

A112.Civil Defense Drawing Approval is ongoing.

Q113.We kindly ask you to clarify in case a Tenderer submits tender for multiple Packages, and wishes to propose a discount in case he is awarded for multiple Packages, where this discount rate should be stated within the Tender.

A113.The Contractor may provide this as an alternative offer, however, they should provide a stand-alone tender price for each site.

Q114.Please provide the detailed scope of design checking/verification that to be carried out by the contractor. Also provide a list of Designers, approved by KM.

A114. Refer to A11.

Q115.The site is to be handed over in two phases as per TC No. 2. How long after commencement will the contractor be handed over the area of Phase 2?

A115.The GTC626|2014 contractor shall be handed the whole of the site at the commencement of their contract. The separate phases of the earthworks shall not be relevant for this purpose.

Q116.There is insufficient space for compound/facilities within the shown limits of phase 1 on all packages. What space is to be made available for our use? Is the contractor expected to share Phase 2 area with E/W contractor? Any chance of getting additional land adjacent to the site boundary?

A116.The GTC626|2014 contractor shall be handed the whole of the site at the commencement of their contract. The separate phases of the earthworks shall not be relevant for this purpose.

| Page 19

Warning: this fax and any attachments may contain information which is confidential. They should not be distributed or copied to anyone without the approval of the sender. If you are not one of the named recipients of this fax, any attachments, and copies, please notify the sender by e-mail or fax or telephone. Confidentiality is not guaranteed by mistake communication.

Tele: (974) 4484 3333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ : ٩٧٤ - (974)44845333 : ٣٢٦
ج.م.ب : ٤١ - الدوحة - قطر



Q117.Item 9(ii) states that the parties would have no rights to terminate the joint venture agreement without the consent of KAHRAMAA. Please confirm that the consent of KAHRAMAA would not be required where the joint venture is not awarded any contract.

A117.Confirmed.

Q118.As per our understanding a tenderer will be awarded a maximum of 02 packages only with Tender bond for each package. But the ITT, clause IT.1.h reads as "Awarding of individual Contracts shall be decided solely at the discretion of Kahramaa, however, Kahramaa shall award no more than one PRPS package to each tenderer bidding". Please clarify.

A118.There is no maximum limit. The decision shall be solely at the discretion of Kahramaa.

Q119.During our site visit to PRPS 1, we have been informed that additional geological investigations are being carried out within boundary limits of Package A. Please kindly clarify if there will be any change in submitted geological reports accordingly.

A119.All Geological investigations related to Package A are completed. The ongoing investigations in this area are related to GTC611 and do not affect this contract.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,

ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW,GTC, File

This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by e-mail or fax or telephone. Confidentiality is not guaranteed in electronic communication.

Tel: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

٤٤٨٤٥٣٩١ : ٥٦ - (٩٧٤) ٤٤٨٤٥٣٣٣
عن. ب : ٤١ البحرة - قطر

| Page 20



TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 24/06/2014	TOTAL PAGES: 2+43
To: All Bidders	Fax:	
For the Attention of: General Manager	Our Ref.:	TA/TW/TWM/14/FX/ 1169
Subject: GTC 626/2014 – CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 07

TENDER CLARIFICATION

1. Extension of Tender Closing Date:

Please note that the Tender closing date has been extended for Three (3) weeks. The revised closing date shall be on Thursday, 17th of July 2014, at 12.00 noon.

2. Notice of Amendment

The Tenderer is requested to collect a CD, containing updated information.

The CD shall be available for collection from Tuesday, 24th of June 2014, at 19th floor of Kahramaa's Tower 1.

This CD contains:

- PRPS1 – Temporary Fence Details
- Replacement copy of Appendix A9C – PRPS5 Factual Report
- Datasheets as the list given below:

| Page 1

Disclaimer: this fax and any attachments may contain information which is confidential. They should not be distributed, Disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by replying to this e-mail message. Confidentiality is not waived or lost by misdirection or interception.

Tele: (974) 4484 5333 - Fax: (974) 44845391

تلفون: ٩٧٤٤٤٨٤٥٣٣٣ - فاكس: ٩٧٤٤٤٨٤٥٣٩١

P O BOX 41, DOHA - QATAR.

عن ب: ٤١ الدوحة - قطر



better living

- App. I-7-001_Chlorine Analyser
- App. I-7-002_Magnetic Flow Meter
- App. I-7-003_Magnetic Level Gauge
- App. I-7-004_ORP Analyser
- App. I-7-005_PH Analyser
- App. I-7-006_Pressure Guage
- App. I-7-007_Pressure Switch
- App. I-7-008_Pressure Transmitter
- App. I-7-010_Temperature Transmitter
- App. I-7-011_Turbidity Analyser
- App. I-7-013_MV motor data sheet
- App. I-7-014_VFD data sheet
- App. I-7-035 Electrical Data Sheets - LV Switchgear
- App. I-7-036 Electrical Data Sheets - MV Switchgear
- App. I-7-037 Electrical Data Sheets - 11-0.415 kV Transformers - Dry Type
- App. I-7-038 Electrical Data Sheets - 11-0.415 kV Transformers - Oil Filled
- App. I-7-039 Electrical Data Sheets - Generators
- App. I-7-043_Chlorine Dioxide Analyser
- App. I-7-044_CON Analyser
- App. I-7-045_Float Switch
- App. I-7-047_Analogue Instrument Cable
- App. I-7-048_Digital Signal Cable

3. Reply to Tenderers Clarifications:

Please find attached a table containing replies to your clarifications.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,

ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW, GTC, File

Signature: This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax to ahmed.nasser@qgwc.qa. Confidentiality is not waived or lost by recipient's examination.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

٤٤٨٤٥٣٩١ - تلفون: (٩٧٤) ٤٤٨٤٥٣٣٣

صر. ب: ٤١ الدوحة - قطر



No	PRPS site	Query	Subject area	Document/drawing no	Page/Location	Clause/Item	Query and Answer
Q1	PRPS 1	Technical	Architectural	MQ174-R1-DH-AR-9512-A:			Please provide the detailed drawings, specifications and type of materials, finishes for boundary wall sliding gate.
A1							<p>Answer:</p> <p>150 x 50 x 2mm thick perimeter rectangular galvanized metal frames with 25 x 25mm square bars at 150mm centres.</p> <p>All steel work to cleaned, be primed and painted with epoxy paint.</p> <p>The bottom panel is to be a galvanized, cleaned, primed and painted sandwich panel, welded to the gate framework.</p> <p>The Kahramaa Logo is to be supplied as a 316 stainless steel panel secured with isolating washes from the painted galvanized steel panels and the sign is to be painted to the Kahramaa specification</p> <p>Details of the Logo will be supplied to the successful tenderer.</p>

Q2	All	Technical	Civil/Structural	Appendix A		<p>1. As per drawing No MQ174-R1-DH-ST-2000 A, "All internal surfaces to be coated with two components high build, non-toxic, solvent free epoxy coating according to 14.5.5 of QCS 2010.</p> <p>2. 14.5.5 of QCS specifying material is not an anti-carbonation coating material;</p> <p>3. The Project specification (Civil & Structural Spec. 2.8.1) describing "waterproof non-toxic anti carbonation paint based on cementitious material";</p> <p>Based on the above please clarify the following:</p> <ol style="list-style-type: none"> 1. Provide the specific material description or spec for the material and application. 2. Provide the vendor list for the same product. 3. It is our understanding that: <ol style="list-style-type: none"> 3.1. Application of Waterproof non-toxic anti carbonation cementitious base plus primer. (1st & 2nd steps) 3.2. Application of Waterproof non-toxic anti carbonation paint (two coats with 400 microns each as 3rd & 4th step) <p>Please confirm the above or clarify.</p>
A2						<p>Answer :</p> <p>No internal lining is required to the reservoirs wall, top of slab or underside of roof. The concrete shall be fair faced finish.</p>

Q3	All	Technical	Civil/Structural	Dwg. MQ174-R1-DH-CI-6030			<u>All PRPSs – Technical – Civil/Structural – Dwg. MQ174-R1-DH-CI-6030:</u> Request for clarification about reservoir typical under floor drainage: 50 mm space around the gravel between trench and geo-membrane was not understood on Detail-2 and Detail-3 at dwg. No. MQ174-R1-DH-CI-6030. Reservoir Typical Under Floor Drainage Plan. Would you please clarify what is this specified 50 mm space around the gravel between trench and geo-membrane?
A3							Answer : A 75mm Blinding is required underneath all types of waterproofing membranes (bonded or unbonded). Blinding concrete mix shall be SRPC grade 20 as shown on the specs clause 2.1.3.1. A 50mm Screed protection will be provided ONLY on top of the unbonded waterproofing membrane. Screed concrete mix shall be grade 20 OPC.

Q4	All	Technical	Civil/Structural	MQ174-R1&R2&R3&R4&R5-DH-ST-1023 & 1024			No construction joint details in wall and base slab for other structures except reservoir. Please provide these detail drawings to us.
A4							<p>Answer:</p> <p>For construction joints in the buildings (non water-retaining structures the, please refer to the notes as shown on the drawings notes on drawings ST-1011m clause D. Concrete; item no. 12.</p> <p>For all basement envelope structures (eg main pumping station, auxiliary pumping station..etc.), construction joints shall follow the requirements of QCS 2010 cl 12.2.2.</p> <p>Engineer's acceptance shall be obtained by the Contractor, prior to start of work, on the casting sequence and the layout of joints.</p>
Q5	All	Technical	Civil/Structural	Appendix A - A2 Civil Structural Specification	36/186	2.1.3.5	<p>According to our experience to make concrete casting easy and also to achieve Milestone Completion dates, we would like to use "Climbing Formwork System" for pouring of concrete for the walls of Reservoirs which have a height of approximately 11m. By Climbing Formwork System; we are planning to pour concrete with a height of 2.5 m to 3.0 m which would increase number of Horizontal Construction Joints.</p> <p>Please advice us, could we use this system or should we pour the wall concrete in one time as 11 m height. Also please kindly advice us; what should be the maximum horizontal dimensions for individual pour.</p>

A5							<p>Answer: Reservoirs walls shall be cast in 2 pours (minimum) in the vertical direction with 1 construction joint at mid height approx. where water stops shall be provided as shown on the drawings.</p> <p>Should the contractor cast the walls in more than 2 pours (vertically), waterstop shall be provided at each construction joint with no extra cost.</p> <p>Casting the full height of the wall in one pour is not acceptable. CJ location in the horizontal direction of the walls shall match the CJ at the base slab (a layout for the construction joint layout will be issued to the tenderers)</p>
Q6	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-ST-3533	Reservoirs		Please provide the detail of 1/ST-3516 which is reflected in drawing MQ174-R1-DH-ST-3533.
A6							<p>Answer: Refer to detail 1 sheet ST-3515.</p>

Q7	All	Technical	Geotech		Reservoirs		Executive Summary in Sonic Logging report is missing. Please provide.
A7							Answer: An executive summary was not provided in downhole sonic reports. The information required for design is provided in the Appendices.
Q8	PRPS 1	Technical	Civil/Structural		Reservoirs		Please advise if the Client's Consultant has designed the building's pad foundations of the reservoir based on the data acquired in the Geotechnical Report.
A8							Answer: The words "building's pad foundations of the reservoir" as mentioned in the query is not clear. From your query we understand you are referring to the foundation design, which is based on the information in the geotechnical report
Q9	All	Technical	Electrical	BOQ - PRPS 1 - Bill 5 - M&E- Supply.pdf	-	-	BoQ doesn't specify DC and UPS supply, while specification and schematics request DC power supply.
A9							Answer: Refer to Article 2.11 of the General Conditions of Contract which defines which documents take Precedence.
Q10	All	Contractual		Article 3: Scope of Works clause 3.1.4			We refer Article 3: Scope of Works clause 3.1.4 " <i>all items of work reasonably inferred from the Contract Documents as necessary to properly execute, complete and warranty the Works.</i> " Please define the term " <i>reasonably inferred</i> "
A10							Answer: Definition is not required and will not be provided.

Q11	All	Contractual			Article 3: Scope of Works clause 3.5		We refer Article 3: Scope of Works clause 3.5 "Any omission, deficiency, discrepancy or lack of accuracy that exists in detailing the Works but which may be reasonably implied from the Contract shall be deemed to be required, and to have been provided for in the Contract Price and shall not be the subject of a Variation." Please define the term "reasonably implied"
A11							Answer: Definition is not required and will not be provided.
Q12	All	Contractual			Article 3: Work method clause 3.12.4		We refer Article 3: Work method clause 3.12.4 "If a particular work method is specified in the Contract but it is not possible to use, the Contractor must use another method, after Approval by Kahramaa, without entitlement to extra cost or an extension of time." It is unreasonable to imply that the Contractor shall have allowed to use another method of working which is at the discretion of Kahramaa, please confirm that the method of working as indicated within the Contractors Method Statement (included within its tender) shall be suitable as an alternative method.
A12							Answer: Kahramaa reserve the right to review and approve or disapprove all methods of working proposed by the Contractor.

Q13	All	Technical	Civil/Structural	MQ174-R1-DH-ST-1011 A Appendix A2 Civil Structural Specification	26/186	2.1.3.1	<p>There is a discrepancy on drawing and the specification for the Max. water/cement ratio for very severe exposure condition concrete. As per drawing (D. Concrete, 4C) water/cement ratio is 0.45 and in specification, the ratio is 0.40. Please clarify which ratio to be followed.</p>
A13							<p>Answer: Please follow the water/cement ratio of 0.40 as specified on the project specifications.</p>
Q14	All	Technical	Civil/Structural	MQ174-R1-DH-ST-1011 A Appendix A2 Civil Structural Specification	26/186	2.1.3.1	<p>For the moderate exposure condition, 1) As per drawing (D. Concrete, 4A)the concrete mix for Walls and columns are OPC+GGBS/PFA 2)As per Specification, the concrete mix for columns, beams, slabs & walls are OPC 40 Please clarify the mix design to be followed</p>
A14							<p>Answer: OPC 40 shall be used only for element under moderate exposure such as internal elements in controlled environment (eg internal column/slab/beams in air conditioned buildings). 40 GGBS+OPC or PFA+OPC shall be used for external elements and also for internal elements in uncontrolled environment (open structures). Concrete grade 40 GGBS+OPC or PFA+OPC could be used for elements under moderate exposure at no additional cost</p>
Q15	All	Technical	Civil/Structural	MQ174-R1-DH-ST-1011 A Appendix A2 Civil Structural Specification	26/186	2.1.3.1	<p>As per specification (Class of concrete C) we understand that, very severe exposure condition, Concrete mix WPC 40, GGBS+OPC+SF or PFA+OPC+SF will be used for: Whole reservoir structure as, base, external & internal walls, roof slab, internal columns, chambers etc. Please confirm it</p>
A15							<p>Answer: Yes, concrete mix WPC 40, GGBS+OPC+SF or PFA+OPC+SF will be used for all concrete elements that are part of the reservoirs structures.</p>

Q16	All	Technical	Civil/Structural	Specification	Appendix A, 2.1 Cast In-Situ	2.1.2.1 E	<p>Please clarify if other suppliers for the waterproof admixture will be allowed also (such as SIKA). Further please confirm that all admixtures and chemicals in the concrete need to be provided from one single manufacturer.</p>
A16							<p>Answer: Materials (including waterproofing admixture) are not limited to specific suppliers, however products specs should satisfy the Client's relevant requirements as shown on the project specifications. For waterproof admixture, the concrete mix should satisfy the durability requirements including water absorption and permeability test as specified.</p>
Q17							<p>Please confirm that all fixing material to be used inside the reservoirs, including bolts, nuts, washers for fixing platforms and ladders / staircases shall be stainless steel grade 316L</p>
A17							<p>Answer: Confirmed</p>
Q18	All	Technical	Civil/Structural	MQ174-R1-DH-CI-1200 A - 1206 A MQ174-R1DH-LE-1000 A - 1018 A			<p>There is a discrepancy on drawings for the cross sections of the road corridor. The available cross section of the road corridor drawings (MQ174-R1-DH-CI-1200 A - 1206 A) is not matching with the Landscape drawings (MQ174-R1DH-LE-1000 A - 1018 A). Please issue the revised drawings clearly shows the road corridor including kerbstone and block paving details</p>
A18							<p>Answer: The utilities reservation corridor will be revised as part of the Issue for Construction drawings. The Landscape Drawings should take precedence. It should be noted that this is not considered to affect the bidders pricing.</p>
Q19							<p>BOQ Item 8.6.9 - Waste Water Collection Network: Since we could not find specific drawing for Waste Water Collection Works, we assume that the works pertaining to "Oil Interceptor System (Drawing No. MQ174-R5-DH-CI-3180-3185) to be included under this item. Please confirm.</p>

A19							For the waste generated from the building and discharging to the foul sewer, refer to drawings under series 'BP'. The Oil Interceptor system is different from the waste water generated from the buildings.
Q20	All	Technical	Water quality	Appendix I & Gen Spec of Main Laying Materials	Page 6 of 45 & Page 65		a) Please confirm that the water from the desalination plants at the entering point to the reservoirs has been conditioned (re-mineralized) per WHO standards indicated in the Appendix I. b) Please also provide the max allowable turbidity in NTU of incoming water.
A20							Answer: The water from the desalination plants shall be as WHO standards .
Q21	All	Technical	Water quality	Appendix I & Gen Spec of Main Laying Materials	Page 6 of 45 & Page 65		a) Please clarify the figure of pH 9.5 in third column vs CL2 0.8 - 1.0, Page 6 App I. The figures are against WHO guidelines for drinking water quality which states "chlorination may be ineffective above pH 9" page 108 or "for effective disinfection with chlorine the pH should be preferably be less than 8 - page 217". b) Please confirm the Contractor will not be responsible for ineffectiveness of chlorination in case of high pH in the water coming from the desalination plant.
A21							Answer: The water quality from the IWPP shall be in line with the WHO standards and the contractor shall only be responsible to maintain the disinfectant levels downstream of the inlet to the KM reservoir sites
Q22	All	Technical	Water quality	Appendix I & Gen Spec of Main Laying Materials	Page 6 of 45 & Page 65		The WHO guidelines recommend the alkalinity to be min 40 mg/l (page 181 WHO) for pH up to 7.3 to avoid corrosion of steel. If the treated water in column 3 is of pH 9.5 with low hardness of 32 the Langelier index will reach minus figures and Stability index very high figures that may cause heavy corrosion of steel. <i>Please confirm that these factors have been considered in Kahramaa design and the Contractor will not be responsible for corrosion of steel pipes if this is the case.</i>

A22						Answer: The contractor is responsible for the installation of the steel pipes in accordance with the design and specifications.
Q23	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-1023	Please confirm that the superimposed roof dead load shall be due to the typical water proofing / protection system as shown on detail 1 of drawing ST-1023 or the imposed roof live load shall be per previous tanks built for Kahramaa and requested at the time of construction by Kahramaa.
A23						Answer: The Contractor is not required to verify this level of design. The Contractor is required to verify designs related to final equipment selection. For all other elements, the contractor is required to satisfy themselves, that the construction drawings provided are fit for construction. No other formal third party design verification is required. The contractor is still required to include for third party inspections for quality and testing.
Q24	All	Technical	Hydraulic	General Terms and Conditions & SoW/Specification		General terms and conditions require the contractor to verify the design. In order to do so, please provide: <i>a) basis of design reports, any associated hydraulic reports, and hydraulic modeling data, water stagnancy modeling etc and information?</i> <i>b) How were the Maximum Water Levels, and TWL for each scenario determined?</i> <i>c) Confirm there will be no water stagnancy in any phase of operation.</i> <i>d) Confirm the Contractor will have no responsibilities for water stagnancy in the reservoirs.</i>
A24						Answer: Refer to A23.
Q25	All	Technical	Hydraulic	General Terms and Conditions & SoW/Specification		General terms and conditions require the contractor to verify the design. <i>a) Please confirm what is the required dead water level between the BWL and the tank base slab.</i> <i>b) Please clarify whether this is based on a predetermined volume.</i>

A25							Answer: Refer to A23.
Q26	All	Technical	Civil/Structural	Bill No. 8	8.6.3		Are the Landscaping Level the same as Site Grading Level? If not, please provide the Landscaping Level in relation to QNHD for excavation & backfilling quantity.
A26							Answer: The contractor shall refer to Architectural drawing for Landscaping and for final site grading for the site, to make assessment of the finishing level for the whole site.
Q27	All	Technical	Civil/Structural	Appendix A1		1.1.3.28	Please confirm that only 5 nos of Water Quality Monitoring Buildings are required under this Contract (more than 5 are shown on the Civil Site Plan)
A27							Answer: Each reservoir have one dedicated water quality monitoring building
Q28	PRPS 1	Commercial	Item coverage	Scope of Work - Appendix A	3 of 60	1.1.3.1	Referring to the scope of work in appendix A page 3 of 60 which states that the contractor shall be responsible for paying any fees and expenses to the relevant statutory authorities, please specify what kind of fees required. Shall we include only co-ordination fees between the client and the authorities and client will pay for the connection fees or connection fees shall be paid by the contractor.
A28							Answer: Connection fees shall be paid by the contractor, along with all other fees required to register and authorize the works.
Q29	All	Commercial	Quantities	MQ174-R1-DH-LE-1000 ff		Landscaping	Referring to the drawing MQ174-R1-DH-LE-1000 ff and to same drawings for other packages accordingly, landscaping is shown around reservoirs 2036 whereas these reservoirs are part of a future phase. Please clarify if this landscaping works are really part of this scope.
A29							Answer: There is no Landscaping requirement around the reservoirs marked for 2036.

Q30	PRPS 2	Technical	Mechanical	Appendix F / 02_Civil and Mechanical / Drawings	Surge Vessels	MQ174-R2-DH-CI-6340-A.pdf	There are 18 pcs. Surge Vessels tanks in the drawing, but in the same drawing, there are 16 pcs. Surge Vessels tanks in the drawing table. 2 pcs. Surge Vessels tanks (Ø3000x13000 LG) are missed in the table. We kindly ask you to clarify the contradiction between drawing and given table in drawing.
A30							Answer: The correct number of surge vessels are 18.
Q31							We refer to the pre-tender conference. One of our proposed international contractors, M/s Grandi Lavori Fincosit SpA. has big international experience and has executed some projects in Qatar (Ras Laffan Port) and concerning their experience they have executed very big & sophisticated project (MOSE System for the safeguard of Venice). Kindly, you are urgently required to feed us back about their eligibility to participate in this mega tender as a leading partner.
A31							Answer: They should comply with the criteria given in IT 25.1. Any further assessment shall be given during the tender evaluation stage.
Q32	PRPS 1	Technical	Electrical				Please provide us the manufacturer's list for HVAC system for Package A.
A32							Answer: No further Vendor list shall be provided. The contractor is submit the technical details of the system proposed in his Technical Package, for Kahramaa review and approval.

Q33	PRPS 4	Technical	Electrical				Please provide us the manufacturer's list for HVAC system for Package D.
A33							Answer: Refer to 27.
Q34	All	Technical					We refer Circular No 3 dated 5/6/14 Tender Clarification item A13, which notes drawing series number 1010 will be provided to the successful bidder. Please confirm drawings series 1010 will not form part of the contract documents
A34							Answer: The above drawings are related to setting out plans of the structures and it will not any impact on pricing. This drawings will be handed over to the successful bidder for construction.
Q35	PRPS 3	Commercial	Quantities	BOQ Item 8.6.3.3			This refers to Package D - PRPS 3 - BOQ Item 8.6.3.3 "Planting Palm Trees along the boundary wall". Palm trees along the boundary wall are not shown neither on landscape drawings, nor the boundary wall details. Furthermore, a similar item is not included in the BOQ for Package B. Please advise if palm trees along the boundary wall should be included in the BOQ for packages B & D. If trees are required, please clarify the proposed arrangement, location and spacing.
A35							Answer: Palm trees along the boundary walls are deleted with the exception of those shown on the landscape plans and on the front side of the boundary.
Q36	PRPS 2	Commercial	Quantities				Above case also applied for PRPS 2 BOQ.
A36							Answer: Palm trees along the boundary walls are deleted with the exception of those shown on the landscape plans and on the front side of the boundary.
Q37	PRPS 2	Contractual	App. A1 Scope	App. A1	page 4/60	1.1.3.4	The E/W contractor facilities is located within Area 1 of Package B, will he relocate prior to initial handover?
A37							Answer: The Earthworks Contractors for all sites shall have vacated the site prior to the commencement on GTC626.

Q38	All	Technical	Mechanical			The Tender Circulation Nr. 2 issued drawings without index.
A38						<p>Answer: Missing drawings, are deemed to be covered by the drawings lists, which were already referenced in the original tender document.</p>
Q39	All	Technical	Mechanical			Which document supersedes in extracting information?
A39						<p>Answer: Refer to article 2.11 of the GCC for which document takes precedence.</p>
Q40						As per the tender specification Carbon Steel Pipes shall be used for pumping stations. Please clarify that the CS Pipe fittings shall be flanged and fixed with bolts & nuts or direct welded joints shall be applicable.
A40						<p>Answer: All fittings shall be direct welded and flanged as shown on CI-6200 drawing series and referenced in specification A4, 4.8.3.3</p>
Q41						Please clarify that the CS pipe fittings shall be factory finished or fabricated fittings shall be applicable.
A41						<p>Answer: Fittings shall be factory finished.</p>
Q42						Please clarify that the CS pipe fittings Internal & External coatings will be factory finished or coating shall be applied at site.
A42						<p>Answer: Internal and external coatings will be factory finished at the exception of some minor repairs.</p>

Q43							Please confirm that Ductile Iron Pipe fittings shall be used for all pumping stations instead of CS pipe fittings.
A43							<p>Answer: The design and Tender Documentation is based upon the use of Carbon Steel in the pumping stations. Should the Contractor wish to vary from this, they should submit an alternative offer showing Ductile Iron Pipework as an alternative, taking into account all structural modifications to the Pumping station that may result.</p>
Q44	PRPS 1	Technical		MQ174-R1-DH-CI-6320A			Drawing No. CI-6320A Bulk Fuel Storage Tank Plan shows 2 nos. of fuel pump chamber but not reflected on structural drawings, please clarify and provide chamber structural drawing details.
A44							<p>Answer: Please refer to DRG No. ST-6431 for structural arrangement details.</p>
Q45	PRPS 1	Technical		MQ174-R1-DH-CI-6320A			Drawing No. CI-6320A stated "Fuel Pump chamber roof not shown for clarity", please advise and provide details.
A45							<p>Answer: Please refer to DRG No. ST-6422 for pump chamber roof detail.</p>
Q46	PRPS 1	Technical		MQ174-R1-DH-CI-6322			Drawing No. CI-6322 Bulk Fuel Storage Tank Plan shows 2 nos. of fuel pump chamber but not reflected on structural drawings, please clarify and provide chamber structural drawing details.
A46							<p>Answer: Please refer to DRG No. ST-6500 series for single fuel storage tank structural details.</p>
Q47	PRPS 1	Technical		MQ174-R1-DH-CI-6323		Sec. A	Drawing No. CI-6323 Bulk Fuel Storage Tank Plan shows 1400x300x3500mm high reinforced concrete platform support column but not reflected on structural drawings, please clarify and provide column structural drawing details.
A47							<p>Answer: Please refer to DRG No. ST-6500 series for single fuel storage tank structural details.</p>

Q48	All	Contractual	App. A1 Scope	GTC626_2014-AppA1B	36/70 - 11/70	1.2.2 - 1.1.3.8	According to Tender documents Appendix A1 "item 1.2.2 Milestone 2 - Reservoir 1" it says that "to achieve this milestone 2 the completed work shall include all concrete work, internal finishes, pipework installation such that the reservoir is ready to receive water for testing" but on the other hand in "item 1.1.3.8 Reservoir testing, cleaning and sterilizing" says that "testing shall be carried out prior to any coating being applied to the inside face of reservoir or any external cladding being installed" there is a discrepancy between these statements please kindly clarify.
A48							Answer: Internal Coatings for the reservoirs are no longer required, therefore this discrepancy is removed.
Q49	All	Technical	Civil/Structural	TA/TW/TWM/1 4/FX-1067		Question & Answer 49	In the Circular 3 in Answer 49,"Internal faces of concrete water holding structure shall not be painted. Corresponding tender documents will be revised and reissued through next circular(s)" Please kindly provide the necessary details for the internal surface finish for water holding structures.
A49							Answer: The internal surface finish for the water holding structures shall be fair faced finish.
Q50	All	Contractual	App. C-K	Appendix D	21/27	10.2	As per Circular No. 2, Q15, A15 Contractor will be allowed to construct batching plant within the project site hence this supersedes restrictions in Appendix D Clause 10.2.1. We appeal Appendix D Clause 10.2.2 restriction to be withdrawn such that Office Accommodation and Labour Camp are also allowed within the project site. Please advise.
A50							Answer: Site Offices may be within the project site for use during the working day, however these shall not take the form of any overnight accommodation. A Labour Camp shall not be permitted within the Project site.

Q51	PRPS 2	Technical	Civil/Structural	MQ174-A-DH-D-C100			Internal Access Road in Area 2 that runs parallel between the perimeter fence and the stockpile area is drawn whereas the same is not shown in MQ174-R2-DH-LE-1000/CI-1000/HW-1000. Please confirm that said access is just an existing temporary road for enabling works and will not be part of permanent Internal Access Roads of PRPS contract i.e. no perimeter road on said location.
A51							Answer: The final permanent roads are as shown on the road drawings (CI-2100 Series)
Q52	All	Contractual	ITT		4/34	IT.3	The Tenderer is deemed to have made the necessary allowance in its Tender Price for adhering to all laws, regulations and procedures applicable in the State of Qatar. As it is possible that laws, regulations and procedures may be changed by the Qatari authorities following the submission of the Tenders, please confirm that compensation would be permitted for such changes of laws, regulations and procedures occurring after submission of the Tenders.
A52							Answer: The contract period is 36 months for each package and they shall be delivered in parallel. No claim or variation associated with change in law during this period will be accepted.
Q53	All	Contractual	ITT		8/34	IT.14	The wording of the Tender Bond is required to be "exactly in accordance with the format" appended to the Instructions to Tenderers. As banks in the State of Qatar or abroad may have their own standard forms, which may prevent tenderers from complying with this requirement, please advise if standard forms issued by banks may be submitted to KAHRAMAA for consideration and approval.
A53							Answer: The wording of the Tender Bond shall not be amended.
Q54	All	Contractual	ITT		9/34	IT.16	The Tender submittals are required to be in "separate envelopes". If necessitated by the size of the submittals, please advise if sealed and separate cardboard boxes may be utilized.
A54							Answer: This shall be acceptable.

Q55	All	Contractual	ITT		10/34	IT.16	<p>The Technical Package is required to include the "acknowledgement of receipt of Tender and Tender bulletins" and the "signed secrecy declaration". However, the acknowledgement would have previously been submitted to KAHRAMAA as required under IT.4 and the secrecy declaration would have previously been submitted to KAHRAMAA as required under IT.5. Accordingly, please clarify if only photocopies of the acknowledgement and secrecy declaration previously submitted to KAHRAMAA are required. If additional originals are required, please clarify the purpose.</p>
A55							<p>Answer: The document referenced in IT 5 are to be faxed to Kahramaa. The original is then to be submitted with the Form of Tender.</p>
Q56	All	Contractual	ITT		10/34	IT.16	<p>The Technical Package is required to include "evidence of a pre-tender agreement" between the joint venture parties. Please advise if a photocopy of the joint venture agreement would be adequate for this purpose.</p> <p>Please also advise if the joint venture agreement is required to be governed by Qatari law and subject to the jurisdiction of Qatari courts or arbitration or if foreign choice of law and judicial forum or arbitral proceedings are permissible.</p>
A56							<p>Answer: The evidence of the pre-tender agreement may be an attested photocopy of a signed document. This must be governed by Qatari Law.</p>

Q57	All	Contractual	ITT		11/34	IT.20	The second paragraph KAHRAMAA will state in the Letter of Award the "documentation to be submitted within a specified period before signing the Contract". Examples of such documentation have been provided in the third paragraph, being the final bank guarantee, the insurances and the execution plan, but the list is not exhaustive as it is stated that it "shall not be limited to" such documents. Given that any documentary requests would need to be prepared in advance, and given that failure to submit such documents would trigger the penalties specified in IT.21, please specify the comprehensive list of documents that would be required.
A57							Answer: IT20 shall not be modified and no further details shall be given.
Q58	All	Contractual	ITT		12/34	IT.20	The fourth paragraph provides that the Effective Date of the Contract is fourteen (14) calendar days from the Contractor's Letter of Confirmation date, but the final paragraph provides that the Effective Date shall be determined at the sole discretion of KAHRAMAA. Accordingly, please clarify the method of determining the Effective Date.
A58							Answer: The Bidder shall reread IT 20. this stats that 'Unless stated to the contrary the starting dates of the Performance Bond and the Insurances shall be the Effective date of Contract (which is fourteen (14) calendar days from the Contractor's LOC date). However the last section reserves Kahramaas rights to act in the contrary and determine the effective date at their sole discretion.

							If the Tenderer fails to sign the Contract when specified by KAHRAMAA, KAHRAMAA reserves the right to cash the Tender Bond and exercise other rights that may be stipulated in the Tender Documents. However, Circular No. 01 (Page 2, Item 8) indicated that all joint ventures are required to register their companies in Qatar in case of award and before signing the contract. Given that the governmental process for completing the formalities of registering the joint ventures in Qatar may be time consuming, and beyond the control of the joint venture members, it may not be possible to complete the registration of the joint venture companies in the relatively short period between the date of notification of award and the date on which the contract is required to be signed. In light of the foregoing, please advise if it is possible for the unincorporated joint venture to execute an awarded contract, with an undertaking to novate such contract to the joint venture company following its incorporation.
Q59	All	Contractual	ITT		12/34	IT.21	
A59							Answer: This shall be considered on a case by case basis.

Q60	All	Contractual	ITT		13/34	IT.25.1	Joint ventures are stated to be accepted with the lead partner achieving 70% of the financial criteria and the other partners achieving 40% of the financial criteria. Please clarify how this allocation would be applied.
A60							Answer: This allocation should be applied in respect of the financial criteria referenced in the Tender advert and IT25.1
Q61	All	Contractual	ITT		22/34	Item 3	Item 3 of the Secrecy Declaration does not include certain customary exceptions for permitted disclosures, such as disclosures to professional advisors or subcontractors (which are necessary for purposes of properly completing the tender process) or disclosures required by applicable law or the order of a competent judicial body (which are therefore required to be disclosed as a matter of law). Please confirm that it is permissible for disclosures to be made in the foregoing circumstances, provided in the case of disclosures to professional advisors and subcontractors, their compliance with the secrecy declaration is obtained.
A61							Answer: Disclosure to professional advisors and subcontractors is acceptable so long as they also sign an identical copy of the secrecy agreement.
Q62	All	Contractual	ITT		25/34	Item 3 (a)	Item 3(a) requires the submission of the signed secrecy declaration. However, the secrecy declaration would have previously been submitted as required under IT.5. Accordingly, please clarify if a photocopy of the previously submitted secrecy declaration is required. If additional originals are required to be submitted, please clarify the purpose.
A62							Answer: The document submitted in IT 5 is to be faxed to Kahramaa. The original is then to be submitted with the Form of Tender.

Q63	All	Contractual	ITT		25/34	Item 6	<p>Item 6 provides that, prior to acceptance of the Tender, KAHRAMAA "may vary the scope of works and such variations, whether increase or decrease, any result in certain works being excluded in the scope of works".</p> <p>Please clarify if this is intended to cover KAHRAMAA's ability, as indicated in the last paragraph of IT.24, to increase or decrease the works quantities by 20% of the contract value in accordance with the contract terms and conditions.</p> <p>Please also clarify the final portion of Item 6 stating "any result in certain works being excluded in the scope of works". We presume the intention was "may result in certain works being excluded from the scope of works".</p>
A63							<p>Answer: This shall be read as given.</p>
Q64	All	Contractual		Circular no. 1	2/7	Joint Ventures, Item 6	<p>Item 6 states that the concept of lead and follower or supporting parties under the joint venture agreements cannot be accepted by KAHRAMAA. Please confirm that the following arrangement would be acceptable: (a) joint venture member companies, who are jointly and severally liable, may appoint one of the member companies as the joint venture representative; (b) the joint venture representative would lead and coordinate the process within the joint venture and be authorized, acting through duly authorized individual signatories, to represent the joint venture before KAHRAMAA; (c) the joint venture representative would exercise the authority granted by the joint venture member companies in accordance with a well-defined decision-making process for such members specified in the joint venture agreement.</p>
A64							<p>Answer: The Contractor shall comply with Tender Circular no.1.</p>

Q65	PRPS 1	Technical	Mechanical	1. DWG: MQ174-R1-DH-C1-3050 2. Specs	1. ----- 2. Page 9	1. ----- 2. Clause 1.1.3.12	Please provide the details for external Tie in Points located at SS 1A & SS 1B and shown on drawing no: MQ174 -R1-DH-C1-3050. In the specification; Page 9 Clause 1.1.3.12, it is mentioned that the contractor shall provide all necessary fittings, temporary by-pass pipelines, valves and cutting of the existing pipelines. Please provide the necessary details for the same.
A65							Answer: The contractor shall read clearly clause 1.1.3.12, which contains a description of tie-in connection. This gives a description of the pipes to which connections are to be made. The pipes referred to are being laid under a separate contract and the details shall depend upon the final execution Programme of each contractor, and shall be shown in corresponding shop drawings, which shall be subject to Kahramaa review and approval.
Q66	All	Contractual	ITT	IT.16	10/34	5 & a)	Point 5 says Envelope 5 should contain the tender bond original + 2copies. Point a) says tender bond should be contained in the Technical package (Envelope 3 and 4). Please clarify in which envelope the tender bond should be submitted.
A66							Answer: Refer to IT 16. The original should be placed in Envelope 5 with a copy in the Technical and Commercial packages.
Q67	PRPS 5	Technical	Civil/Structural				Please provide drawing details of the boundary wall.
A67							Answer: Please refer to architectural AR-9500 and structural ST-5000 series drawings.
Q68	All	Commercial	Terms of Payment				Reducing minimum amount of each payment from current QAR 25,000,000 as per Appendix A to QAR 5,000,000/- Please confirm
A68							Answer: The minimum invoice value shall not be changed
Q69	All	Commercial	Terms of Payment				The Conditions of Contract/ Payment Terms does not specify any material advance to be paid for major equipment / system/ items delivery to site Please consider payment of material advance of 70% of BOQ value or invoice value + incidental expenses (for delivery of material till site) whichever is less.

A69							Answer: The Conditions of payment shall not be amended.
Q70	PRPS 1	Commercial	Quantities	Bill No.8	Page 8/48/14 & 8/48/15	Item 8.4.11 & 8.4.12	Bill No.8, item 8.4.11, pg-8/48/14 - Water quality monitoring building and item 8.4.12, pg – 8/48/15 - KIOSK buildings are measured as 05 numbers and 07 numbers respectively. But the proposed reservoirs are 04 only. Kindly confirm either we have to construct all the buildings as per BoQ or we have to limit both the buildings to 04 numbers only. (Same in the case of for PRPS at Umm Salal – Package-B)
A70							Answer: Buildings shall be limited to those associated with reservoirs 1- 4 at Umm Birka and 1-5 at Umm Salal.
Q71	All	Contractual	Civil	Appendix E Annexure 10	Page 16 of 19	Item 18, table 2	Please clarify the pattern to be filled for financial, planning, construction equipment, labour, execution of work.
A71							Answer: The Contractor shall comply with the tender
Q72	All	Commercial		Circular No.1	Page 3	1.4	It is specified that Kahramaa reserves the right to award to any pump supplier from the approved Kahramaa's vendor list on the basis of the prices given
A72							Answer: Confirmed.
Q73	PRPS 4	Technical	Civil	Appendix A A1-Scope of Work	Page 9 of 70	1.1.3.4	The backfill material will be stockpiled by excavation contractor and it has to be used by PRPS contractor. Please clarify whether the stockpiled material to be screened or it can be used directly for backfilling.
A73							Answer: The Contractor shall make his own assessment of the potential use of the stockpiles. All material in the stockpiles are screened and graded.
Q74	PRPS5			BOQ			BOQ Item 8.6.3.2 - Soft Landscaping: As per Landscape drawings, Date Palm (43 nr.), California Flan Palm (4 nr.), Khejri (8 nr.) and Lawn (615 m ²) are shown. Since the locations of these Palm trees are within the boundary wall (ref. MQ174-R5-DH-LE-1005), we assume that all aforesaid items to be computed under the Soft Landscaping Work. Please check and confirm.

A74						Answer: All items on shown on the soft landscaping drawings shall be priced under soft landscaping.
Q75						BOQ Item 8.6.3.3 - Planning Palm trees along the Boundary Wall. Please note that as per given Landscape drawings, Palm trees along boundary wall are not shown. But according to Scope of this Project, if Palm Trees are to be planted along the boundary, then you are requested to issue relevant drawings (Landscape & Irrigation) related to the same.
A75						Answer: The additional palm trees along the boundary wall are deleted, however the ones at the front of the site shall remain
Q76						No irrigation layout drawing is available for Package B Mega Reservoir 2. Please provide.
A76						Answer: Please refer to DRG No. CI-3100 series drawings for irrigation networks.
Q77						Project Specification Appendix A Section 2 page 183 Clause 2.14 indicates 14mm single size beds and surrounds, whereas general specification for main laying contractor 10-04-2005 Clause 5.1 indicates imported granular material is either normal sand or crushed rock with different gradation. Please confirm 14 mm single size beds and surrounds to be considered for pricing.
A77						Answer: This shall be read as follow, Confirmed. 14mm single size stone shall be used as pipe bedding & surround in case of waterlogged areas only and areas other than water logged areas, the pipe bedding shall be as given in the General Specification for Main Laying Contract, Section 5, part 5.1 (v). Section 5.1 (vi) shall be modified to remove reference to No 22 mesh sieve. the 14mm single size stone will be used for PRPS1 and PRPS5 only
Q78						Please provide pavement section details at tanker filling station.

A78							Answer: Please refer to Structural drawings DRG No. ST-6711 series drawings for pavement details
Q79							We could not open electrical drawing folder for Package B Mega reservoir 2.
A79							Answer: The specific Contractor shall return this CD for checking.
Q80	All	Technical	Electrical	Appendix I-4 (Approved Vendor List)	I-4	Item 6	Low Voltage Swgr., MCCs, Submain DBs, DBs & External Feeder Pillars : Approved vendor list (enclosed) specifies European country of origin for the panels. Kindly confirm if the proposed panels & boards should be OEM Factory Built Assemblies from Europe or can they be locally made by franchise partners in Qatar/ GCC.
A80							Answer: These may be locally made, however all component parts should be sourced from the specific countries of origin.
Q81	All	Contractual	ITT			25.1	According to ITT clause 25.1 Tenderers must have completed similar contracts of similar nature in the last 10 years but According to Appendix E annexure 11 Contractor shall submit a verifiable reference list demonstrating its previous experience during the last 5 years, including completion date, value and the Client contact name and address. Please clarify the valid period (5 of 10) for experience.
A81							Answer: List of customers and Projects in Annexure 11 of Appendix E shall be provided for the last 10 years.
Q82	All	Technical		Instruction to tenderers Page 9-10/193		IT.16	First paragraph states "The tender and accompanying documents shall be bound securely together and enclosed in a wax sealed envelope and shall be delivered to..." Page 10, Item 6 "All 5 envelopes should be clearly marked and addressed as below and with appropriate Tender reference number, then should be submitted together but not to be put in a single envelope when being submitted to the Secretary General Tenderers Committee. "We understand that we will prepare 5 separate envelopes, all marked and addressed. Then these 5 envelopes will be put in one box and wax sealed. Please confirm.

A82							Answer: Confirmed.
Q83	All	Technical		Instruction to tenderers	Page 9/34	IT.16	Sixth paragraph states "Tender submission for more than one package shall be submitted as one common technical proposal and individual commercial proposals for each offered Package (contained in one common commercial envelope)." Does that mean we can prepare one common Execution Programme, Manpower Histogram, Progress & Cash Flow, S-Curves and Contractor Method Statement?
A83							Answer: Not Confirmed. Separate Execution Programme, Manpower Histogram, Progress & Cash Flow, S-Curves and Contractor Method Statements shall be provided for each package.
Q84	All	Technical	Electrical				Generator Manufacturer list: M/s Aggreko from the Vendor list only provide rental generators. Hence, shall we consider another make "Mitsubishi" which is an equivalent and branded. Please advise.
A84							Answer: The contractor shall comply with the Vendor list presented in Appendix I
Q85	All	Technical	Mechanical				Chlorination System: Kindly advise the manufacturer/Supplier for Chlorination & disinfection system.
A85							Answer: All preferred Vendors are given in Appendix I. For all other Vendors, the Contractor shall submit his preferred vendor and their associated technical documents for Kahramaa review and Approval
Q86	All	Technical	ICA/SCADA	Appendix I: Materials Supplied By contractor REV01	25/45	Appendix 1-4	Please provide approved list of manufacturers for Enclosure/Panel/Cabinet.
A86							Answer: Approved Vendors are given in Appendix I. For all other materials, the Contractor shall propose a vendor and submit the technical details for Kahramaa review and Approval.

Q87	All	Technical	ICA/SCADA				Please provide Operation and Control philosophy for individual PRPS
A87							Answer: This shall be provided to the successful Bidder
Q88	PRPS 2	Contractual	App. C-K	App.E Annexure(1)	4/19	A)	Should we provide employment contract documents instead of permanent payroll.
A88							Answer: The Contractor shall comply with Qatar Labor Law. Any further issues not covered within Qatar Laws and Decrees shall remain the contractors decision.
Q89	All	Technical	Civil/Structural				The technologic flow chart for water treatment system to be provided.
A89							Answer: No flow charts on water treatment systems shall be provided.
Q90	All	Technical	Civil/Structural	App.F			Please clarify the arrangement of land for contractor's camp. It is specified by client or leased by the contractor himself.
A90							Answer: Contractors site offices may be within the boundary of the site. Any Labour Camps or other camps must be located on separate land identified and leased by the contractor.
Q91	All	Contractual	App. A1 Scope		7/70	1.12	Please describe the scope of the enabling work which is not involved in this tender, e.g. foundation excavation & treatment.
A91							Answer: The Bidder shall price for all works except those covered in the enabling works drawings, which were provided under Tender Circular No 2.
Q92	All	Contractual	ITT	Chapter(1)	8/34	IT.14	Should we submit two or more tender bonds from parties of the JV separately, the total amount of these bid bonds will be 20million for each package.
A92							Answer: Correct
Q93	PRPS 5	Technical	Civil/Structural	BQ no.8	27/1	Note	In general scope of works by site (GTC626_2014-AppA1C-PRPS_5_Scope_rev1) stating that bulk excavation of the site will be carried out by others under a separate contract. Although in package "C" Bill number 8 notes state that bulk excavation has been done by enabling contractor in main structures (Reservoirs, Main pump station) and main process pipe works. please clarify ambiguity.

A93							Answer: The PRPS Contractor is to undertake all excavation works that has not already been completed under the Enabling Works Contracts.
Q94	PRPS 5	Technical	Civil/Structural	MQ174-R5-DH-CI-3019-A.		Foul & Sewage	Two septic tank as "Tank type A and Tank type B" are mentioned in the drawings. But the septic Tank type A is only show in the drawings and either septic tank B is not shown in the layout drawings. Please advice
A94							Answer: There are 2 septic tanks type A and type C, please refer to the layout drawing and the general arrangement of septic tank drawings CI-3017 and CI-3019
Q95	PRPS 1	Commercial	Quantities				Assumed that the pile caps will be done by the piling contractor.
A95							Answer: All Piling works are to be completed under this contract. There are no other separate contracts, other than the enabling earthworks contracts.
Q96	PRPS 3	Technical	Civil/Structural	1.1.2 Brief scope of work-package 01 page 1 of 60	External works	Pipe work	In the scope of work it mentioned "The contract includes connections 1 metre inside the site boundary to pipelines laid by others". Please clarify for which systems this applies.
A96							Answer: This applies for all Transmission main and Corridor Main Pipes
Q97	PRPS 3	Technical	Civil/Structural	BQ no.8	27/1	Note	In general scope of works by site (GTC626_2014-AppA1D-PRPS_3_Scope rev1) stating that bulk excavation of the site will be carried out by others under a separate contract. Although in package "D" Bill number 8 notes state that bulk excavation has been done by enabling contractor in main structures only (Reservoirs, Main pump station) and main process pipe works. Please clarify the excavation scope of PRPS contractor.
A97							Answer: Refer to A 93

Q98	PRPS 4	Technical	Civil/Structural	BQ no.8	27/1	Note	In general scope of works by site (GTC626_2014-AppA1E-PRPS_4_Scope_rev 1) stating that bulk excavation of the site will be carried out by others under a separate contract. Although in package "E" Bill number 8 notes state that bulk excavation has been done by enabling contractor in main structures only (Reservoirs, Main pump station) and main process pipe works. Please clarify the excavation scope of PRPS contractor.
A98							Answer: Refer to A 93
Q99	All	Technical	Civil/Structural	BOQ	8/26/15	Landscaping	This item is including in BOQs, but not found from drawings. Please advice about this scope.
A99							Answer: Refer to the landscaping drawings LE-0002 for general schedule
Q100	All	Technical	Civil/Structural	BOQ	8/26/15	Planting Palm Trees	This item is including in BOQs, but not found from drawings. Please advice about this scope.
A100							Answer: Refer to landscaping drawings LE-0002 for general schedule
Q101	PRPS 2	Technical	Civil/Structural	Appendix A1 Package B, Scope of Works	Page 10 of 70	1.1.3.7	Construction of Five Reinforced Concrete Reservoirs is discussed in this paragraph while in the Drawing No.MQ174-R2-DH-C1-1001-REV A pertaining to this package shows 8 Nos of Rectangular RCC Reservoirs. Kindly confirm how many and which are the reservoirs shown in the referred drawing are to be constructed under this package.
A101							Answer: 5 Reservoirs, numbered 1-5 are to be constructed under this package.
Q102	All	Commercial	Terms of Payment	Circular No.01 - Tender Clarification	1. Notice of amendment - 1.4 Main Pumps - Bill Numbers 1,2,3,4		a) In view of the referred notice of amendment under circular no.1. Which foreign currency will applicable to Bill No. 1, if Kahramaa reserves the right to award to any supplier from the Approved Kahramaa's vendor list ? b) Please clarify whether it is still required to provide the Unit Rate Split up of Foreign Currency Part + QAR Part in Bill No.1 ? c) Please clarify whether clause 1.32 under Notes of Pricing , Appendix B is still applicable ?

A102						Answer: Complete Bill No 1 in the form that it is given, which you may price in Qatari Riyal only.
Q103	All	Technical		MQ174-R4-DH-ST-2014	Structural Dwgs	From the drawing it is clear the reservoir base slab thickness varies by 600 mm, 900 mm & 1200 mm at different locations. Please clarify the level of excavation done by excavation contractor if the top level of concrete is 13,590.
A103						Answer: Refer to Earthworks drawings.
Q104				MQ174-R4-DH-ST-6010	Civil/Mechanical Drawings	Also, at the scour outlet & inlet chambers the depth varies from level say 13,590 to 9,040. Please clarify whether the excavation of these chambers up to level 9,040 will be done by excavation contractor or by PRPS contractor.
A104						Answer: Refer to A103
Q105		Contractual		App. A1 Scope	Page 12 of 70	1.1.3.8 PRPS 4: Contractual: The Contractor shall pay for water at the KM standard rate current during the Contract and shall make due allowance for this in pricing the testing and sterilization activities. Please provide the standard rate and disposal point of water after testing.
A105						Answer: The Kahramaa rate may be found on their web site. The contractors should price their bid using QAR 5.2/m³. Should the applied rate for purchase of water from Kahramaa be different, then this shall be subject to variation.

Q106	PRPS4	Technical	Drawing & BOQ	MQ174-R4-DH-CI-6200 Rev. A, Bill No. 6	6/1/81	6.1	<p>Pipework Schedule as shown on Tender Drawings and BOQ indicate that carbon steel pipework is quantified per linear meter. However, under the notes 5, 9, 10, this pipework is required to consist of custom-made assemblies of flanged pipes, flanged branch outs, and dismantling joints as shown on Tender Drawings (e.g. double flanged CS pipe with eccentric branch outs).</p> <p>Taking into account that the Contractor is to provide the shop drawings for the station, get dimensions of pump-sets and submit the arrangement for Engineer approval prior to ordering the material, considered as long delivery items, <i>please provide the Milestone for shop drawings submission and approval in order to match with other Milestones in the contract.</i></p>
A106							<p>Answer: Milestones shall not be added to the contract. The contractor is to provide these in his execution Programme.</p>
Q107	PRPS3	Technical	Drawing	MQ174-R3-DH-CI-6200 Rev. A Bill No. 6	6/3/91	6.1	<p>Pipework Schedule as shown on Tender Drawings and BOQ indicate that carbon steel pipework is quantified per linear meter. However, under the notes 5, 9, 10, this pipework is required to consist of custom-made assemblies of flanged pipes, flanged branch outs, and dismantling joints as shown on Tender Drawings (e.g. double flanged CS pipe with eccentric branch outs).</p> <p>Taking into account that the Contractor is to provide the shop drawings for the station, get dimensions of pump-sets and submit the arrangement for Engineer approval prior to ordering the material, considered as long delivery items, <i>please provide the Milestone for shop drawings submission and approval in order to match with other Milestones in the contract.</i></p>
A107							<p>Answer: Milestones shall not be added to the contract. The contractor is to provide these in his execution Programme.</p>

Q108	PRPS2	Technical	Drawing & BOQ	MQ174-R2-DH-CI-6200 Rev. A, Bill No. 6	6/4/88	6.1.41 to 48	<p>Pipework Schedule as shown on Tender Drawings and BOQ indicate that carbon steel pipework is quantified per linear meter. However, under the notes 5, 9, 10, this pipework would consist of custom-made assemblies of flanged pipes, flanged branch outs, and dismantling joints as shown on Tender Drawings (e.g. double flanged CS pipe with eccentric branch outs).</p> <p>Taking into account that the Contractor is to provide the shop drawings for the station, get dimensions of pump-sets and submit the arrangement for Engineer approval prior to ordering the material, considered as long delivery items, <i>please provide the Milestone for shop drawings submission and approval in order to match with other Milestones in the contract.</i></p>
A108							<p>Answer: Milestones shall not be added to the contract. The contractor is to provide these in his execution programme.</p>

Q109	PRSP2	Technical	Excavation and Backfilling	Scope of Works	Page 9/70	1.1.3.4	<p>The clause states " The Earthworks Contractor will hand over the site in two phases as shown on the Drawings. He will also stockpile a quantity (67,500m3) of suitable excavated material for use in backfilling. It is the responsibility of the PRPS Contractor to confirm the quantity of stockpiled material and if necessary select further suitable material for backfilling.."</p> <p>a) Please confirm that the earthworks contractor shall place the stockpile of 67,500m3 at the location where it shall not affect the works of the contractor or may require relocation i.e. location of future reservoirs."</p> <p>b) Please confirm that only the quantity to 67,500m3 stockpile will be left out by the earthworks contractor on the site location and it is the earthworks contractor responsibility to dispose off any other stockpile in excess.</p> <p>c) Please clarify the statement "it is the responsibility of the contractor to confirm the quantity of stockpile" and provide the extent of works required to do the measurement in order to confirm i.e. the stockpile is evenly spread out to certain dimensions and then contractor is to confirm the dimensions to determine the volume/ quantity of stockpile. This item to be clarified in order for the contractor to include in his rates if certain amount of works is required to do so the confirmation accordingly.</p>
A109							<p>Answer:</p> <p>a) The Earthworks contractor has placed this stockpile in a location that shall not impact upon the direct works required under GTC626.</p> <p>b) It is the Earthworks Contractors responsibility to dispose of all other material.</p> <p>The contractor is required to make this confirmation for record purposes. The method of confirming this shall be agreed on site.</p>

Q110	All	Technical	MEPF				<p>The Scope of Work refers to the verification of the surge analysis to be carried out by the contractor in order to confirm sizes and drawings provided for surge protection based on the selected pumps and equipment. The Surge Analysis cannot be carried out for independent pump station sites without modeling the interconnecting piping and other associated headworks.</p> <p>Please confirm that a complete model will be made available to the contractor after award and the contractor will only update data related to its respective site for validation of the surge analysis, and kindly advise on the surge modeling software used by the designer.</p> <p>Alternatively, the Contractor may provide the updated equipment data to the party that will perform the network works and they will handle such analysis.</p>
A110							<p>Answer:</p> <p>A complete model will be provided to the sucessful Bidder. The Contractor shall update the model for this specific site and complete his analysis and reporting o this basis. This model and report shall then be submitted to Kahramaa for review and integration into a network wide model for final confirmation.</p>
Q111	PRPS 1	Technical	Electrical	General			<p>The specifically approved Manufacturer of Generators FG Willson proposes the use of 2 units of 1.5 MVA, 11 kV generators sets, operating in parallel instead of a single unit of 3 MVA, 11 kV generator set. Please confirm whether is acceptable.</p>

A111							<p>Answer:</p> <p>The contractor must submit a compliant tender proposal, however, the contractors may propose alternative generator ratings as an option cost providing the generators are rated adequately to supply 1No. process pump in each sub system. To take PRPS 2 as an example, it would include 1No. pump from Corridor Pumps 1, 1No. pump from Sub System 2A and 1No. pump from Sub System 2B. It will be the contractors responsibility to evaluate, include in his price and design any effects of this change including, but not limited to, increased building spaces to accommodate this increased quantity of generators, changes to fuel storage and distribution systems, changes to fire fighting systems, changes to electrical distribution systems etc.</p>
Q112	All	General	Contract Award	ITT	11	IT.20	Please clarify if the starting dates of all contracts will be the same or there will be considerable time difference between the starting dates of various contracts

A112							Answer: The starting date for the contracts is intended to be similar, but may not be exactly the same. This shall be at Kahramaa Discretion
Q113	All	General	Project Duration	General Conditions of Contract	10	Clause 1.56 from Article 1: Definitions	As per the clause, starting date of "Time for completion" can be Effective Date of Contract or date of starting the works activity. Please clarify if the effective starting date of the project duration will be the Date of "Notification of Contract Award" or "Effective Date of Contract" or Date of Signing the Contract or Date of Receipt of Construction Order or Date of Mobilization
A113							Answer: Please refer to General Conditions of Contract Article 1.27
Q114	All	Technical		Tender Circular No. 4			We refer Circular No 4 dated 10/6/14, Tender Clarification items 37, 38, 39 & 64 which states the design information / studies and calculations undertaken by the Designer will not be made available to the Tenderers. Please confirm if the Tenderer is required to verify the whole of the design as required within Clause 3.14 of the Conditions of Contract OR this shall only apply to the Contractor Designed Elements nominated within Appendix A, those being; <ul style="list-style-type: none"> •All Temporary Works (Clause 1.1.2 Appendix A) •Main Pumping Station (Clause 1.1.3.16 Appendix A) •Chlorination System (Clause 1.1.3.21 Appendix A) •Mechanical, Electrical, Public Health and Fire Fighting systems (Clause 1.1.3.24 Appendix A) •Electric Site Vehicles (Clause 1.1.3.31 Appendix A)

A114							<p>Answer: The Contractor is required to verify designs related to final equipment selection. For all other elements, the contractor is required to satisfy themselves, that the construction drawings provided are fit for construction. No other formal third party design verification is required. The contractor is still required to include for third party inspections for quality and testing. Contractor Designed Elements referenced must be fully checked and approved by the Contractor and shall then be subject to KM review and approval.</p>
Q115	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-CI-3019/A MQ174-R1-DH-CI-3019/A			Please confirm if the extent of excavation for manholes is up to blinding only.
A115							<p>Answer: The Contractor is required to do the excavation necessary to complete the works.</p>
Q116	All	Technical	Civil/Structural				Please advise the maximum pressure applied onto the reservoir's vertical concrete elements based on the fluid dynamics inside the reservoir in order for the Contractor to check the existing structural design at tender stage.
A116							<p>Answer: The contractor is not required to check the structural design.</p>
Q117	All	Technical	Civil/Structural				Please advise the crack width criteria of the water retaining concrete structures selected by Hyder during the design of the current tender documentation.
A117							<p>Answer: The contractor is not required to check the structural design.</p>

Q118	All	Technical	Civil/Structural	Appendix A Section 2	26/186	C	Refer to the tender documents: Concrete mix design which includes reservoir base slab, wall and roof slab, the mix design refer to maximum rapid chloride permeability limiting values up to 500 colombs and water permeability as 5 mm limits. We understand these specification requires, special admixtures and triple blends in cementitious materials. Is there any chance that these limits be relaxed. In the event of these values are not achieved what mitigation measures can be adopted in practice.
A118							Answer: These requirements shall not be relaxed.
Q119	All	Technical	Mechanical	APPENDIX A SECTION 4	69/108	4.7	The mechanical specification Appendix A Section 4, Clause 4.7 contains only general information about the surge analysis. Could you please provide us more details on each of the packages so we can provide an accurate proposal? Also provide Diagrams, P&ID, maps etc.
A119							Answer: P&IDs for the PRPS site are included in the tender. The surge analysis will cover the effects on all associated pipework between the PRPS sites as well as the transmission pipework to the SRPS sites.
Q120	All	Commercial	Quantities	Bill No. 8 (Civil)	Landscaping	8.6.3.3	Bill 08, Item no. 8.6.3.3 - "Planting the Palm trees along the boundary wall". There is no Specification or drawing available in the documents. Please provide the same.
A120							Answer: Refer to A35.

Q121	PRPS 5	Technical	Architectural	BOQ 8	27/1	Note	In general scope of works by site (GTC 626 - AppA1C) stating that bulk excavation of the site will be carried out by others under a separate contract. Although in package C Bill Nr. 8 Notes states that bulk excavation has been done by enabling contractor in main structures (reservoirs, Main pump station) and main process pipe works. Please clarify.
A121							Answer: The Contractor is required to do all excavation that is not already completed under the enabling works contracts, as the drawings issued in Tender circular 2.
Q122	PRPS 1	Commercial	Quantities				Assumed that the pile caps will be done by the piling contractor.
A122							Answer: All piling is to be completed under this contract.
Q123	PRPS 3	Technical	Civil/Structural	1.1.2 Brief Scope of work - Package 1 page 1 of 60	External works	Pipe work	In the scope of work is mentioned "The contract includes connections 1 metre inside the site boundary to pipelines laid by others'. Please clarify for which systems this applies.
A123							Answer: This applies to all Corridor and Transmission Mains pipework.
Q124	PRPS 3	Technical	Civil/Structural	BOQ No. 8	27/1	Note	In general scope of works by site (GTC 626 - AppA1D PRPS 3 Scope) stating that bulk excavation of the site will be carried out by others under a separate contract. Although in package D Bill Nr. 8 Notes states that bulk excavation has been done by enabling contractor in main structures only (Reservoirs, Main pump stations) and main process pipe works. Please clarify the excavation scope of PRPS contractor.
A124							Answer: The Contractor is required to do all excavation that is not already completed under the enabling works contracts, as the drawings issued in Tender circular 2.

Q125	PRPS 4	Technical	Civil/Structural	BOQ No. 8	27/1	Note	In general scope of works by site (GTC 626 - AppA1E) stating that bulk excavation of the site will be carried out by others under a separate contract. Although in package E Bill Nr. 8 Notes states that bulk excavation has been done by enabling contractor in main structures only (Reservoirs, Main pump stations) and main process pipe works. Please clarify the excavation scope of PRPS contractor.
A125							Answer: The Contractor is required to do all excavation that is not already completed under the enabling works contracts, as the drawings issued in Tender circular 2.
Q126	PRPS (D)	General	General	03_Structural	N/A	N/A	Reference Standard/ Code, Loads and software used in design structural elements in Ground Reservoirs or Buildings. Our roughly checking specially for Ground Reservoirs give us thickness dimension greater than mentioned in the drawings, sometimes 1.5 times.
A126							Answer: The contractor is not required to check the structural design.
Q127	PRPS (D)	General	General	03_Structural	N/A	N/A	Did the differential in temperature between the roof slabs and internal parts (like columns, baffle walls, etc.) was taken into consideration in designing that elements.
A127							Answer: The contractor is not required to check the structural design.

TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 26/06/2014	TOTAL PAGES: 1+25
To: All Bidders	Fax:	
For the Attention of: General Manager	Our Ref.:	TA/TW/TWM/14/FX- ١٧١
Subject: GTC 626/2014 - CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 08

TENDER CLARIFICATION

Reply to Tenderers Clarifications

Please find attached a table, containing replies to your clarifications.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,

ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW, GTC, File

| Page 1

Important: This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the named recipients of this fax, any attachments, end copies, please notify the sender by e-mail or fax or telephone. Confidentiality is not guaranteed unless by signed confirmation.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ : ٠٩٦ + (٩٧٤) ٤٤٨٤٥٣٣٣ : ٠٩٦
ج.م.ز : ٤١ - ٤١ : ٠٩٦



No	PRPS site	Query	Subject area	Document/drawing no	Page/Location	Clause/Item	Query and Answer
Q1							Please clarify the width of internal PVC water stop.
A1							<p>Answer: The minimum width for the internal and external waterstops shall be 250mm and 300mm respectively.</p>
Q2							<p>The specifications for Gate Valves above DN 350 provided under Gate Valves in Clause 4.3.2.2 stating metal seating. However, as per KM Main Laying specification 2005 for Gate Valves under Clause 6.1.5 states that all Sluice/Gate Valves must be Resilient seat type. Please clarify.</p>
A2							<p>Answer: The Particular Specification shall override.</p>
Q3	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-ST-4514 & 4515	Main Pump Station Building		<p>Please provide schedule and details of Footing Tie Beam (FTB) / Ground Beams</p>
A3							<p>Answer: The Beam schedule has been submitted. Refer to drg no 4730.</p>
Q4	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-ST-4722 & MQ174-R1-DH-ST-4514/4515	Main Pump Station Building		<p>Refer to Key Plan-Column and Ground Level General Arrangement, we note that C3a on ground floor at GL B/7, B/9, N/7, and N/9 are not shown on the Ground Level Gen. Arrangement but is shown in the Key Plan-Column, please clarify if these columns are to continue up to lower roof / upper roof level.</p>
A4							<p>Answer: The columns along the mentioned grids stop at the Ground floor and do not continue above.</p>

Q5	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-ST-4722 & MQ174-R1-DH-ST-4514/4515	Main Pump Station Building		Refer to Key Plan-Column and Ground Level General Arrangement, we note that C3a on ground floor at GL H.2/1, J.3/4, and K.1/4 are shown on the Ground Level Gen. Arrangement but is not shown in the Key Plan-Column, please clarify if these columns are to continue up to lower roof level.
A5							Answer: The GA and Key Plan-Column are consistent. The column along GL H.2/1 continue upto Lower Roof, while column along GL J.3/4 and K.1/4 stop at Ground floor and do not continue above.
Q6	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-ST-4722 & MQ174-R1-DH-ST-4514/4515	Main Pump Station Building		Refer to Key Plan-Column and Ground Level General Arrangement, we note that on ground floor at GL E.2/3 C7 is shown on the Ground Level Gen. Arrangement but in the Key Plan-Column C3b is shown, please clarify which column is to consider.
A6							Answer: The column on the mentioned grid is C7 and not C3b.
Q7	All	Technical	Civil/Structural	MQ174-R1-DH-ST-4722 & MQ174-R1-DH-ST-4514/4515	Main Pump Station Building		Refer to Key Plan-Column and Ground Level General Arrangement, we note that on ground floor at GL E.2/3 C7 is shown on the Ground Level Gen. Arrangement but in the Key Plan-Column C3b is shown, please clarify which column is to consider.
A7							Answer: The general arrangement drawing and the key plan- column are consistent.
Q8	PRPS 1	Technical	Civil/Structural	MQ 174-R1-DH-ST-1023 Rev A			We have been unable to find any details for the construction joints in the baffle walls. Please provide the same.
A8							Answer: No waterstops shall be provided at the baffle walls since water is on both sides. Construction joint spacing in the horizontal directions shall follow the CJ location at the base slab. The vertical spacing shall be similar to the perimeter walls. Layout drawings for the intended CJ, locations will be issued to the tenderers.

Q9	All	Contractual	Specifications	AppA2_PRPS_Civil-Struct_Spec_Rev1	12/186	Clause 2.1.2.1 (E) 2	<p>It states "The admixtures for waterproof concrete and other related ingredients shall be obtained from a single supplier selected from the list below. No other supplier's admixtures or related ingredients may be used." Can Super-plasticisers from other suppliers be used to provide the acceptable workability, providing they are compatible with the selected waterproof admixture?</p>
A9							<p>Answer: Super-plasticisers from other suppliers may be used to the Engineer's approval, providing they are compatible with the selected waterproof admixture.</p>
Q10	All	Technical	Civil/Structural	Appendix A2 civil structural specific specification Rev1	26/186	Item D and G	<p>Please note the said two items marked with different concrete mix but with same technical Parameters, such as max rapid chloride permeability, max water permeability ect.kindly clarify.</p>
A10							<p>Answer: The class D concrete mix shall be used for element exposed to sever exposer (eg External and internal uncontrolled environment), where concrete mix for class G shall be used for element exposed to moderate exposure (eg Internal controlled environment).</p>
Q11	All	Contractual	Mechanical	App. A4 Mech. Spec.	71/108	4.7.3	<p>Provide separate Milestone in the contract for the surge analyses and required period for completion from commencement of the contract as it seems it might affect all pumping systems.</p>
A11							<p>Answer: Milestones shall not be added to the contract. The contractor is to provide this information in his execution programme.</p>
Q12							<p>As per given BOQ there is no indication of Piling Works but in dwg .MQ174-R1-DH-ST-4521 indicates the said work.</p>
A12							<p>Answer: Contractor to consider the piling in pricing for the main pumping stations on PRPS1 and PRPS5.</p>

Q13							There is no wall finishing for lower roof walls because the dwg. only indicates Floor Finish which is RF-1.
A13							Answer: Wall Finishes for lower roof walls were shown on sections, please refer to sheet MQ 174-R1-DH-AR-1645 to 1655.
Q14	All	Technical	Civil/Structural	MQ174-R1-DH-ST-1012	Bulk Fuel Storage Tank	G.5	Please confirm if blinding is required to all slab on grade
A14							Answer: Yes, blinding of 75mm thick, waterproofing on top of the blinding plus protection screed of 50mm shall be provided underneath all element in contact with soil including slabs on grade.
Q15	All	Technical	Architectural	MQ174-R1-DH-ST-4518 & AR-1537	Main Pump Station Building		Please specify wall type and wall finish in GL 1/A.1-E.2, GL 1/F.4-H.2 and GL 1.1/J.2-L.1, from level +12.725 to + 18.2m
A15							Answer: Wall types and finishes on the specified locations are shown on the drawings.
Q16	All	Technical	Civil/Structural	MQ174-R1-DH-ST-6710 A - 6714 A			Drawings of emergency tanker filling station not showing any requirement of water proofing under the paving concrete. Please clarify that, any kind of waterproofing is required for that and if have please revise the drawings with corresponding details.
A16							Answer: A water proofing membrane for the paving concrete road is not required.
Q17	All	Technical	Civil/Structural	Appendix A2	26/186	Concrete Glass G	Durability requirements specified for this mix cannot be achieved by the specified cement type (OPC) alone. Please advise.
A17							Answer: Concrete admixtures shall be used to achieve the required durability levels.

Q18	All	Technical	Civil/Structural	Mechanical specs, Appendix A, Section 4.80	77/108,4.8	4.8.4.1&4.8.4.2	Reference to the mechanical specification under Clause 4.80 for the steel pipework It refers to the internal and external coating only (blast cleaned) while in the general specifications for the main laying contracts it asks also for wrapping and polyethylene sleeving of the pipes, kindly clarify if we should allow for the wrapping of the carbon steel pipes.
A18							Answer: Carbon Steel pipes are to be Coated in Fusion bonded Epoxy and Polyethylene Wrapped in the Factory for the locations where they are to be installed below ground. Where they are to be installed above ground, they should be liquid epoxy coated. Internal Lining shall consist of Fusion Bonded Epoxy, suitable for contact with potable water at 50 deg c and compliant with WHO standards.
Q19	PRPS 1	Technical	Civil/Structural	(MQ174-R1-DH-ST-1024-A) & MQ174-R1-DH-AR-4015-A	Auxiliary Building	Water proofing	Assumed water proof membrane is applied for the horizontal and vertical surface of the Ground beam, Footings and masonry wall up to ground level as per the standard drawing (MQ174-R1-DH-ST-1024-A). But in drawing nr MQ174-R1-DH-AR-4015-A it shows bituminous paint for the ground beam and wall please clarify
A19							Answer: Please follow the waterproofing details as shown on the structural drawings.
Q20	PRPS 1	Technical	Architectural	MQ174-R1-DH-AR-5390-A	Chlorination building	Architectural	Please clarify window type W-02, W03, W04, W05, W06 & W07 are metal windows or aluminum windows. Based on dwg MQ174-R1-DH-AR-5390-A window type given as metal louver but where in the descriptions it describe as aluminum window
A20							Answer: Window type shall be aluminum louvre window.
Q21	All	Technical	Electrical	Appendix A Section 5	15/32	5.3.3.3 / 1	Transformer input voltage is mentioned as 6.6kV in Specification, whereas SLD showing 11kV. Please confirm the correct input voltage that need to be considered
A21							Answer: The input voltage to transformer is 11kv.

Q22	All	Technical	Electrical	Appendix A Section 5	12/32, 16/32	5.3.12.1, 5.3.4.2.1	Design Ambient temperature of MV VFD is mentioned as 50 deg C under Environmental conditions. However in Frequency Converter General Terms, it's mentioned as 46 deg C. Please clarify.
A22							Answer: The design temperature shall be considered as 50C.
Q23	All	Technical	Electrical	Appendix A Section 5	16/32	5.3.4.2.1	Sound pressure level is mentioned as 70dB (A) in the specification, which is neither based on any IEC standard like 61800-5 or based on available sound level of leading Drive manufacturers for Water cooled drives in the market. Please revise to < 70dB (A)
A23							Answer: The sound level in the specification is stated as not exceeding 70dB (A).
Q24	All	Technical	Electrical	Appendix A Section 5			No specification for sound pressure levels for air cooled drives. Please specify < 85 dB(A).
A24							Answer: This shall be the same as water cooled.
Q25	All	Technical	Electrical	Appendix A Section 5	8/32	5.2.4.15 F	Phase Separated Terminal Box cannot be offered with Surge Arrestors and since these Motors are being driven through VFD, Surge Arrestors are not required. Please confirm.
A25							Answer: Surge arresters shall be provided.
Q26	All	Technical	Electrical	Appendix A Section 5	6/32	5.2.4.8	Please specify inlet temperature of the cooling water for Motor
A26							Answer: The motor inlet cooling water temperature shall be 45c for sizing.

Q27	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-2011		The temperature on the roof is expected to fluctuate largely over the course of the day, where the temperature of the walls and floors will stay relatively static due to the protection from the sun and external temperatures. This variation in temperature between the roof and walls will create large stresses in the concrete roof / concrete walls which can lead to cracks in the concrete. The movement joints will protect the structure if the roof, wall and floor all stay the same temperature, but will not eliminate stresses caused by the roof being a different temperature than the walls. <i>Please confirm that in Kahramaa design the maximum possible movement has been taken into consideration when designing the reservoir roof slab and the Contractor will not be responsible for cracks in the concrete due to above temperature differential.</i> <i>(Page/Location is example from PRPS2, other sites similar)</i>
A27							Answer: The roof of the reservoir is insulated and hence the condition you are suggesting may not arise. However the structure is designed for the most onerous load combination that the structure may be subject to during its design life.
Q28	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-2011		Movement Joints appear to be placed in one direction of the reservoirs roof slabs (parallel to the 152m side), however no movement joints appears to be placed in the orthogonal direction (parallel to the 305m side). Please clarify the location of the movement joints on the reservoir roof slab. (Page/Location is example from PRPS2, other sites similar).
A28							Answer: No movement joints shall be provided in the short direction (152m). Only 3 movement joins shall be provided in the long direction. The above is applicable to reservoirs all sites.

Q29	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3506		Reinforcing in the bottom mat of the sloped sump area is not called out. Please confirm the bottom mat of reinforcing of the sloped sump area. (Page/Location is example from PRPS2, other sites similar)
A29							Answer: Provide T32-100 E/W . It is called out in the plan and marked in the section.
Q30	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3550		The Reinforcement for the C4 Columns is 18 #32 bars in a 600mm diameter column. This equates roughly to a 5% ratio of steel area to concrete area. Reinforced Concrete Industry code standard is to limit a column to 8% ratio of steel area to concrete area. At the lap splice location the ratio of steel area to concrete area would exceed the maximum allowed ratio percentage. Please confirm that in Kahramaa design these columns are not to include lap splices, and are to include full height steel or mechanical splices. (Page/Location is example from PRPS2, other sites similar)
A30							Answer: Laps may be staggered to reduce the percentage of reinforcement at a given cross section.
Q31	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3569		The wall reinforcement in the area of the sump / outlet pipes appears to be two layers of vertical T-32 bars at 100mm o.c. and two layers of horizontal T-32 bars at 100mm o.c.. Due to the large outlet pipe penetrating and disrupting the reinforcement, additional bars will need to be placed in the vicinity of pipe. As there is not enough space between adjacent bars to fit in another bar, these horizontal, vertical and diagonal bars will need to be placed in a third layer on each side of the wall. Please confirm that in Kahramaa design this was the intention when designing the wall. (Page/Location is example from PRPS2, other sites similar)
A31							Answer: Its acceptable to provide additional bars in the 3rd layer.

Q32	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3569	Item 4	The overflow weir in the Inlet Distribution is set to the same weir elevation as in the influent weir. In high flow events, or failure of an inlet flow control valve a large amount of water may be discharged to the drainage system. Typically the overflow weir is set to an elevation higher than the influent weir. <i>Please clarify.</i>
A32							Answer: Weir levels are calculated for the critical events. Refer to Hydraulic profile to understand the top water level scenario.
Q33	All	Contractual	Specifications	General Terms and Conditions & SoW/Specification	Page 15 & Appendix A		General Terms & Conditions, Page 15 states that "The contractor may be required to check, adopt and be responsible for the design carried out by Kahramaa or by others to the extent specified in Appendix A." Appendix A (A1 through A5), section 1.1.2 states that "The works shall include, but shall not be limited to the following: ... 2. All temporary works, including design ..." a) <i>Please confirm that these two clauses require that contractor shall take full responsibility for the design of the system as shown in the contract documents and be responsible to repair all problems.</i> b) <i>Please confirm the Contractor is entitled to time and cost VO to repair all problems occurred under item a) above.</i> c) <i>Please confirm if a) above is correct the contract then turns into an EPC contract that also covers on going pipeline contracts by others due to nature of pumping systems.</i>
A33							Answer: Refer to A11 of Tender Circular 6.
Q34	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-2014		Please confirm whether the parapet wall may be placed separately from the tank wall.
A34							Answer: The wall and the parapet could be cast in different pours.
Q35	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-2014		a) May the external water bar at the base of the wall be deleted as there is already one water bar at that joint? b) Please clarify and confirm the requirement for two.
A35							Answer: No, both external and internal waterstops are required.

Q36	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-2015		In order to verify the design, please provide the assumed thrust which the inlet pipes will induce into the inlet distribution chamber.
A36							Answer: The Contractor is not required to verify this element of design. The Contractor is required to verify designs related to final equipment selection. For all other elements, the contractor is required to satisfy themselves, that the construction drawings provided are fit for construction. No other formal third party design verification is required. The contractor is still required to include for third party inspections for quality and testing.
Q37	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3500		The base slab movement joints appear only be along one axis. Please clarify whether the intent is to allow movement in one direction, and restrict movement in the other direction.
A37							Answer: Reservoirs are analysed and designed as continuous structure with no movement joints at the short direction.
Q38	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3500		Please provide the drag coefficient assumed between the concrete and the membrane.
A38							Answer: The Contractor is not considered to require this information to build the works.
Q39	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3500		In the direction of the movement joint, and assuming the drag is at zero when it reaches the movement joint, please provide and clarify: a) percentage of the floor tension that is taken by the floor slab near the wall. b) when the floor slab reduces to 600mm, the floor tension and crack width seem to be in excess of allowable international standards.
A39							Answer: Refer to Q38.

Q40	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3561		The wall detail indicates 32mm bars spaced at 100mm for typical spacing. At splice locations, the spacing will be too close for aggregates to pass. Please confirm the wall rebar spacing.
A40							Answer: Splices have to be staggered to allow aggregate to pass.
Q41	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3561		The wall detail indicates a fixed connection at the top and bottom. The Climatic conditions on Site indicate a maximum temperature of 50-deg and a minimum temperature of 5-deg (AppA1B, Section 1.10). Considering a typical coefficient of thermal expansion of 10x10-6 /deg-C, the a wall which is 11m tall can be expected to grow vertically by approximately 5mm. Please confirm how this expected change in physical length will be accommodated.
A41							Answer: The wall is not expected to grow in length due to increase in temperature. The wall would likely bulge due to increase in temperature as it is restrained at the top and bottom.
Q42	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3561		The wall detail indicates a fixed connection between the wall and the roof. Considering the Climatic conditions and coefficient of thermal expansion, the wall is expected to change in length along the 150m axis (which has no expansion joint) by approximately 67mm. Please confirm how this expected change in length will be accommodated.
A42							Answer: Restraint to elongation induces stresses in the members and in the shorter direction, adequate reinforcement has been provided to take care of the stresses induced.
Q43	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3561		It appears that the T32-1000 spacers are embedded into the kicker by 300mm. We believe this is insufficient embedment to provide structural support. Please confirm this is the case.
A43							Answer: Spacers do not transfer forces hence full embedment is not necessary. If you require this from a construction point of view, please make suitable arrangements at site.

Q44	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3561		Please confirm the maximum number of horizontal construction joints in the wall.
A44							<p>Answer: 1 horizontal construction joints (minimum) shall be provided to divide the height of the walls in 2 segments. Refer to ST-1023 and ST-1024 for the intended CJ locations.</p>
Q45	All	Contractual	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3561		<p>The External wall indicates a rigid connection between the floor wall and roof. The rigid connection will transfer the bending moment from the liquid load to the roof slab which is only 350mm thick. Please confirm that the roof reinforcement is sufficient to resist this bending moment.</p>
A45							<p>Answer: Reinforcement provided is adequate. In this situation, the slab acts as a prop.</p>
Q46	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3561		<p>The wall detail indicates a fixed connection between the wall and roof. On the face of the wall which has an expansion joint, the base of the wall will be restrained by the friction between the base slab and the ground. The length of the wall is app.100m from the corner to the expansion joint and will expand by app. 45mm during the temperature change. As the top of the wall freely expands, the restraint at the base will induce large tensile stresses to the wall. <i>Please clarify how the expansion joint at the base is intended to work considering the friction on the base as related to the unrestrained wall.</i></p>
A46							<p>Answer: This information is not considered to be required to build the works.</p>

Q47	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3561		<p>The side of the reservoir without an expansion joint is bounded by fixed corners. The base slab, three sides of the walls and the roof all appear to be rigidly connected. Because of the expansion joint boundary conditions, the stress from these element will be concentrated at the corners and the vertical intersection of the walls.</p> <p>The anticipated liquid and temperature effects will overcome the stability of the structure and will induce cracking.</p> <p><i>Please confirm that the rigid corners will be able to compensate for the expected loading conditions.</i></p>
A47							<p>Answer:</p> <p>All structural members have been designed for the most onerous load condition that the structure may be subjected to during its operational life.</p>
Q48	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3562		<p>The baffle wall is rigidly connected to the roof. The length between expansion joints is approximately 100m. The expected expansion is 45mm for this roof section given the temperature parameters provided. The baffle wall will act as a shear wall resisting this expansion. The stress will be focused on the roof where the wall chamfer connects to the roof. This stress will induce cracking in the roof slab. <i>Please confirm that the stress is to be relieved between the expansion of the roof slab and parallel direction of the baffle walls.</i></p>
A48							<p>Entire structure has been designed taking into consideration elongation of the structure due to thermal expansion. Joints provided facilitate intended expansion of the structure. Further information is not considered necessary to build the works.</p>
Q49	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3563		<p>Please confirm that in the direction of the roof slab without expansion joints the expansion will be relieved.</p>
A49							<p>Answer:</p> <p>No movement joints shall be provided in the short direction (152m). Only 3 movement joins shall be provided in the long direction. The above is applicable to reservoirs all sites.</p>

Q50	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3562		The baffle wall is expected to expand by 45mm in one direction and 22.5mm from the center section. The expansion joint is 50mm thick. Please clarify.
A50							Answer: Baffle wall movement is controlled by the roof and base slab which are monolithically connected.
Q51	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3562		As the roof slab expands and contracts, the base slab movement will be much less. Please clarify if the intent for the baffle wall is to resist this strain or it is the base slab expected to move with the roof slab.
A51							Answer: Baffle walls have been designed to resist the forces that may arise due to temperature effects in addition to resisting gravity and lateral loads.
Q52	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3562		The horizontal baffle wall reinforcement is unable to penetrate the wall reinforcement due to the tight spacing of the four layers of 32mm rebars. Please provide details as to how the baffle wall reinforcement ties into the exterior wall.
A52							Answer: The contractor is required to do additional detailing over and above the information given.
Q53	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3564		The divider wall indicates a rigid connection between the floor wall and roof. In the condition where one cell is empty and the other is full, the rigid connection will transfer the bending moment from the liquid load to the roof slab which is 350mm thick. Please confirm that the roof slab is sufficient to resist the bending moment from the wall.
A53							Answer: All structural members have been designed for the most onerous load condition that the structure may be subjected to during its operational life.

Q54	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3564		With the dowel bars closer to the center of the wall, their ability to resist bending is significantly reduced. Please confirm that there is intent to resist out-of-plane shear only.
A54							Answer: Dowels are designed to resist shear force alone.
Q55	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3564		With the dowel bar spacing at 600mm, there will only be approximately 36 dowel bars restraining the total shear from the water load. This is significantly less than the typical reinforcement. Please confirm that the dowel bars are sufficient.
A55							Answer: The quantity of reinforcement in the walls is governed by flexural and axial load considerations and not necessarily shear considerations. The dowels have been designed from a shear consideration. Further data on the dowel bars is not considered necessary to price the works.
Q56	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3564		In the condition where the center compartment is full, and the compartments on both sides are empty, the tension in the floor of the center compartment will be magnified. Please confirm that the 600mm floor slab is sufficient to resist the tension and bending moment resulting from this condition while maintaining serviceability requirements.
A56							Answer: All structural members have been designed for the most onerous load condition that the structure may be subjected to during its operational life.
Q57	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3565		Considering the rigid connection between the roof and the compartment wall, there is a loading condition where a roof live load will combine with the liquid load. This could increase the stress and crack width in the wall and roof. Please confirm that this combination has been considered.
A57							Answer: Refer to A57.

Q58	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3565		Where the compartment wall intersects the exterior wall, the rebar is too congested to connect. Please provide details as to how this is to be accomplished.
A58							Answer: The contractor is required to do additional detailing over and above the information given, and should make an assessment of this for his shop drawings, based on design information provided to the successful bidder.
Q59	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3567		There is no footing toe specified on the exterior wall. Earth pressure acting on the wall in an empty tank condition, and liquid pressure acting on the wall without earth pressure will induce a large bending moment in the floor slab where it transitions to 600mm. This could be minimized by the addition of a footing toe or key. Please confirm that these elements are not needed.
A59							Answer: The design is safe and takes into account the forces developed due to the intended loads. Additional elements are not required.
Q60	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3569		The sloped sump wall appears to be relying on passive earth pressure to resist the liquid load. This is generally not acceptable in the design of liquid-containing structures as passive earth pressure is not as reliable as the liquid pressure it must resist. Please confirm the passive earth pressure values assumed for the sloped sump wall.
A60							Answer: This assumption is not correct. Passive pressure has not been considered for stability of the slab.
Q61	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3570		The perforated wall is indicated as a load-bearing wall. This wall connects the structural wall with the baffle wall and the roof. Moments induced on any of these elements will be transferred and will concentrate at the corners. Please confirm that every loading condition on this rigid element has been satisfied.
A61							Answer: The details provided are adequate to cater to the forces that the wall is intended to resist.

Q62	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3572		With the dowel bar spacing at 600mm, there will only be approximately 36 dowel bars restraining the total shear from the water load. This is significantly less than the typical reinforcement. Please confirm that the dowel bars are sufficient.
A62							Answer: Refer to A56.
Q63	PRPS 2	Technical	Civil/Structural	C100-MQ174-A-DH-D-00			Referring to TC#02 and the earthworks drawings of the enabling contractors, we checked the levels and found the following: - all reservoirs need throughout the whole area still excavation because the excavation levels are too high for blinding, drainage, thickening of slab, chambers, etc. - Lagoon No. 2 and Lagoon Standby need more than another meter excavation under this contract - Lagoon No. 1 has completely to be excavated under this contract Please confirm the above mentioned understanding of the drawings attached to TC#02.
A63							Answer: The contractor should be aware that the enabling works have been implemented to speed up the process. They are not intended to be the total excavation required.
Q64	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-ST-4521A-4524A			Compression loads for P1-P4 are shown as 8000 kN. The compressive stress under working load shall not exceed 25% of the concrete strength as per BS 8004. 8000 kN is high for an 800mm dia pile & need minimum C65 concrete grade to avoid overstressing of concrete. The recommended concrete is grade 40. Please clarify it.
A64							Answer: The grade of concrete indicated in the drawings is the minimum required. Higher strength concrete can be used if required. Alternatively the pile diameter could be increased.
Q65	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-ST-4521A-4524A			Please advise maximum lateral loads to be considered for the design.
A65							Answer: It is taken as 10% of the maximum axial capacity of the pile.

Q66	All	Technical	Civil/Structural	MQ174-R1-DH-CI-3270A			Please provide the internal finishing of overflow and flood relief channel.
A66							Answer: Refer to QCS 2010, Section 8 - Part 3, clause 3.3.4.
Q67	All	Commercial	Appendix A	General			Please confirm the Kahramaa standard rate for water supply.
A67							Answer: The Kahramaa rates may be found on their web sites. The Bidders should price their bid using QAR 5.2/m3. Should the applied rate for purchase of water from Kahramaa be different, then this shall be subject to a variation. The water shall be supplied from existing mains and the contractor sill be required to pay costs for moving it from that location.
Q68	All	Commercial	Item coverage	General Terms & Conditions of Contract		Article 11.8	The Contract price is deemed to include for disruption caused by Kahramaa's urgent operational requirements. Please clarify which of operational requirements shall be considered by the Contractor in order to evaluate the impact on the programme.
A68							Answer: This covers operational requirements that occur at the time of the works and could include scenarios such as emergency repairs, scheduled maintenance, and new connections.
Q69	All	Commercial	Item coverage	General Terms & Conditions of Contract		Article 12.10	Please clarify if the period of 45 days is the complete period from submittal of the Contractor to Kahramaa or if the 45 days is an add on a approval period for the Contractor's submitted invoice. In case it is an add on, please specify the approval period for the invoice.
A69							Answer: This period of 45 days is the duration from the approval of the contractors invoice to the payment of it. Should the invoice not be approved this period will start again at the point that it is.

Q70	All	Commercial	Item coverage	Appendix A1		Article 1.55 or 1.56	<p>Co-Ordination with other Contractors: It is mentioned that other Contractors are working concurrently and that the Employer shall not be responsible for any payment or extension of time arising thereof. In order to evaluate the impacts on the programme or our costs, please specify the following:</p> <ul style="list-style-type: none"> - which other contractors are related to this project; - which is the scope of works and their programme;
A70							<p>Answer: This is as given in item 1.55 of Appendix A1 for each site.</p>
Q71	All	Technical	Electrical				<p>Please provide CAD Drawings for the Electrical, Automation systems.</p>
A71							<p>Answer: These shall not be provided.</p>
Q72	All	General	General	N/A	N/A	N/A	<p>Please send us the Specifications for GRP liner required for storm water RC Pipelines.</p>
A72							<p>Answer: Refer to QCS section 8, part 3, item 3.3.4.</p>
Q73				VFD TRANSFORMER			<p>There is no specification for Converter duty phase shift transformer though reference to this is made in MEPF specification 7.4.I.B and cross reference to MEICA. For converter duty transformers please provide the right specification that needs to be considered for adapting the offer with right accessories and test.</p>
A73							<p>Answer: The Bidder shall refer to Appendix A5, clause 5.3.4.1.</p>
Q74				MOTOR			<p>Is there a need for Neutral TB? VTs are not relevant due to VFD operation.</p>
A74							<p>Answer: Protection shall be provided as referenced in the specifications.</p>

Q75	All	Contractual	ITT		10/34	IT.16	An "attested copy of certificate showing specimen signatories authorized to sign the form of Tender and Form of Agreement" is required to be submitted with the Technical Package and the Commercial Package. Please clarify the type of attestation required. Please also clarify who is required to issue the certificate in the case of an unincorporated joint venture.
A75							Answer: The company's or Consultant's Computer Card is the type of attested certificate that shows the specimen of authorized signatories. In the case of an unincorporated joint venture, the JV contract between the parties should state who is the authorized signatory, who should be in the list of authorized signatories in the computer card of one of the JV parties.
Q76	All	Contractual	ITT				Please confirm whether this project is coming under Supreme committee worker's welfare standards and we have to make an allowance according to the requirement of not.
A76							Answer: This project shall comply with all Qatari Laws, both current and new, regarding welfare standards.
Q77	All	Technical	Electrical				As per the tender Approved vendor list for 11 KV Switch Gear and Transformer the specified vendor M/s. Hyundai is not a Kahramaa Approved Manufacturer. Please confirm if we can consider the Kahramaa approved vendors.
A77							Answer: The Bidder shall not vary the Vendor list given.

Q78	PRSP2	Technical	Site Establishment	Scope of Works	Page 9/70	1.1.3.3	The clause states " The Contractor shall be responsible for obtaining approvals for all temporary access roads, and for connections with public roads and highways....as necessary for approval of site access roads."We understand that since the earthworks contractor will be working on the vicinity complete with installation of the temporary site boundary fence, the temporary access roads and respective approvals referred is already acquired by the earthworks contractor. Please clarify and confirm.
A78							Answer: Due to the ongoing developments around the PRPS sites, some of the existing accesses might be altered or removed. It is the contractors responsibility to ensure that the temporary accesses are available for them and/or obtain all the necessary approvals to provide alternatives.
Q79	All	Technical	Electrical	Appendix A Section 5	27/32	5.3.4.5.2	Require test specifications for convertor Transformer (Phase Shift Transformer).
A79							Answer: Refer to datasheets attached to Tender Circular 7.
Q80	PRPS 2	Technical	Mechanical	GTC626_2014-AppA7.3_PRP_S_MEPF-HVAC-Mech_Rev 1	7.3.36	All	Kindly confirm if alternate Country of Origin for the specified vendors shall be accepted.
A80							Answer: An alternate country of origin shall not be accepted.
Q81	PRPS 1	Technical	Civil				Please clarify in which item the excavation price to be considered in BOQ.
A81							Answer: Excavation is to be included within the price of the item to be excavated.

Q82	All	Contractual	App. A1 Scope	Appendix A		1.2.1	Milestone 1: complete the bypass pipeline between incoming corridor main and the transmission main including installation of valves and construction of valve chamber to allow water to be passed into service. We presume bypass pipeline means installation of pipes connecting to transmission mains corridor at site boundary wall to reservoir 1 & 2 inlet distribution chamber. Please confirm
A82							Answer: Not Confirmed. The bypass pipelines refer to the pipelines that cross connects the incoming Corridor Main pipelines to the outgoing transmission main pipelines.
Q83	PRPS 2	Contractual	App. A1 Scope	Appendix A	Page 36 of 70	1.2.2	Milestone 2 -Reservoir 1 : Within eighteen (18) months of the Effective Date of Contract the Contractor shall complete the construction of reservoir number 1 ready for hydrostatic testing. But for all the remaining packages it is 21 months. As technical package to be submitted in common for all the packages, the schedule of work can't be done in common for this case. Please clarify.
A83							Answer: The Contractor is required to submit a separate schedule for each site.
Q84	All	Technical	Electrical	Appendix A Section 5	27/32	5.3.4.5.2	Require test specifications for convertor Transformer (Phase Shift Transformer)
A84							Answer: Data sheets for this were provided in Tender Circular 7.
Q85	All	Technical	Civil/Structural	Appendix Drawing			MQ174-R2-DH-CI-1100, MQ174-R2-DH-CI-1120, MQ174-R2-DH-CI-1121, MQ174-R2-DH-CI-1109; As per the site visit, there are some excavated area already. Please kindly clarify excavation depth and area.
A85							Answer: Excavated areas shall be as shown on the Enabling Earthworks drawings.

Q86	PRPS1	Technical	Item Coverage	Circular-2			Referring to circular No-2, provided AutoCAD drawings for the package 1 is incomplete. Please provide all the drawings for the same.
A86							Answer: As stated a selection of AutoCAD drawings are provided to assist the bidder. This is not intended to be a complete set.
Q87	PRPS2	Technical	Quantities	BQ no.8	24/11		Referring to BOQ 8/24/11, item 8.4.11 shows 5 no's water quality monitoring buildings, where as in the drawing (AR-9500) there are 8 nos. Please clarify.
A87							Answer: PRPS1 has 4 number Water Quality Monitoring buildings, PRPS2, PRPS3, PRPS4 and PRPS5 has 5 numbers Water Quality Monitoring buildings for each PRPS site.
Q88	All	General	Contract Award	ITT	11	IT.20	Please clarify if the starting dates of all contracts will be the same or there will be considerable time difference between the starting dates of various contracts
A88							Answer: The Planned Effective Dates of Contracts (EDC) for all the PRPS sites are the same. However, Kahramaa reserves right to adjust the EDC to suit specific site requirements, if any.
Q89	All	General	Project Duration	General Conditions of Contract	10	Clause 1.56 from Article 1: Definitions	As per the clause, starting date of "Time for completion" can be Effective Date of Contract or date of starting the works activity. Please clarify if the effective starting date of the project duration will be the Date of "Notification of Contract Award" or "Effective Date of Contract" or Date of Signing the Contract or Date of Receipt of Construction Order or Date of Mobilization
A89							Answer: Refer to the General Conditions of Contract, Articles 1.27 and 1.56.

Q90						Firm X is participating in the tender and is a wholly owned subsidiary of Firm Y. Firm X does not meet the technical and financial criteria set in the tender notification. Can the firm X submit the financial & technical credentials of firm Y in order to participate successfully in the tender. Please clarify.
A90						Answer: This shall be reviewed during the Technical Evaluation.
Q91						PRPS 1 - Contractual - App. 1 Scope - 1.2 Time for completion: All packages other than PRPS 1 are stated to be handed over to the Contractor as excavation works are completed. However, time for completion for all packages are stated to be 36 months. Considering the high quality of excavation that will be performed by the Contractor of PRPS 1 as an additional scope compared to other packages, we assume that the time for completion for PRPS 1 as 36 months should be the time of execution of works excluding excavation works. Please confirm.
A91						Answer: The Time for Completion for PRPS1 of 36 months shall include all works required to complete the works including all necessary excavation works.
Q92						All - Commercial - Circular 6 - Q21/A21 & Q22/A22: It was clarified that the Contractor shall be required to prepare and pay all temporary and permanent connection fees. Kindly identify in the BOQ where this item is measured. Otherwise, please provide revised BOQ containing this item.
A92						Answer: This shall be included within the contractors rates.

TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 06/07/2014	TOTAL PAGES: 5+25
To: All Bidders	Fax:	
For the Attention of: General Manager	Our Ref.:	TA/TW/TWM/14/FX- 1207
Subject: GTC 626/2014 - CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 09

TENDER CLARIFICATION

1. Notice of amendment

1.1 CD for collection:

The bidder is requested to collect a CD, containing updated data as referenced below, from the 19th Floor of Kahramaa Tower 1 from Tuesday, July 1st 2014.

1.2 Revised Appendices:

As a result of the technical queries, a number of sections within Appendix A5, A6 and A7.4 have been updated, as listed below.

Appendix A5 -Electrical Specifications

The following sections have been modified:

- 5.2.4.1 General
- 5.2.4.2 Motor Rating
- 5.2.4.3 Duty Type
- 5.2.4.8 Cooling
- 5.2.4.12 Bearing
- 5.2.4.13.1 Bearing Vibration Velocity and amplitude
- 5.2.4.13.2 Vibration Monitoring
- 5.2.5.2.2 Final Tests
- 5.3.3 Design Consideration
- 5.3.3.1 General
- 5.3.4.2 Frequency Converter
- 5.3.4.2.1 General
- 5.3.4.2.1.3 Auxiliary Voltage
- 5.3.4.2.1.10 Operator Panel
- 5.4.16 Spare Parts and Accessories

| Page 1

Warning: this fax and any attachments may contain information which is confidential. They should not be disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax as soon as possible so that he can take appropriate action.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : تلفون - (974) 44845333
م ب : 41 الدوحة - قطر



Appendix A6 – Instrumentation:

The following sections of appendix A6 have been modified.

Section No.	Section Title
6.2.5 E I K	Signal Categories Core Identification Outer Sheath Cable Identification
6.2.6	Fabrication Requirements Analogue Signal Cable Digital Signal Cable
6.3.3 A 1 2	Technical Requirements for Flow Instruments Electromagnetic Flow Meter General Flow Sensor
6.3.5 B C	Technical Requirements - Level Instruments Level Switches Level Transmitter - Ultrasonic Type
6.3.6 A 7	Temperature Instruments Platinum Resistance Thermometer (RTD) Elements for Pressure Vessels Transmitters
6.3.7	Condition Monitoring System
6.3.8 B C D E F G H I J	Water Quality Analysers Water Quality Analyser Transmitters Residual Chlorine Chlorine Dioxide Conductivity pH Analyser Turbidity ORP Analyser Temperature Transmitter for Water Quality Analyser Rack
6.4	Electrical Instrumentation and Control
6.5	Instrumentation Identification



Appendix A7.4 – MEPF - Electrical

Due to errors within the numbering, the contents of this Appendix have been renumbered:

Old Number	New Number
8.4.1	7.4.10
New	7.4.11
8.4.2	7.4.12
8.4.3	7.4.13
8.4.4	7.4.14
8.4.5	7.4.15
8.4.6	7.4.16
8.4.7	7.4.17
8.4.8	7.4.18
8.4.9	7.4.19
8.4.10	7.4.20
8.4.11	7.4.21
8.4.12	7.4.22
8.4.13	7.4.23
8.4.14	7.4.24
8.4.15	7.4.25
8.4.16	7.4.26
8.4.17	7.4.27
8.4.18	7.4.28
8.4.19	7.4.29
8.4.20	7.4.30
8.4.21	7.4.31
8.4.22	7.4.32

In addition, further modifications have been made as listed below:

- Section 7.4.1 Item 1.41 Add ' and MCCs' to title
 - Item 1.18 SPARES, part B added;
- Section 7.4.2 Deleted from here, moved to Appendix7.1, Item 7.1.19;
- Section 7.4.4 Item 1.21 EARTH ELECTRODE SYSTEM page 51 in doc Typo corrected;
- Section 8.4.1 260800 Commissioning of Electrical Systems : (Now section 7.4.10), item 1.29
 - Item 1.30 heading removed. Replaced as 1.29 A and B;
 - A. Contractor is not relieved of responsibility in providing other procedures whether or not indicated in the above listing, to ensure that all services perform and function as intended for the project.
 - B. Where bespoke systems are specified either refer to testing and commissioning within that series specification, provide tests as per manufacturer recommendations and refer to the "Scope of Works" specification.





New section 7.4.11 added: 26 0923 - Lighting Control Devices:

- Section 8.4.3 (Now section 7.4.13) Item 1.17 BUS-BAR EARTHING added.
- Section 8.4.16 (Now section 7.4.26) Item 1.10 240 V AC modified

1.3 Additional Drawings

The attached CD contains the following drawings:

- Hook Up Drawings for instrumentation for all sites
- PRPS1 - Topographical data
- PRPS 3 - Earthworks – the drawings previously submitted were the original tender drawings. During construction these were modified. The attached drawings are the latest issue of them.

1.4 Mechanical Data Sheets

The following mechanical data sheets may be found in the attached CD:

015	Main Pumps
016	Recirculation Pumps
017	Scour Pumps
018	Drain Down Pumps
020	Tanker Filling Station
021-1	Gantry Crane - Main Pumping Station
021-2	Gantry Crane - Chlorination Building
021-3	Gantry Crane - Maintenance/Workshop Building
022	Monorail Crane - Utility Pumping Station
023	Surge Vessels Transmission
024	Surge Vessels CPS
025	Air Valves
026	Butterfly Valves
027	Gate Valves
028	Non Return Valves
029	Flow Control Valves
030	Bypass Flow Control Valves
031	Quick Closing Valves
040-1	Gantry Crane - Auxiliary Pumping Station
040-2	Gantry Crane - Tanker Filling Pumping Station
041	Reservoir Inlet Flow Control Valve
042	Pressure Sustaining Valve - TFS



Reply to Tenderers Clarifications

Please find attached a table, containing replies to your clarifications.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,


ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW,GTC, File



| Page 5

Warning: This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax as soon as possible. Confidentiality is not guaranteed if lost by misdirection or interception.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 - (974)44845333
ص. ب : 41 الدوحة - قطر



No	PRPS site	Query	Subject area	Document/drawing no	Page/Location	Clause/Item	Query and Answer
Q1							Please clarify the width of internal PVC water stop.
A1							<p>Answer: The minimum width for the internal and external waterstops shall be 250mm and 300mm respectively.</p>
Q2							<p>All PRPSs – Technical – IT.25.1 – Page 14/34 – Item 25.1.a: The evidence submitted with the Tender shall consist of the following: a)List of main plant and civil works of equal or similar size and/or capacity within GCC and internationally as noted in the invitation to Tender. Regarding to the above requirement, we understand that a similar GCC reference of the bidder is not a must of the qualification criteria of the submission. Please confirm.</p>
A2							<p>Answer: The contractor is required to comply with requirements in the ITT and the invitation to tender.</p>
Q3							<p><u>PRPS 5 – Technical – Geotechnical – Appendix A, A9C-G1, Factual Report:</u> This document consists of up to page no. 20 and the remaining pages are missing. Please provide the updated document for groundwater monitoring data.</p>
A3							<p>Answer : A further copy of this was issued under tender circular 7.</p>

Q4						<p><u>PRPS 1 – Technical – Civil/Structural – Appendix A – Civil & Structural Specification:</u></p> <p>Please confirm the mix of concrete in contact with earth is GGBS+OPC+SF or PFA+OPC+SF and exposed concrete above ground is GGBS+OPC or PFA+OPC.</p>
A4						<p>Answer:</p> <p>Concrete mix design for all elements shall follow the specs clause 2.1.3.1 Concrete, B: Concrete mix design, further details for the questioned elements are given below:</p> <p>1. Concrete mix for elements in contact with soil/waterproof membrane shall be class "C" Waterproof Concrete (WPC) with cement ingredients of (GGBS+OPC+SF) OR (PFA+OPC+SF) For elements above ground (superstructure):</p> <p>2.1. GGBS+OPC or PFA+OPC shall be used for all external elements and for internal elements in uncontrolled environment (eg open structures).</p> <p>2.2. OPC shall be used only for internal elements in controlled environment (eg internal column/slab/beams in air conditioned buildings).</p>
Q5						<p><u>All PRPSs – Technical – Mechanical – Specs. A.4 – Page 6/108 – Item 4.2.1.4:</u></p> <p>Appendix A 4, Clause 4.2.1.4 Standards and Codes lists "Qatar General Electricity and Water Corporation": Standards, Specifications and Regulations". We are unable to find a copy of this document. Can a copy be issued as a tender document?</p>
A5						<p>Answer:</p> <p>KM standards relate to those given in Appendix A.</p>

Q6							<p>PRPS 2 – Technical – Item Coverage – BOQ. 8 – P. 14/26 – Item 8.6.2: Kindly confirm if item 8.6.2. is referring to the drawing MQ174-R2-DH-HW-1001 (Temporary Access roads).</p>
A6							<p>Answer: The Main Access road has to be constructed by the PRPS contractor up to limit of work. No temporary roads are included in the BOQ.</p>
Q7	PRPS 1	Technical	Electrical	MQ174-R1-DH-SE-2251			<p>SoW as per BOQ-PRPS 1-Bill 5 - M&E - Supply Item 5.2.2.2 is giving number of LV Variable speed drives with 4 Nos. and Single line diagram as per MQ174-R1-DH-SE-2251 is showing 4 nos. and 2 nos. FUTURE. However, SoW as per GTC626-App. A1A-PRPS 1 Scope rev. 1, Clause 1.1.3.22 is requesting: 3 nos. 11/0.415kV transformers for process pumping; Confirm delivery of FUTURE without VSD drives and VSD motors.</p>
A7							<p>Answer: For the low voltage process pumps these are paired so that there are two pumps per transformer. For the first 4 pumps we will install only 2 transformers and the third transformer in future for the additional 2 pumps. This third 11/0.415kV transformer shall be installed under a future contract.</p>
Q8	PRPS 2	Technical	Electrical	BOQ - PRPS 2 - Bill 5 - M&E- Supply.pdf	Item 5.1.1.2	-	<p>SoW as per document BOQ - PRPS 2 - Bill 5 - M&E- Supply.pdf Item 5.1.1.2 Indicates qty of MV panels at 17 nos. whereas single line diagram as per document MQ174-R1-DH-SE-2205.pdf shows 20 Nos.</p>
A8							<p>Answer: The design drawings are to take precedent. Panels are to be provided for all future equipment.</p>

Q9	PRPS 2	Technical	Electrical	BOQ - PRPS 2 - Bill 5 - M&E- Supply.pdf	Item 5.1.1.6	-	SoW as per document BOQ - PRPS 2 - Bill 5 - M&E- Supply.pdf Item 5.1.1.6 indicates qty of MV panels at 7 nos. whereas single line diagram as per document MQ174-R2-DH-SE-2203.pdf shows 9 nos.
A9							Answer: The design drawings are to take precedent. Panels are to be provided for all future equipment.
Q10	PRPS 2	Technical	Electrical	BOQ - PRPS 2 - Bill 5 - M&E- Supply.pdf	Item 5.1.1.1	-	SoW as per document BOQ - PRPS 2 - Bill 5 - M&E- Supply.pdf indicates types of MV panels: - 6 Nos. Incomers - 11 Nos. Outgoing whereas single line diagram as per document: MQ174-R2-DH-SE-2204.pdf indicates - 6 Nos. Incomers - 11 Nos. outgoing feeders - 3 Nos. bus couplers
A10							Answer: The design drawings are to take precedent.
Q11	PRPS 2	Technical	Electrical	BOQ - PRPS 2 - Bill 5 - M&E- Supply.pdf	Item 5.1.1.2	-	SoW as per document BOQ - PRPS 2 - Bill 5 - M&E- Supply.pdf indicates types of MV panels: - 6 Nos. Incomers - 11 Nos. Outgoing whereas single line diagram as per document: MQ174-R2-DH-SE-2205.pdf indicates - 6 Nos. Incomers - 11 Nos. outgoing feeders - 3 Nos. bus couplers
A11							Answer: The design drawings are to take precedent.

Q12	All	Technical	Mechanical		Mechanical specifications	<p>We refer Mechanical specification & states surge & hydraulic study by the bidder. To execute this please provide the following</p> <ul style="list-style-type: none"> - Lengths, thickness and material type of each pipes - Detailed elevation of pipes and its routs - Detail of authoritative pipe roughness factor - Detail of main local loss factors inside the pipe route - Details of used main valves along the several pipe routes, regarding closure time, type, loss factor, emergency closure routines, valve curves regarding CV (opening degree related to throughput capacity) - Details of other related pumps in the system like pump head, pump flow, pump curve, polar moment of inertia, efficiency, pump type, NPSH values for pumps, energy consumption, rated pump speed, pump with or without variable speed drive, minimum stable flow of the pump, maximum allowable flow of the pump - Position of every existing air valve along the pipe routes - Type of air valve, size, function (air release, air inlet or both), supplier of air valves, erection condition on pipe (with or without valve), pipe axis elevation at valve position, elevation offset of the air valve above the pipe - Details existing equipment for surge protection, like number of vessels, location, size in volume, inlet pipe diameter, valves at vessels, elevation of vessels, sectional area of vessels, operation principle of vessels (level controlled or air mass controlled), vertical or horizontal erection mode, check valves at vessels yes or no, orifice plates yes or no and type and parameter - Details of connected reservoirs like elevation, bottom level, overflow level, inflow level, volume & valve equipment
A12						<p>Answer: Surge Analysis shall be updated by the tenderer based upon an existing model, according to specific equipment procured. Full details of the systems shall be provided to the successful Bidder.</p>

Q13	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-CI-2000 to 2012		Please confirm if the site grading works as shown in referred drawings are part of Enabling work Excavation Contractor. If it is part of PRPS Contractor, please provide topographic / existing ground layout.
A13							Answer: Final site grading works are part of GTC626. The contractor has been provided with the drawings for the enabling works contracts under tender circular No 2.
Q14	All	Technical	Quantities	Appendix B	9/18/3	9.1.9	Design, supply, install, testing and commissioning of surge system including surge analysis to be carried out by the contractor. Please confirm whether surge analysis will be carried out by the Employer and any change in design shall be subject to variation.
A14							Answer: Refer to response A17.
Q15	All	Technical	Civil/Structural	Appendix A	9/70 -of PRPS2, 9/68 -of PRPS3, 9/70 -of PRPS4, 9/68 -of PRPS5	1.1.3.3	Reference to the clause as mentioned: The Enabling work, Earthworks Contractor is contracted to release the site areas for reservoirs 1 & 2, the main pumping station and lagoons 2 & 3 to allow this PRPS Contract (GTC-626) to commence. The remaining earthworks will continue after GTC-626 Contract has commenced. Please provide the exact commencement date for the other reservoirs 3,4 & 5 to schedule the construction activities of GTC-626.
A15							Answer: The Contractor shall be handed the whole of the site upon his effective date.

Q16	All	technical	Civil/Structural	ST-1023	Notes	Note 3	<p>It is mentioned on the drawings and in the specs that all waterproofing materials shall be obtained by one single supplier. Please confirm that the water stops can come from a different supplier than the waterproofing membrane and the roofing membrane system from another supplier as well.</p>
A16							<p>Answer: This is acceptable, however all membranes shall be from one supplier and all water stops shall be form one supplier.</p>
Q17	All	Technical	Architectural	MQ174-R1-DH-AR-1540 A			<p>Open court yard floor finish is missing from the main pump station building drawings. Please issue a revised drawings with details.</p>
A17							<p>Answer: Open courtyard ground are landscaped, refer to LE-1002 for details.</p>
Q18	PRPS 1	Commercial	Item coverage	BOQ no.5	5/3/12	5.1.2	<p>No BOQ item for 2 Nos of low voltage switchgears for remote substation 1&2</p>
A18							<p>Answer: See Item 5.1.2.3 for low voltage switchgear</p>
Q19	All	Contractual	Specifications	App. A7.4	102/263	8.4.3/1.9A4	<p>"The spare parts list shall be approved and finalized by Qatar Cool." Please clarify the role of "Qatar Cool" in this project</p>
A19							<p>Answer: This shall be rewritten to the spare parts list shall be approved and finalized by Kahramaa.</p>
Q20	PRPS 1	Commercial	Quantities	BOQ No5	5/1/12	5.1.1.1	<p>The No of incoming/outgoings according to BOQ are 6/11 respectively and according to SLD DWG No MQ174-R1-DH-SE-2200 Rev1 are 5/8 respectively. Please confirm which one to be followed.</p>
A20							<p>Answer: The design drawings are to take precedent.</p>

Q21	PRPS 1	Commercial	Quantities	BOQ No7	7/2/10	7.2.1.8	We understand that BOQ item shows the No of temp. sensors for both Pump & Motor bearings. Since the Motor bearing temp. sensors are pre fitted on the Motor by the manufacturer, so we think that BOQ qty to be revised to include the Pumps only.
A21							Answer: Prices for all the sensors required for Pumps and Motors are to be included with the Pump set as specified and as per drawings.
Q22	PRPS 1	Commercial	Quantities	BOQ No7	7/2/10	7.2.1.7	The qty of Vibration sensors in BOQ and P&ID drawing ref MQ174-R1-DH-PI-1010 doesn't agree with appendix A5 page 8/32 item No 5.2.4.13.2, please confirm the qty of Vibration sensors.
A22							Answer: Prices for all the sensors required for Pumps and Motors are to be included with the Pump set as specified and as per drawings.
Q23	PRPS 3	Commercial	Quantities	BOQ No7	7/2/9	7.2.1.8	We understand that the BOQ item shows the No of temp. sensors for both Pump & Motor bearings. Since the Motor bearing temp. sensors are pre fitted on the Motor by the manufacturer, so we think that BOQ qty to be revised to include the Pumps only .
A23							Answer: Prices for all the sensors required for Pumps and Motors are to be included with the Pump set as specified and as per drawings.

Q24	All	Technical	Architectural	MQ174-R1-DH-ST- 4741	Main Pump Station Building		Please specify wall finish of wall type 5 indicated in the drawing from level +11.275 to +12.725m.
A24							Answer: As shown on Sections, drawing nos. AR-1653 and AR-1654, wall finish on the specified location is WF-6 which refers to Epoxy coating on 20mm thick plain cement plaster on synthetic membrane plasticized PVC, 3.0mm thick waterproofing on reinforced concrete wall or column.
Q25	All	Technical	Architectural				Kindly provide the details/drawings of 19mm thick solid epoxy resin worktop with 100mm applied backsplash as shown in the Laboratory 1 & 2 of drawing no. MQ174-R1-DH-AR-3500 Rev. A
A25							Answer: Prefabricated laminated cabinets with 19mm thick solid epoxy resin worktop glued on 19mm thick plywood. Formica laminated door finish, shelves carcass.
Q26	All	Technical	Civil/Structural	BQ No. 8/7.7			Reference to the BOQ under the laying of and jointing of pipe items (8.7), it refers for the initial testing, swabbing and flushing only. While in the general specification of the main laying contracts it refers also for the final testing, please clarify if we should allow for final testing under these items.
A26							Answer: Description clearly states "All tests required" which shall include the final testing.

Q27	PRPS 1	Technical	Architectural	MQ174-R1-DH-AR-1890-A & 1540-A	Main Pumping Station	Doors & Windows	Please confirm the quantity for D06 as there are discrepancies between floor plan and schedule. Assumed the floor plan is correct.
A27							Answer: The drawings are correct. There are 4 nos of D-06 shown on plans, refer to drawing nos. AR-1538, AR-1540 and AR-1542 for door locations on plans.
Q28	PRPS 1	Technical	Architectural	MQ174-R1-DH-AR-4055-A	Auxiliary Building	Doors & Windows	In sections it specified door is fire rated. Even though number of hour it fire rated is not specified in the schedule. Please clarify.
A28							Answer: D-01 and D-02 are one-hour fire rated doors. Schedule of Doors, drawing no. AR-4055, will be updated to show the fire rating.
Q29	All	Technical	Electrical	Appendix A Section 5	8/32	5.2.4.15	We feel there is a need for Neutral TB to check winding resistance during routine maintenance without affecting main terminal connections. Please include in specs.
A29							Answer: The specification shall not be modified.
Q30	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3550		The bar spacing on Column C4 is approximately 77mm with 18 vertical bars. At splice locations, the clear spacing between rebars will be approximately 13mm, which is smaller than the aggregate size. Please confirm this column reinforcement.
A30							Answer: Splice the bars such that the spliced bar is not adjacent to the next bar but behind the bar that needs to be spliced and crank the spliced bar. This will not reduce the spacing.

Q31	All	Technical		MQ174-R1-DH-AR-3500			Drawing No. AR-3500 Floor Plan shows Wall Type WT3.N, but WT3.N is not shown in the Wall Types Legend, please provide detail of Wall Type WT3.N.
A31							<p>Answer: Wall type WT3 - 200mm thk Concrete Hollow Block Wall to underside of slab will be added on the Legends. N refers to Non-fire rated as shown on Fire rating description on legends.</p>
Q32	All	Technical		MQ174-R1-DH-AR-3500			<p>Drawing No. AR-3500-Wall Type Legend, shows WT1 Cavity Wall Type 1 as WT1.1 - Cavity Wall Type 1 200mm thk. Concrete Hollow Block Wall, 100mm thk Mineral Fiber Battas Insulation, 100mm thk Concrete Hallow Block Wall, Reinforced Concrete, but no detail of reinforcement shown. Please provide.</p>
A32							<p>Answer: The Reinforced Concrete shown on the description of Wall Type WT1 refers to the Precast Concrete. Details shall be finalized by the Precast manufacturer.No reinforcement is required in the block wall except stainless weld mesh every alternate layer between the block skins.</p>

Q33	PRPS 1	Technical	Architectural				<p>Please provide architectural drawings for the following structures to be able to quantify the required finishes.</p> <ul style="list-style-type: none"> - Bulk fuel store - Single Bulk Fuel store - Surge Vessel - Drainage Lagoons
A33							<p>Answer: All below ground structure will have an interior wall, floor and ceiling finish of epoxy paint. No architectural drawings will be produced for these underground structures. Please refer to structural drawings for details.</p>
Q34	PRPS 5	Technical	Architectural	Bill no.8	2/27 (Main Pump Station)	8.3.1.15	<p>As per Drawing no. AR-1950 Skirting finish detail not mentioned in any of the rooms in Basement floor. Please provide the details.</p>
A34							<p>Answer: No skirting is provided on the Basement Level.</p>
Q35	PRPS 5	Technical	Architectural	Bill no.8	2/27 (Main Pump Station)	8.3.1.15 & 8.3.1.16	<p>In Basement floor structural drawing ST-4526, ST-4724 shows a Pipe support, Pump Plinth which not shown in architectural drawing. So please provide the Floor and wall finish detail for the same</p>
A35							<p>Answer: Plinths and pipe support finishes (top and sides) will be Epoxy paint. Architectural drawings will be updated to show the plinths and pipe supports. For sizes and setting out, please refer to structural drawings and civil drawings.</p>

Q36	PRPS 5	Technical	Architectural	Bill no.8	2/27 (Main Pump Station)	8.3.1.15 & 8.3.1.16	In Ground floor level, Drg no. AR-1537, AR-1539, AR-1541 Shows finishing detail for Room no. G-048 to G-062 is FF-1, WF-4, but section drawing AR-1653 to AR-1655 shows WF-6 and MW-16 also. Please advice which one we have to follow
A36							<p>Answer:</p> <p>Room G-048 to G-042 shows 2 different wall type which is the Cavity wall and Reinforced Concrete wall. Wall finish type, WF-4 applies to the Cavity Wall and WF-6 applies to the Reinforced Concrete wall.</p> <p>For the Floor Finishes, MW-16 refers to the synthetic membrane plasticized PVC, 3.0mm thk. waterproofing to be applied before the FF-1 floor finish (epoxy floor coating). Therefore, all finishes shown on plans and sections are applied.</p>
Q37	PRPS 5	Technical	Architectural	Bill no.8	(Main Pump Station)	8.3.1.15	Please provide the Top of slab finish detail for Room no. G-004 (Corridor) at Ground floor
A37							<p>Answer:</p> <p>As per drawing no.AR-1540, top of slab finish for Room no.G-004 is FF-2 which refers to 600mm x 600mm x 10mm thick heavy duty porcelain tiles to be installed using tile adhesive. Joints of tiles shall be provided with tile grout. Furthermore, roof slab above Room no. G-004 will be Epoxy paint finish. This is referenced further on MQ174-R2-DH-AR1951 schedule of finishes.</p>

Q38	PRPS 5	Technical	Architectural	Bill no.8	2/27 (Main Pump Station)	8.3.1.16	Please confirm that above the false ceiling level there is no wall and ceiling finish. If there is any finishing applicable please provide the details.
A38							Answer: Above the false ceiling level, no wall and ceiling finishes applied. Normally it will be brush cement finish.
Q39	PRPS 5	Technical	Architectural	Bill no.8	2/27 (Main Pump Station)	8.3.1.16	As per drawing no. AR-1951, AR-1952 Room No. G-020, G-042 wall finish is WF-1, but the plan drawings AR-1537 to AR-1542 shows WF-4. Please confirm which one has to followed. Also confirm for Room no. G-013 (as per schedule AR-1951 is WF-4, as per plan drawing (AR-1540) is WF-1)
A39							Answer: For Room No. G-020 (corridor) and G-042 (lobby) please use wall finish WF-4. For Room No. G-013 (store room) please use WF-4.
Q40	PRPS 5	Technical	Architectural	Bill no.8	(Main Pump Station)	8.3.1.16	Please provide the finish detail on PT Beam as shown in drawing no. AR-1673
A40							Answer: On drawing no. AR-1673, exposed PT beams are to be in Epoxy paint finish.

Q40	PRPS 5	Technical	Architectural	Bill no.8	2/27 (Main Pump Station)	8.3.1.15	Structural drawing no. ST-4725 shows pipe supports, but the architectural drawings not showing this. Please provide the Finishing details of Pipe support.
A40							Answer: Pipe support finishes will be Epoxy paint. Drawings will be revised to show the locations. For sizes and setting out, please refer to structural drawings and civil drawings.
Q41	PRPS 5	Technical	Architectural	Bill no.8	2/27 (Main Pump Station)	8.3.1.15	Drawing no. AR-1500, ST-4724 shows Concrete pad/Pump plinth, So Please provide the Finishing details for Top & Sides of the Pump Plinth
A41							Answer: Finishing details of top and sides of the pump plinths will be Epoxy paint. For sizes and setting out, please refer to structural drawings and civil drawings.
Q42	PRPS 5	Technical	Architectural	Bill no.8	2/27 (Auxiliary pump station)	8.3.2	Structural drawing no. ST-5810, ST-5310, ST-5311, ST-5320, ST-5321 showing Pumping station below ground level, but the Architectural drawing AR-4000 not showing any pumping station below ground level, it shows only MCC room which is above ground level. Please provide the architectural drawing for the pumping station.
A42							Answer: We are not producing architectural drawings of structures below ground. Please refer to structural drawings for details.

Q43	PRPS 5	Technical	Architectural	Bill no.8	3/27 (Tanker filling pump station)	8.3.3	Structural drawing no. ST-5810, ST-5820, ST-5830 showing Pumping station below ground level, but the Architectural drawing AR-7500 not showing any pumping station below ground level, it shows only MCC room which is above ground level. Please provide the architectural drawing for the pumping station
A43							Answer: We are not producing architectural drawings of structures below ground. Please refer to structural drawings for details.
Q44	PRPS 2	Technical	Architectural	MQ174-R2-DH-AR-8500-A	Remote substation Building	Ramp	We have not received the ramp detail drawing MQ174-R2-DH-AR-8701 drawing as shown in MQ174-R2-DH-AR-8500-A (Refer attachment 3)
A44							Answer: Drawing No. MQ174-R2-DH-AR-8701 does not exist. For Ramp details, please refer to Detail 5 and 6 on drawing no. MQ174-R2-DH-AR-8700. Ramp drawing reference number shown on drawing no. MQ174-R2-DH-AR-8500-A shall be read to refer to sheet AR-8700.
Q45	PRPS 2	Technical	Architectural	MQ174-R2-DH-AR-1000-A	Main guard house		The size of the openings at external wall in guard house is assumed as same as D-01A door opening size (Refer attachment 4).
A45							Answer: As shown on drawing no. AR-1350, size of doors D01 and D-01a is 1100mmx2200mm.
Q46	PRPS 2	Technical	Architectural	MQ174-R2-DH-AR-3201-A	MV & Generator Building	Staircase	In drg no MQ174-R2-DH-AR-3201-A there are no finishes type mention for staircase steps and assumed as FF-1 for treads and risers. Advise.
A46							Answer: Staircase steps and risers will be epoxy paint finish with anti slip resistant material.

Q47	PRPSs 2,3,4 & 5	Technical	Pumps	Clarification No. 1, main Pumps			Attending to the explanation 1.4 Main Pumps - Bill nos. 1,2,3 & 4 received with date 5th of May 2014. Kindly would we like to clarify if the choice of the supplier will be on the vendor list or on the offers list of the bidder?
A47							Answer: The choice of the vendor shall be from the Vendor list supplied.
Q48	All	Technical	MEPF				No Acceptable manufacturer list is given for the sanitary ware & Accessories. Please advise the list of manufacturers.
A48							Answer: The Contractor shall propose a suitable vendor for Kahramaa review and approval.
Q49	PRPS 3	Commercial	BOQ 9	MEICA Works 9.2.8 Small Power & Lighting & Emergency Lighting 9.2.8.15 Water Quality Monitoring Building(5 nr.)			We understand that the other 3 nos. Water Quality Monitoring Building (17f, 17g and 17d) shown in Site Plan dwg. MQ174-R3-DH-Cl-1001 is not part of the Scope. Kindly confirm.
A49							Answer: Water quality monitoring buildings 17d, 17e and 17f are not required under this contract. Refer to the PI&D's for the dosing monitoring requirement in respect to the inlet and outlet of reservoir compartment.

						All PRPSs – Technical – Mechanical – Appendix A1 – Scope of work Page 5/60 – Item 1.1.3.7:
Q50						Refer to the tender documents we have noticed that the pump duties mentioned in the specifications differ from the duties mentioned in the BOQ and also there are different duties indicated in the station drawings. Kindly check and advice which pump duties are to be followed.
A50						Answer : Refer to the attached Data Sheets.
Q51						All PRPSs – Technical – Mechanical – Appendix A – Section 4, Page 7 – Item 4.2.2.2: Referred clause 4.2.2.2 mentions that system curves are provided along with the contract. But we find the same is probably missing in the tender document. Kindly provide us this valuable information.
A51						Answer : System Curves are provided with the associated datasheets.
Q52						PRPS 2 – Technical – Mechanical – Bill No. 1 – Page 19 to 21: In scope of work, pages 19 to 21 of 70 the capacity of the CPS2 pump is given as 1848 lps, capacity of 4A pumps as 1848 lps and 4B pumps as 569 lps. But the BOQ Bill 1 says capacity of the said pumps as: CPS2 pumps – 1746 lps, 4A pumps – 1746 lps and 4B pumps - 417 lps. Kindly confirm the actual capacity of the pumps to be provided.
A52						Answer: System curves for the main pumps and capacities are included with the relevant data sheets.

Q53						Please provide the following details for the Pressure sustaining valve (DN 500) & Flow control valve (DN 800 DN 1400). · Min. flow rate · Max flow rate · Upstream pressure · Downstream pressure · Nominal flow rate
A53						Answer: Refer to the datasheets for this data
Q54						Please clarify type of valves and provide specifications for the following: 4.1. (Item ref. Pkg. A, 6.4.6 DN 150) Flanged Main Relief valve, Angled 200 psi Max adjustment. 4.2. (Item ref. Pkg. A 6.1.7) Quick closing valve.
A54						Answer: Refer to the datasheets for this data
Q55						All PRPSs – Technical – Mechanical – Appendix A Section 4 – P. 7/106 – Item 4.2.2.2: Article 4.2.2.2 in Section 4 of Appendix A "Mechanical Specifications" states that "system hydraulics" are included in the documents but we could not find them. Please provide the same.
A55						Answer: Pump Curves can be found in the attached datasheets. Other Hydraulic data is provided either within the data sheets.
Q56						Pressure Sustaining Valve (DN500) and Flow Control Valve (DN800): As the Valve manufacturer require more details, you are requested to provide the following: - Minimum & Maximum Flow Rates - Upstream & Downstream Pressures - Nominal Flow Rate
A56						Answer: Refer to the attached datasheets

Q57							BOQ item No. 6.4.6: Please provide specification of Main Relief Valve.
A57							Answer: Refer to the attached datasheets
Q58	PRPS 1	Technical	Mechanical	App. A-A1 BOQ no.5 Dw.No: CI-6380	16 of 60 5/8/12	1.1.3.19 item1 5.4.1.1	The TFS Main pump duty point in BOQ (87.7 l/s at 8.38m head) is different from SOW/Drawings (139 l/s at 5.87m head). Same discrepancy is applicable also for PRPS 2, 3 & 5. Please confirm duty point for each PRPS
A58							Answer: Refer to the attached datasheets
Q59	PRPS 4	Technical	Mechanical	App. A-A1 BOQno.5 Dw.No: CI-6380	24 of 70 5/9/13	1.1.3.19 item1 5.4.1.1	The TFS Main pump duty point in SOW (139 l/s at 5.87m head) is different from drawings (140 l/s at 5.6m head) & BOQ (87.7 l/s at 8.38m head). Please confirm pump duty point.
A59							Answer: Refer to the attached datasheets
Q60	PRPS 1	Technical	Mechanical	App. A-A1 BOQ no.5	12 of 60 5/5/12	1.1.3.16 item 6 5.2.1.1	Flood pumps duty point in BOQ (200 l/s at 13m head) is different from SOW (200 l/s at 17m head); please confirm duty point
A60							Answer: Refer to the attached datasheets
Q61	PRPS 4	Technical	Mechanical	App. A-A1 BOQ no.5 Dw.No:CI-6330	23 of 70 5/8/13	1.1.3.17 item 4 5.3.1.2	Auxiliary PS: Drain down return pumps duty point in BOQ/SOW (486 l/s at 14.1m head; range from 1160 l/s at 6.7 m head & 450 l/s at 14.4 m head) is different from drawings (190 l/s at 10m head). Please confirm pump duty point.
A61							Answer: Refer to the attached datasheets.
Q62	All	Technical	Mechanical	MQ174-R1-DH-CI-6200	Material list	Items 9,10,11	Please provide more details for the quick closing valves including required closing mechanism and valves characteristics.
A62							Answer: Refer to the data sheet for the quick closing valves. Note the quick closing valves are butterfly valves with Hydraulic actuators.

Q63	All	Technical	Mechanical	App. A4 Mech. Spec.	34/108	4.3.3.1	<p>"BFV should be Double/Triple offset type with EPDM rubber minimum thickness 3mm"</p> <p>please advise whether Centric BFV Series 20 can be used? Noting that it is accepted according to KM specifications " General Spec. for main laying materials Clause 7.1.2"</p> <p>Please confirm the type of internal lining required for BFVs, the above clause indicates that it is EPDM rubber LINING 3mm thickness.</p>
A63							<p>Answer:</p> <p>Refer to the attached datasheets.</p>
Q64	All	Technical	Mechanical	App. A4 Mech. Spec.	72/108	4.7.3	<p>Provide the list of steady state conditions under which the system will operate or provide to tenderers the hydraulic analyses for all stations in order to understand the extent of the works for pricing.</p>
A64							<p>Answer:</p> <p>For operation scenarios including normal and emergency, refer to the system curve and pump data sheet attached in this circular.</p>
Q65	All	Commercial	Item Coverage	BQ 6			<p>Please provide the following details for the Pressure sustaining valve (DN500) & Flow Control Valve (DN 800 DN 1400)</p> <ul style="list-style-type: none"> - Min valve Rate - Max Flow Rate - Upstream pressure - Downstream pressure - Nominal Flow Rate
A65							<p>Answer:</p> <p>Refer to attached datasheets.</p>

Q66	PRPS 1	Technical		Mechanical Spec/BOQ/Drawing			<p>We have consolidated the scope of supply of pumps as per the attached excel sheets for each RPS.</p> <p>We have noticed that the pump duties mentioned in the specifications differ from the duties mentioned in the BOQ and also there are different duties indicated in the station drawings. Kindly check and advice which pump duties are to be followed. (refer Page no: 5,6,7,8 and 9 of this PTC)</p>
A66							<p>Answer: Refer to attached datasheets.</p>
Q67	All	Technical	Mechanical	BOQ/Bill no :05			<p>The Pump duties mentioned in the specifications differ from the duties mentioned in the BOQ and also there are different duties indicated in the station drawings (Please refer the attachments 1,2,3,4 & 5) Kindly clarify which duties are to be followed.</p>
A67							<p>Answer: The correct duties are given in the attached data sheets.</p>

							Further to the above Tender, we would like to draw your attention to the following items, which require clarification from your end: 1. We have noted that the pump duties mentioned in the specifications differ from the duties mentioned in the BOQ and also there are different duties indicated in the station drawings. Kindly advise which pump duties are to be followed (please refer to the attached copy of consolidated scope of supply of pumps for each package). 2. Appendix A4 - Mechanical Specifications, P. 7, Clause 4.2.2.2 mentions that "System Curves" are provided along with the contract (copy attached). But we cannot find this information in the Tender documents. Please clarify and provide the same.
A68							Answer: The Bidder is to refer to the attached datasheets, which contain the system curves
Q69	All	Technical	Mechanical	Appendix A, Section 4	39 of 108	4.3.6	Please provide the following details for the Pressure sustaining valve (DN500) & Flow control Valve (DN800 DN 1400). This is required for the manufacturer to prepare an accurate offer. Min. flow rate, Max flow rate, Upstream pressure, Downstream pressure, Nominal flow rate.
A69							Answer: Refer to updated Appendix A4 and datasheets.
Q70							Please provide the specifications for "Pressure Sustaining", "Flow Modulating", "Solenoid", Quick closing and "Angled main Relief" Valves.
A70							Answer: Refer to updated Appendix A4 and datasheets.
Q71	All	Technical	Mechanical	Mechanical Specification	Page 7	4.2.2.2	Mentions that, system curves are provided within tender documents, However there is no system curves provided in the tender documents. Please kindly provide?
A71							Answer: These can be found in the datasheets provided.

Q72	All	Technical	Mechanical	Specifications, drawings and BoQ	see attachment		<p>We have consolidated the scope of supply of pumps as per the attached excel sheets for each RPS.</p> <p>We have noticed that the pump duties mentioned in the specifications differ from the duties mentioned in the BOQ and also there are different duties indicated in the station drawings.</p> <p>Kindly check and advice which pump duties are to be followed.</p>
A72							<p>Answer: Refer to the attached Datasheets for clarity.</p>
Q73	All	Commercial	Terms of Payment	Scope of Works &Specification Rev 1 / Drawings MQ 174-(R1 to R5)-DH-C1-6204; MQ 174-(R1 to R5)-DH-C1-6330; MQ 174-(R1 to R5)-DH-C1-6380	Pages (14 to 15) of 60	Section 1.1.3.17 (1 to11)	<p>We have consolidated the scope of supply of pumps as per the attached excel sheets for each RPS. We have noticed that the pump duties mentioned in the specifications differ from the duties mentioned in the BOQ and also there are different duties indicated in the station drawings. Kindly check and advice which pump duties are to be followed.</p>
A73							<p>Answer: Refer to the attached datasheets for clarity.</p>

TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 7/07/2014	TOTAL PAGES: 1+10
To: All Bidders	Fax:	
For the Attention of: General Manager	Our Ref.:	TA/TW/TWM/14/FX-1213
Subject: GTC 626/2014 - CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 10

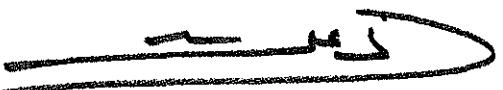
TENDER CLARIFICATION

Reply to Tenderers Clarifications

Please find attached a table, containing replies to your clarifications.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,



ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW,GTC, File



| Page 1

Recipients of this fax and any attachment may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the named recipients of this fax, any attachments, and copies, please notify the sender (or accept) or delete the message. Confidentiality is not retained or lost by retransmission communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 - (974)44845333
عنوان: 41 الدوحة - قطر



No	PRPS site	Query	Subject area	Document/drawing no	Page/Location	Clause/ Item	Query and Answer
Q1							Please provide list of approved MEP and Instrumentation contractors for this job.
A1							Answer: Vendors for the relevant items are contained within the approved Vendor List. All proposed subcontractors by the contractor shall be subject to Kahramaa review and Approval.
Q2							<p>We refer Appendix B Clause 2.7.7, please confirm our understanding that the Contractor shall be responsible for obtaining final building approval from the Relevant Authority prior to release of Final payment.</p> <p>If our understanding is correct please advise the procedure how the Contractor will achieve this requirement as only the Client's appointed "Local Architect of Record" may approach the Authority with respect to the project.</p>
A2							Answer: The Architect issues a Practical Completion Certificate and this allows release of some Retention monies. There are usually a number of items that require finishing or rectifying before a Completion certificate is issued by the Architect. This is not to be confused with the Occupation Certificate which the Contractor need to obtain from the Local Authority / Civil Defense which confirms their approval for the building to fit to be occupied.
Q3	PRPS 1	Technical	Electrical	MQ174-R1-DH-SE-3112, MQ174-R1-DH-SE-3115, MQ174-R1-DH-SE-3116			Please provide details for LV corridor mentioned in low voltage reticulation layout plans DWG : MQ174-R1-DH-SE-3112, MQ174-R1-DH-SE-3115, MQ174-R1-DH-SE-3116
A3							Answer: Refer to Utility reservation drawings MQ174-R1-DH-CI-1200 series for the corridors.

Q4	PRPS 1	Commercial	Item coverage				Please advise if we will include Transformers, VFD's of the future pumps in our pricing.
A4							Answer: These shall only be provided where indicated.
Q5	All	Technical	Architectural	Appendix A3, Architectural Specification	Page 162/471	Section 07 55 52	The specification for modified bituminous protected membrane roofing stated "Supply and installation of roof water proofing system to all concrete roof slabs" and is not matching with the descriptions on roof finishes for buildings and reservoirs. Please clarify that which water proofing system will be followed.
A5							Answer: Please follow the waterproofing systems shown on the drawings.
Q6	PRPS 1	Technical	Mechanical	App. A-A1 BOQ no.5 Dw.No:CI-6382	25 of 60 5/8/12	1.1.3.19 item 5 5.4.1.2	The TFS Drain pumps duty point in BOQ/Drawings (10 l/s at 11.7m head) is different from SOW (3 l/s at 12m head). Please confirm pump duty point.
A6							Answer: TFS Drain Pumps duty point is 10 l/s @ 11.7m head for all PRPS sites.
Q7	PRPS 5	Technical	Mechanical	App. A-A1 BOQ no.5 Dw.No:CI-6382	23 of 68 5/9/13	1.1.3.19 item 5 5.4.1.2	The TFS Drain pumps duty point in BOQ (10 l/s at 12m head) is different from SOW (3 l/s at 12m head) & drawings (10 l/s at 11.7m head). Same discrepancy is applicable also for PRPS 3 & 4. Please confirm pump duty point for all PRPS's
A7							Answer: TFS Drain Pumps duty point is 10 l/s @ 11.7m head for all PRPS sites.

Q8	All	Technical	Mechanical	App. A4 Mech. Spec.	71/108	4.7.3	" the contractor shall perform surge and transient analysis study to confirm the surge protection equipment " please confirm that the initial selection of surge suppression equipment were based on an initial study of the systems. If so please provide the surge/transient initial studies.
A8							Answer: The initial selection of surge suppression equipment was based upon an initial study of the system. The contractor is required to update this model based on actual plant and equipment selected.
Q9	All	Technical	Mechanical	App. A4 Mech. Spec.	68/108	4.6.3.9 C	The OHC factory test described in Clause 4.6.3.9 C indicates that the OHC should be completely assembled and load tested at manufacturers works. Considering the size of the OHC for main pumping station this may not be practical, Please confirm this is required.
A9							Answer: It is confirmed that this is required, refer to QCS2010, PART 7, section 9, clause 7.2.10
Q10							As per dwg. MQ174-R1-DH-AR-1531 particular to the Cable Basement Room M-005 to 008 indicates WF-4 for skirting but there was no WF-4 code for skirting finishes.
A10							Answer: No skirting is provided for Cable Basement Room. WF4 and WF6 are both referring to Wall Finishes for Cable Basement Room.
Q11	All	Technical	Civil/Structural	SOW	5 of 60	1.1.3.8	Considering huge water requirement for reservoirs leakage testing, kindly clarify the water source required by the testing if the incoming main is not ready for water delivery.
A11							Answer: For the purposes of pricing, the contractor is to assume that the water will be provided through the associated Corridor Mains and Transmission mains. The Contractor is to consider for all costs associated with taking the water from these mains, including isolation and valving.

Q12	PRPS 1	Technical	Instrumentation	Appendix A, Section 6	24	6.3.8	Please provide more precise specifications for the analysers.
A12							Answer: The Datasheets provided in the Instrumentation datasheets attached to Tender Circular 7 shall be followed.
Q13	All	Technical	ICA/SCADA	Appendix-8 , Automation specification Rev 1	Page No. 291 of 316	-	Bidder understand from the referred page that vehicle gate and accessories are specified in Division 32 Section " Chain Link Fences & Gates ". Bidder not able to locate above mentioned Division in tender documents. Please provide the specification of Chain link Fences and Gates.
A13							Answer: There are no chain link Fences or Gates required in this contract.
Q14	All	Technical	Mechanical	Appendix A1A, A1B, A1C, A1D, A1E	Page 17 of 60, Page 26 of 70, Page 24 of 68, Page 12 of 68, Page 12 of 70	1.1.3.21/Chlorin ation System	We will supply 30 Nos. of chlorine cylinder as indicated in the tender. But the no. of filled cylinders will be only to cater the requirement for the year 2016. Please confirm.
A14							Answer: The requested number of empty cylinders shall be provided, however only those required for immediate service shall be filled. At handover to KM a full set shall be provided as required.
Q15	All	Technical	Civil/Structural	Appendix F	MQ174-R2- DH-ST- 3534		Please clarify what is meant by "heavy duty shear bar" ?
A15							Answer: Use stainless steel S 690 (Grade 1.4462). Halfen CRET system or approved equivalent may be used.

Q16	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3550		Links of 10mm at 200mm are insufficient per ACI standards for slender columns. <i>Please confirm that this is correct.</i>
A16							Answer: All structures have been designed as per British standards. The Contractor shall detail and construct to the designs given.
Q17	All	Technical	Architectural	MQ174-R2-DH-AR-1951A MQ174-R2-DH-AR-1661A			1. Please provide details of granite and marble like the name (type), country of origin etc. 2. Please reconfirm the fixing detail of external wall cladding (WF-5). Because As per drawing it mentioned 15 mm thk adhesive on the back side of granite. But as per our experience we would like advise that, 800 x 800 x 30 mm thk should be fixed by mechanical fixing system.
A17							Answer: Granite must be fixed with mechanical fixings. Granite finish to be polished and honed. Granite colour to be finally selected from Brown / Yellow granite and Grey colours.
Q18	All	Technical	Civil/Structural	Appendix A, Section 2	page 26/186		Referring to the concrete class C, please confirm the a Concrete Compressive Strength of C40 whereas the QCS2010 requires a C50 for a Concrete Class C3 - Severe Concrete (QCS2010, Section 5, 6.1.3 and 6.2.1.7).
A18							Answer: The compressive strength for the concrete class "C" is 40 MPa. Higher levels of durability to withstand the sever exposure is considered by specifying the triple blend concrete and the waterproofing admixture for class "C".

Q19							From the given structural drawings, we observed that high quality of reinforcements are given in the reservoir structures (Base Slab, Tie Slabs, Perimeter Walls, Compartment walls, Baffle Walls, Roof Stabs, Chambers, etc.) Now, due to the tight schedule of the tender, the computation of reinforcement is quite difficult and therefore we request you to provide the ratio of reinforcement is quite difficult and therefore we request you to provide the ratio of reinforcement (kg/m ³) that is used by your designer.
A19							Answer: The Contractor shall consider the amount of reinforcement as shown on the detailed tender drawings for the pricing purposes.
Q20	All	Technical	Civil/Structural	Appendix A2 Civil Structural Specification	26/186		Reservoir Waterproof Concrete (Base, Walls, Roof slab and Columns), Concrete type OPC 40+GGBS+SF properties are Maximum Rapid Chloride Permeability 500 RCP Coulombs, Maximum water permeability 5mm, Water Absorption 1.2; as per the QCS 2010 Section 5 Part 6 Table 6.1c this type of Concrete classified as OPC75, please clarify in our pricing we shall consider OPC40 or OPC75
A20							Answer: Contractor to price using the concrete mix and the durability levels as given on the project specification. For reservoir elements; concrete of class C grade 40 triple blend (GGBS+OPC+SF) OR (PFA+OPC+SF). Concrete mix as proposed by the contractor (i.e. OPC 40 or OPC 75) is not acceptable.
Q21	PRPS 3	Technical	Civil/Structural	MQ174-R3-DH-LE-2000-A	External works	Landscaping	In the Hard Landscaping drawings paving area is shown in the perimeter of reservoirs which were not included for this contract also. Please clarify whether the paving for those areas is included in this tender or not.
A21							Answer: No requirement for paving around the future reservoirs which are not constructed under this contract, However paving shall be constructed on the section between the reservoirs under this contract and the adjacent road, even on the side of the future reservoirs.

Q22	All	Technical	ICA/SCADA	PTC-04			Supply, installation and commissioning of FOC for interconnection 5 stations are out of GTC 626 Work Scope. So, we assume that integration between these stations are not in the work scope of 626. Please confirm.
A22							Answer: Integration of the 5 sites is not within the GTC626/2014 contract.
Q23	All	Technical	ICA/SCADA	Appendix I: Materials Supplied By contractor REV01	25/45	Appendix 1-4	Please provide approved list of manufacturers for Enclosure/Panel/Cabinet.
A23							Answer: No vendor list shall be provided. The Contractor shall submit his proposed vendor for Kahramaa review and Approval.
Q24	All	Contractual	App. C-K	Appendix I	Clause 3	page 4/45	With reference to APPENDIX " I", clause 3, page 4 of 45 (programme, reports of manufacturing and delivery): "within 14 days of receipt of the written acceptance of tender, the contractor shall complete and submit APPENDIX I-3 (1 to 14)" Whereas it is stated in INSTRUCTIONS TO TENDERERS IT-16 page 10/34, sub-clause d), that the technical package should contain APPENDICES I-3 ,I-7 . Please clarify .
A24							Answer: The Contractor shall submit Appendices I-# and I-7 as part of the technical package.
Q25	All	Contractual	App. C-K	Appendix I-7			With reference to APPENDIX I-7 (Technical data sheets): Please advise whether the mentioned "detailed sheets to be completed" shall be issued to the contractors during the tender period, or shall be submitted after contract award.
A25							Answer: These are issued within the tender period. (Refer to Tender Circular 7 and Tender Circular 9.)

Q26	All	Technical	MEPF	Approved vendor list			Bidder understand that this is open competitive bidding and hence we request to accept one more vendor i.e. Honeywell, as one of the vendors for below items due their large installations in Qatar for below items: a) Field Instrumentation – Pressure, Temperature, Flow, Level Transmitters b) PLC / SCADA / DCS Control system c) CCTV cameras and surveillance system. d) Access Control System e) Fire & Gas Detectors f) Fire Alarm Panels and Gas Detection Panels
A26							Answer: The Vendor list is provided. No additional items or vendors shall be provided in this regard.
Q27	All	Contractual	ITT	IT.25 Tender Requirements	13	25.1	In reference to the Minimum Annual Turnover (QAR 850 Mln) please clarify if an average annual turnover over 850 Mln. for the last 5 years would satisfy this requirement.
A27							Answer: As stated this is required to be a Minimum value.
Q28	PRPS 3	General	Appendix F	Package D Building Services & Electrical/Infrastructure			Kindly provide the follow as it is not found in the issued Tender Document: a) MQ174-R3-DH-SE-4100 (Site Wide Lighting Layout Key Plan) b) MQ174-R3-DH-SE-4102 (Site Wide Lighting Layout Key Plan-2)
A28							Answer: These can be located on the original CD, in the folder located under Appendix F, Package D (PRPS 3), 04_Building Services & Electrical, Drawings, Infrastructure.

							Kindly provide the following drawings as they are not found in the issued Tender Document: a) MQ174-R1-DH-SE-2301 (Medium Voltage Protection Schematic Diagram - Sheet 1 of 10) b) MQ174-R1-DH-SE-2302 (Medium Voltage Protection Schematic Diagram - Sheet 2 of 10) c) MQ174-R1-DH-SE-2303 (Medium Voltage Protection Schematic Diagram - Sheet 3 of 10) d) MQ174-R1-DH-SE-2304 (Medium Voltage Protection Schematic Diagram - Sheet 4 of 10) e) MQ174-R1-DH-SE-2305 (Medium Voltage Protection Schematic Diagram - Sheet 5 of 10) f) MQ174-R1-DH-SE-2306 (Medium Voltage Protection Schematic Diagram - Sheet 6 of 10) g) MQ174-R1-DH-SE-2307 (Medium Voltage Protection Schematic Diagram - Sheet 7 of 10) h) MQ174-R1-DH-SE-2308 (Medium Voltage Protection Schematic Diagram - Sheet 8 of 10) i) MQ174-R1-DH-SE-2309 (Medium Voltage Protection Schematic Diagram - Sheet 9 of 10) j) MQ174-R1-DH-SE-2310 (Medium Voltage Protection Schematic Diagram - Sheet 10 of 10) k) MQ174-R1-DH-SE-2311 (Typical Transformer Protection Scheme) l) MQ174-R1-DH-SE-2312 (Generator incomer Protection Schematic Diagram)
A29							Answer: These can be located on the original CD, in the folder located under Appendix F, Package A (PRPS 1), 04_Building Services & Electrical, Drawings, Infrastructure.

TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: ٩ / ٠٧ / ٢٠١٤	TOTAL PAGES: ١+٥٠
To: All Bidders	Fax:	
For the Attention of: General Manager	Our Ref.:	TA/TW/TWM/14/FX-1225
Subject: GTC 626/2014 – CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 11

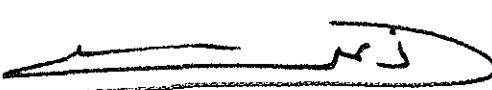
TENDER CLARIFICATION

Reply to Tenderers Clarifications

Please find attached a table, containing replies to your clarifications.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,


ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW, GTC, File



| Page 1

Recipients of this fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not ensured in fax or telephone communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ - ٩٧٤ : ٣٤٤
ص.ب : ٤١ الدوحة - قطر



Better living جودة حياة

No	PRPS site	Query	Subject area	Document/ drawing no	Page/ Location	Clause/ Item	Query and Answer
Q1							<p><u>PRPS 1 – Technical – Civil/Structural – GTC 626_2014-AppA1A-PRPS1 Scope rev. 1:</u></p> <p><u>Page 2/20 – Item 1.1.2 Item 17:</u></p> <p>Kindly provide detailed design drawing for temporary site boundary fence.</p>
A1							<p>Answer :</p> <p>This drawing was issued with Tender Circular No 7</p> <p>All PRPSs – Technical – Civil/Structural - MQ174-R1&R2&R3&R4&R5-DH-ST-1023 & 1024;</p> <p>Detail 3,4,5,6,7,8,A,E,H:</p> <p>Please clarify the material and technical requirements of external water stop, injectable hose and hydro expansive cast-in water stop.</p>
Q2							

A2						<p>Answer: Refer to the project specification clause 2.7.3.3 item A.2 WATERPROOF ANCILLARIES (A2.2 Water stops (external and Hydro-expansive cast-in waterstops). Polyvinyl Chloride Waterstops (PVC) shall be used provided its compatibility with the waterproof membrane barrier to allow fully watertight jointing between water-bar and membrane. Minimum elongation at break shall be 285%. Water-stop in movement joints shall be specifically designed to withstand following differential movement, rotation and translation without degradation, failure or loss of water tightness. The Contractor shall submit full details for Engineers review and approval. a. +/- 50mm Horizontal movement b. +/- 40mm Vertical movement c. +/- 10mm Translation For specifications of the Hydro-expansive cast-in waterstops, refer to project specifications clause A.2.2.3.</p>
Q3	All	Technical	Civil/Structural			<p><u>All PRPSs – Technical – Civil/Structural:</u> <u>MQ174-R1/R2/R3/R4/R5-DH-ST-1011 – E 1:</u> Kindly confirm that high yield deformed type 2 grade 500 bars is required only in this project and no epoxy coat for reinforcement shall be considered.</p>
A3						<p>Answer: Reinforcement bars shall be high yield deformed type 2 grade 500. Bars shall be epoxy coated where in water retaining structures or in underground structures.</p>
Q4						<p>Please provide more precise specifications for analyzers (6.3.8 Page 24 Appendix A, Section 6 – Instrumentation Specification).</p>

A4							Answer: Water Quality Analyzer specifications as issued in Tender Circular No 9, are revised, to remove insertion type sensors as attached to tender circular No 9. Additional details added on flow cell type analyzers are included.
Q5	All	Technical	Geotech		Reservoirs		Please provide a current topographical survey of the each site For sites 2,3,4 and 5, the bidders shall follow the submitted enabling works drawings as issued in Tender Circular 2. Topographical survey data for PRPS1 was provided in the CD attached to tender circular No 9.
A5							
Q6	All	Technical	ICA/SCADA	GTC626_2014-AppA6_PRPS_Instrument_Spec-10.04.2014_Re v.1.pdf	16	6.3.3 B, 'Technical Requirements for Flow Instruments'	"Flow switches shall be of paddle or vane type with high quality snap acting hermetically sealed double pole double throw (DPDT) switch with gold plated contacts rated for 5 A at 240V AC." Gold plated contacts with a rating of 5A at 240VAC are not available, because the gold-coating would evaporate during switching. The rating of the offered switches will be suitable for the SCADA requirements. If gold plating is not necessary, the specified rating can be fulfilled.
A6							Answer: Flow switches are removed from the requirements of the process.

Q7	All	Technical	ICA/SCADA	GTC626_2014-AppA6_PRPS_Instrument_Spec-10.04.2014_Re v.1.pdf	24	6.3.8 A, 'Water Quality Analysers'	<p>"All sensors shall be retractable insertion type at the following locations (except Residual Chlorine):</p> <ul style="list-style-type: none"> Upstream of Reservoir Distribution Chambers (Turbidity, pH, ORP & Conductivity) Inlet to Reservoirs (pH & Conductivity) Outlet of Reservoirs (Turbidity, pH & Conductivity)"... <p>"It shall be noted that for the reservoirs, the sampling points are below ground level at the inlet and outlet pipes. These locations will provide sufficient sample pressure to the analysers. However, when water levels in the reservoir drop below ground level (during emergency supply), sufficient pressure will not be available to push water to the analysers located above ground level in the Water Quality Analyser rooms."...</p> <p>"All sensor transmitters for the reservoirs shall be located near the sensors on ground level. The sensors shall be installed in the valve chambers which are located below ground level. Sufficient sensor cable lengths shall be provided to allow connection of sensors to transmitters."</p> <p>Which statement is correct? Using sample lines and installing all sensors and analysers in analyser rooms is the preferred method and maintenance-friendlier than using in-line sensors.</p>
A7							<p>Answer:</p> <p>Water Quality Analyser specifications are amended to remove insertion type sensors. Additional details on flow cell type analysers are included in the updated specifications that were issued in Tender Circular 9.</p>
Q8	All	Technical	Quantities	Specification	Appendix A, 2.8		<p>Please confirm that the Internal Coating in the Reservoirs needs to be applied also to the top of raft as well as to the soffit of the roof slab as per your note 8 on the structural drawings (ST-2000 off).</p>
A8							<p>Answer:</p> <p>Internal Coating of the reservoir is no longer required.</p>

Q9	PRPS 2	Technical	Civil/Structural	Appendix A1	9/70	1.1.34	Appendix A1, Package B Scope of Work & Specification Item 1.1.3.4 Excavation and backfilling states that Bulk excavation of the site is being carried out by the Earthworks Contractor to the extent indicated on the Drawings. All final excavation, trimming and preparation will be carried out under this PRPS Contract. However, the PRPS final grading plan layout does not reflect the same, so we kindly request you clarify the same.
A9							Answer: The Enabling Earthworks contractor will excavate according to the drawings provided in Tender Circular 2. The GTC626 Contractor shall complete all remaining excavation works required
Q10	PRPS 2	Technical	Mechanical	BOQ no.9	9/18/4	9.1.14.4	The workshop crane SWL is not specified
A10							Answer : This is provided in the Datasheet that may be found in the CD attached to Tender Circular 9.
Q11	All	Technical	Electrical	BOQ no.9			No drawings for public address system
A11							Answer: These may be found in the drawing sets MQ174-R#-DH-BE-##30/1/2/3/4/5/6
Q12	All	Technical	MEPF	App. A7.4	106/263	8.4.3/1.12K	The specified FM200 fire suppression system (in-cabinet system) is a major deviation from Kahramaa ENA specifications for 11kV Distribution Switchgears. Please confirm if it is required, noting that Kahramaa ENA requirement is to protect the switchgear room not the switchgear itself.
A12							Answer: This is Kahramaa requirements
Q13	All	Technical	Electrical	App. A5	15/32	5.3.3.3	MV VFD: Supply voltage to the transformer (6.6kV) is different from the SLD drawings (11kV). Please confirm which voltage to be considered.
A13							Answer: Supply voltage to VFD transformer is 11kv , specification A5 was updated accordingly in Tender Circular 9.
Q14	All	Technical	Electrical	App. A5	18/32	5.3.4.2.1.5	MV VFD: Rectifier is specified as 18 pulse, while in BOQ is 24 pulse (minimum). Please confirm which one to be considered.
A14							Answer: As per specification minimum pulse number is 18 if harmonic level limitation can be achieved otherwise 24 plus to be used.

Q15	All	Technical	Mechanical				<p>Please clarify the following queries about the country of origin for casting of the pump casing:</p> <ol style="list-style-type: none"> 1. Should casting of the pump casing be done at the country of origin of the pumps manufacturer or not? 2. Are Chinese/Korean/Indian foundries acceptable for casting of the pump casing or not? 3. Are material composition certificates required for the main components of the pumps or not? 4. Is it required for Third Party Inspector to attend casting of the pump casing or not? <p>Answer:</p> <ol style="list-style-type: none"> 1. The casting of the pump shall be done in the countries listed in the vendor list, and is subject to KM review and approval. 2. Foundries used shall be as given in the pump vendors approved countries 3. Material composition certificates are required for the main components of the pump. Certificate of origin for component parts are also required. 4. Third Party Inspectors shall be present at the testing, however Kahramaa reserve the right to instruct them to be present at the casting of the pump casing.
A15							
Q16	All	Technical	Mechanical	App. A4 Mech. Spec.	71/108	4.7.2	Provide the schedule of Technical particulars
A16							<p>Answer :</p> <p>This is provided on the Data sheets issued in tender circular 9.</p>
Q17	All	Technical	Mechanical	App. A4 Mech. Spec.	71/108	4.7.3	Clarify "recommending suitable equipment to be installed on piping system to protect from surge effects like surge vessels or anti surge valve or by-pass lines etc." as installation of by-pass lines will affect the sizing of entire pumping stations/number of pipework not included in the BoQ's

A17							Answer: The Contractor is required to review the equipment proposed based upon the designed networks and the updated surge analysis. Should the contractor proposed plant or equipment that have an effect upon the designed networks, then the Contractor shall complete all revised design and provide all additional plant or equipment required, at no extra cost to Kahramaa.
Q18	All	Technical	Mechanical	App. A4 Mech. Spec.	71/108	4.7.3	Clarify "recommending suitable equipment to be installed on piping system to protect from surge effects like surge vessels or anti surge valve or by-pass lines etc" as installation of anti surge vessels along the pipeline will affect the mega pipeline contracts which are being constructed by the others.
A18							See response A 17
Q19	All	Commercial	Mechanical	App. A4 Mech. Spec.	71/108	4.7.3	Confirm, in case of additional equipment is required as a result of surge analysis, a VO will be issued to the Contractor for all additional equipment required inside of the reservoir site.
A19							Answer: should additional equipment be required as a result of the contractors choice of plant and equipment, this shall be installed at the contractors own cost.
Q20	All	Technical	Mechanical	App. A4 Mech. Spec.	71/108	4.7.3	Provide the data of the Ultimate system
A20							Answer: system data is provided within the datasheets issued in tender circular No 9.
Q21	All	Technical	Mechanical	App. A4 Mech. Spec.	72/108	4.7.3.1	"The surge vessel system shall be designed and sized to the following". Provide the data listed : maximum design conditions for pumps and piping, worst flow scenario, maximum design pressure of the pipelines.
A21							Answer: Pump data is given within the data sheets provided within Tender Circular No 9.

Q22	All	Technical	Mechanical	App. A4 Mech. Spec.	72/108	4.7.3.1	If the data required for design of surge vessel will be made available to successful contractor provide at least the maximum design conditions for pumps and piping and worst flow supply scenario for all pumping systems to enable the Contractor to price the surge protection as requested.
A22							Answer: Pump data is given within the data sheets provided within Tender Circular No 9.
Q23	All	Technical	Mechanical	App. A4 Mech. Spec.	80/108	4.8.3.3	"Slip on raised face flanges shall be accepted in place of welding neck flanges to suit the project requirements and as approved by Kahramaa/Engineer." <i>Paragraph is not clear, confirm whether slip on raised flanges shall be accepted by Kahramaa or not to enable us to price the flanged pipework.</i>
A23							Answer: This may be acceptable for certain conditions where there is no of the welding neck flanges available or in particular circumstances, however this will be subject to KM/engineer approval during construction
Q24	All	Technical	Mechanical				Are material composition certificates required for the main components of the pumps?
A24							Answer: Material composition certificates are required for all components of the pumps
Q25	All	Technical	Mechanical				Is a third party inspector required to attend the casting of the pump castings?
A25							Third Party Inspection is required to witness test pump casting.
Q26	All	Commercial	Item Coverage	BQ 6			Please provide more precise specifications for analysers (6.3.8 Page 24 Appendix A, Section "Instrumentation specification").
A26							Answer: This is provided in the attached datasheets attached to Tender Circular 7

Q27	PRPS 1	Contractual	GCC	GTC626_2014-AppB_PRPS_NoP_Rev1	3/27	1.1.a	Item 1.1.a states that "All Items are estimated quantities measured from the Tender Drawings included in the Tender and shall not be subjected to final re-measurement and/or variation unless specifically stated." Rather than Lump Sump items, provided "Bill of Quantities" for each package has Unit Priced items. We kindly ask you to clarify whether quantities given in BOQ or quantities calculated by our company based on tender drawings will be valid for pricing unit rates for such items.
A27							Answer: The rates given in the BOQ shall be used for any remeasurement purposes.
Q28	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-ST-3500-A MQ174-R1-DH-ST-3501-A MQ174-R1-DH-ST-3502-A MQ174-R1-DH-ST-3503-A MQ174-R1-DH-ST-3505-A	1 of 8 2 of 8 3 of 8 4 of 8 6 of 8		Reinforcement details, location of rebars, diameters etc.. not visible in the drawings. We kindly ask you to provide revision of the drawings in order to proceed with our calculations.
A28							Answer: Reinforcement details are shown in the set of drawings found on the original CD, under the folder labeled 'structural'.
Q29	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-CI-1100-A MQ174-R1-DH-CI-2000-A			PRPS Final Grading Layout Plan , PRPS Site Grading Plan does not show existing ground elevations. Natural Ground Levels are given in related longitudinal sections , however; the number of cross sections are not sufficient enough to calculate overall earthwork quantities of the construction site. We kindly ask you to provide us "Topographical Survey" of the sites in AutoCAD format.
A29							Answer: Topographical data of the PRPS 1 site has been provided in PDF format. For all other sites, refer to the Enabling works drawings for the levels.

Q30	PRPS 1	Technical	Instrumentation	General	General		Please provide additional information for analysers (6.3.8 Page 24. Appendix A, Section 6. Instrumentation specification).
A30							Answer: Water Quality Analyser specifications are amended to remove insertion type sensors. Additional details on flow cell type analysers are included in the updated specifications issued in Tender Circular 9
Q31	All	Technical	Mechanical				A surge study is required for each package. As input for the surge study the data of the transmission pipelines is required (pipeline profile, pipeline material, pipeline wall thickness, pipeline inner diameter, wall roughness, etc.). The contractor of the pumping station packages has no contractual relation with the contractor of the pipeline package. Please explain how and when the contractor of the pumping station will receive this input data from the contractor of the pipeline package.
A31							Answer: The relevant information and existing models shall be issued to the successful bidder.
Q32	All	Technical	Mechanical				A result of the surge study might be the location, elevation offset and the design (in- and out-flow capacities) of the air valves. However, there is no contractual relation between the contractor of the pumping station and the contractor of the pipeline package. Please explain and clarify the responsibilities.
A32							Answer: As an initial surge analysis has been completed, this is not anticipated. However should this situation occur, then Kahramaa shall manage it accordingly. The Contractor shall use the air valve parameters as input data for his surge review. Any additional costs for changing air valves in the pipelines shall be born the Contractor.
Q33	All	Technical	Electrical	Appendix A Section 5			For 415V Low Voltage Drive & Motor specification is not available. Points mentioned for LV Drives in MEPF specification is not comprehensive. Please provide right and clear specification.
A33							Answer: Low Voltage VFDs are now included in the revised specification issued in Tender Circular No 9.

Q34	All	Technical	Electrical	Appendix A Section 5	19/32	5.3.4.2.1.8	Water cooling is mentioned for all MV VFDs in the specification. Generally Water cooling below 2 MW increases the complexity of the System and decreases the MTBF values due to additional cooling circuits in the drive. Please confirm specification.
A34							Answer: Water cooling is required for all drives above 1000kw as referenced in the updated specification issued in Tender Circular No 9.
Q35	All	Technical	Mechanical	Appendix A1A, A1B, A1C, A1D, A1E	6 of 60, 12 of 70, 12 of 68, 24 of 68, 26 of 70	pipeline Testing and Sterilization	As per the clause, the Chlorinated water used for sterilization shall be disposed off Site to reduce the level of residual chlorine before disposal. Kindly clarify the location for disposing off the water.
A35							Answer: The Contractor shall identify a suitable location for the disposal of the water.
Q36	PRPS 2	Technical	Storm water	DWG R2-DH- CI- 3154,3155,315 8,3159, 3161 etc	DWGs		Provide connections between the storm water system shown on the drawings and collected roof rain water from the reservoirs or confirm that rain water will have a free flow from the reservoirs to storm water system.
A36							Answer: The gargoyles are intended to provide a freefall run off to the paved area below. No connection is required.
Q37	PRPS 2	Technical	Drainage lagoon	DWG R2-DH- CI-6430 & 6431	DWGs		Confirm how the lagoon will be emptied or provide the details in the lagoon for drainage.
A37							Answer: The lagoons shall empty through a combination of soakaway, evaporation and tankering.

Q38	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3561		The corner details for reinforcement on sheet 1014 do not indicate how to place rebar when there are two layers as indicated on this sheet. Please provide a similar detail. Having two adjacent layers turning a corner will create unwanted voids which will not receive concrete. The four layers of rebars (two vertical and two horizontal) will form boxes bounded on all sides by the rebars. These concrete voids in the corners will be located at the point of the maximum stress, namely the corners. <i>Please confirm that it is the intent of Kahramaa design as we believe to have voids in the concrete at the corners is unacceptable.</i>
A38							Answer: There is no intent to create voids in the concrete. The Contractor shall submit shop drawings to demonstrate how he intends to avoid this in construction.
Q39	PRPS 2	Technical	Electrical	MQ174-R2-DH-CI-1001	Site		Drawing shows eight reservoirs plus two for future with associated services. Circular Letter No.2 states that only five reservoirs to be constructed under GTC626. <i>Please confirm should the roads, street lighting, CCTV etc. be amended to take this into account.</i>
A39							Answer: As shown, all internal roads, street lighting, CCTV and road drainage are to be constructed as part of this contract, including the areas marked for future reservoirs.
Q40	All	Technical	Electrical	Specifications			Regarding "Country of Origin" of the Low Voltage Panels, please clarify whether the panels will be directly from the OEMs from Europe or Local Franchise panels are also accepted?
A40							Answer: LV panels shall be provided by the Manufacturers from KM approved Vendors List, using the country of origin referenced. Panels by local Franchise are also acceptable.

Q41	PRPS 3	Technical	Civil/Structural	MQ174-R3-DH-CI-1001			The drawing MQ174-R3-DH-CI-1001 PRPS-3 SITE PLAN is not matching with drawing MQ174-B-DH-D-00-C116 PRPS-3 ENABLING EARTHWORKS EXCAVATION & STOCKPILING LAYOUT. The Lagoon 1 & 2 in SITE LAYOUT PLAN are near north-easting N387800 & E203600 which is near the project boundary line but in EARTHWORKS EXCAVATION LAYOUT PLAN it is near north-easting N387800 to N388000 & E203800 which is near the middle-lower portion of the project site. Please provide the correct layout & corresponding detailed cross section drawings.
A41							Answer: The enabling works drawings issued within Tender Circular No 2 to provide information on the PRPS3 Enabling works are superseded with updated construction drawings in Tender Circular No9. This resolves this anomaly.
Q42	All	Technical	Civil/Structural	MQ174-R2-DH-CI-2000 to 2012			The grading level shown in drawing MQ174-R2-DH-CI-2000 to R2-DH-DI-2012 SITE GRADING is different from grading level shown in C105-MQ-174-A-DH-D-00 TOPOGRAPHICAL PLAN. Please confirm if the excavation from topographic level to site grading level of exterior areas & landscaping areas other than the Enabling Works areas, Building areas & Lagoons areas are part of PRPS Contractor.
A42							Answer: The Contractor shall be responsible for all excavation works that has not already been completed under the enabling works contracts.
Q43	All	Commercial	Item coverage	Appendix A Section 1	5/60	1.1.3.8	Refer to the Appendix A Section 1 Clause 1.1.3.8 Reservoir testing, cleaning and sterilizing please provide the rate at which Kahramaa shall supply water for testing the reservoir.
A43							Answer: Refer to Tender Circular No 8, A67.

Q44	All	Technical	ICA/SCADA	Appendix A Section 6	13/40	6.3.3 A 2	Sensor tube lining material as 'inert plastic' (point 2) and 'neoprene' (point 8) are contradictory. Specs to be changed to Inert Rubber based liner (EPDM) – WRAS certified for water temperatures up to 85 deg C. Please confirm
A44							Answer: Refer to the amended specifications Appendix A6, included with Tender Circular No 9.
Q45	All	Technical	Civil/Structural	C100-MQ174-A-DH-D-00			Can you please give the tolerances in levels as which you will hand over the excavated areas.
A45							Answer: The Enabling Works Contractors are working to tolerances of : • Maximum over-excavation = 75 mm • Maximum under-excavation = 50 mm
Q46	All	Technical	Civil/Structural	C100-MQ174-A-DH-D-00			Please confirm that the surfaces of the excavated areas handed over by the Enabling Contractor will be undisturbed.
A46							Answer: The enabling Works Contract requires the Contractor to leave the base of the excavation shall be cleared of all loose and unsuitable material and made as level as practically possible within the tolerance.
Q47	All	Technical	Civil/Structural	Appendix A1		1.1.3.4	Excavation, Backfilling and compaction for Packages B, C, D, E: Please confirm that the Enabling Contractor will hand over the excavated areas as ready compacted areas to the specification requirements.
A47							Answer: The enabling Works Contract requires the Contractor to leave the base of the excavation shall be cleared of all loose and unsuitable material and made as level as practically possible within the tolerance.

Q48							Reinforcement Bars: Please confirm that the reinforcement required epoxy coating or not.
A48							Answer: Epoxy coated reinforcement shall be required for underground structures and water retaining structures.
Q49							Refer to AppA8 PRPS Automation Rev. 1 Clause 8.13.4 Page No. 179 of 316 it is mentioned "Free-Standing Panels": All freestanding Panels shall be specified to be constructed of a minimum of 12-gauge steel. All panels shall be specified to be primed and finished with two coats of a factory finished ANSI #61 light gray lacquer finish on all exterior surfaces. The panel interior shall be white". However, we will offer our standard Rittal Cabinets (RAL-7035). Please confirm the same.
A49							Answer: This is confirmed to be acceptable.
Q50	PRPS 2	Technical	Civil/Structural	MQ174-R2-DH-CI-1001A and C100-MQ174-A-DH-D-00			Referring to the Site Plan drawing of PRPS 2 and the enabling earthworks drawing, we found several discrepancies which have an impact on the earthworks quantities: - Reservoir excavated coordinates are much bigger than the reservoirs required (backfilling is required ranging from 4-25 mtrs around the reservoirs) - The excavation coordinates of Main pumping station is not matching with the required excavation of pumping station. All of the above mentioned differences would result in a lot of additional excavation and backfilling. Please clarify and confirm which will be the as-built situation which will be handed over after award to the PRPS contractor.
A50							Answer: The Enabling Works have been completed at PRPS2 as shown on the drawings issued in Tender Circular No 2.

Q51	All	Technical	Civil/Structural	Appendix F	MQ174-R2-DH-ST-3500		The proposed roof insulation is expected to reduce the effect of thermal load on the concrete roof slab. Kindly confirm the anticipated maximum and minimum temperature on the underside of the roof slab, and the topside of the roof slab.
A51							Answer: The Contractor does not require this information to construct the works.
Q52	All	Technical	Civil/Structural	MQ174-R1-DH-ST-1023 & 1024	Detail A		As the internal protection layer has been canceled as per tender bulletin - does this affect the joint construction as per detail A? Without the internal protection the water might penetrate easily into the CJ until the hydro expansive waterstop crossing the upper reinforcement layer. Please advise if an additional Flextape needs to be considered.
A52							Answer: Waterproofing tape is required at construction joints. Refer to details 3, 4 and 5 sheet ST-1023. Waterproofing topcapping PVC waterstop is required at the movement joints. Refer to details 2, 6 and 8 sheet ST-1023.
Q53	All	Technical	Civil/Structural	MQ174-R1-DH-ST-1023 & 1024	Detail A		As no ground water is indicated, the water flow direction is from inside to outside. The outer membrane is rather appropriate for water flow outside to inside. In this case it may even effect a proper leak detection. Please confirm that membrane is required.
A53							Answer: Membrane is required at external faces of the reservoir under ground level. Please refer to the leakage detection details at both construction and movement joints on sheet ST-1023 details 2 and 4 respectively.

Q54	All	Technical	Geotech	Circular No 5			We refer Circular No 5 dated 16/6/14 Tender Clarification item Q5 & A5 which notes the Contractor will not be granted access to the site to undertake physical investigations. As such please consider removing the requirement for the Contractor to accept the Geological conditions of the site(s) as described with Appendix A1 Clause 1.8 as the Contractor has been prevented from conducting their own investigations.
A54							Answer: The Contractor shall make their own assessment of the geological in conditions of the site, based upon the information given. No further geological investigations shall be allowed.
Q55	All	Technical	Geotech	Circular No 5			We refer Circular No 5 dated 16/6/14 Tender Clarification item Q12 & A12 please confirm due to the unavailability of any existing site records services that are discovered and require demolition / relocation will be treated as a variation to the contract.
A55							Answer: No variation shall be given for unforeseen services within the site boundary.
Q56	PRPS4	Technical	Mechanical	GTC626_2014-AppA1E-PRPS_4_Scope_rev 1.pdf	20&21/70	1.1.3.16	The pumps' design duty points of the three pumping systems is not in line with either the BoQ of Package E (item 1.1.1 to 1.1.3) or with the duty points indicated on dwg MQ174-R4-DH-CI-6200-A. The design duty points indicated in the last two references are identical to the duty points of Package B. Please confirm that the duty points of the specification is the leading one, and that from BoQ and dwg wrong.
A56							Answer: The bidder shall use the datasheets provided in Tender Circular No 9 as the overriding data for the pumps.
Q57	PRPS 1	Technical	Civil/Structural				We still await the topographical survey report for the existing levels on Site to calculate the earthworks of PRPS1. Kindly provide at the earliest.
A57							Answer: This has been provided within tender circular No 9.

Q58	All	Technical	Civil/Structural				PRPS Contractor is aware from the Enabling Work Contractor's drawings that there is a designated earth stockpile area of unknown size/volume in the area set aside for future reservoirs. The PRPS Contractor requests that the Client advise if removal of this earth stockpile is inside or outside the scope of the PRPS Contractor.
A58							Answer: The Enabling works contractors shall remove the stockpiles to the volumes given in the GTC626/2014 tender Appendix A1.
Q59	All	Technical	Civil/Structural				The PRPS Contractor has noted that, for example, in PRPS2 the Enabling Works Contractor's site offices are in the Reservoir No1 area. The PRPS Contractor requests confirmation from the Client that the Enabling Works Contractor will do bulk excavation for ALL drainage lagoons, reservoirs and pump stations in PRPS2 to PRPS5 (including Reservoir No 1 in PRPS2).
A59							Answer: The Enabling Works Contractor will complete the excavation works shown on the drawings issued in Tender Circular No 2, All other excavation works and groundwork's shall be completed under GTC626/2014.
Q60	All	Technical	Mechanical	GTC626_2014-AppA4_PRPS_Mech_Spec-12 04 14.pdf	6/108	4.2.1.3.C	Please forward the expected NPSH available for all pumps (split and submersible) for all operating conditions together with the corresponding flow rate in order to meet the 1,5 m margin.
A60							Answer: Refer to datasheets included in Tender Circular No 9.
Q61	All	Technical	Mechanical	GTC626_2014-AppA4_PRPS_Mech_Spec-12 04 14.pdf	8/108	4.2.2.3.A	Please forward the mentioned data sheet of the pumps in order to verify the corrosion allowance. Corrosion allowance is not applicable if the pumps are internally coated.
A61							Answer: These are included within Tender Circular No 9.

							With reference to the subject tender, we hereby submitting the following queries for your kind clarification. 1. With respect to the 11.5 m water height noted in the Project documents, we would like to propose alternative configurations for the water storage reservoirs. These reservoirs will utilize a water height of 17 m above the finish floor elevation. Is Kahramaa willing to field proposals which utilize a slightly higher water level in the reservoirs? 2. The project drawings show each storage reservoir being divided into three "cells". Are these cells necessary for the functioning of the system or may they be removed given structural integrity of the reservoir walls? 3. The project drawings show each storage reservoir containing a series of baffle walls. Are these baffle walls necessary for the some kind of retention time criteria or may they be removed given structural integrity of the reservoir walls?
A62							Answer: 1. Proposals to increase the height shall be submitted as an alternative tender, however the contractor should take into account the need to review the site hydraulics, water quality modeling and local authority applications, as these must also be addressed to raise the height of the structures. 2. The split into compartments has been done for operational reasons, and water quality reasons. these shall not be removed., The baffle walls have been introduced for water quality and flow path reasons. these shall not be removed.

Q63	All	Contractual	App. A1 Scope	Tender Circular 8	22 of 24	A82	The bypass pipelines refer to the pipelines that cross the incoming corridor main pipelines to the outgoing transmission main pipelines. Please clarify laying of cross connecting pipes to be completed under milestone 1 or cross connecting pipes including incoming mains from boundary & transmission mains to the boundary wall.
A63							Answer: Milestone one shall include the incoming corridor mains from the boundary and the outgoing transmission mains to the boundary.
Q64	All	Commercial	Civil/Structural	Appendix A, A2	RC Concrete works in All boq	2.1.2.1.1	Please clarify that we can use Steel rebars other than Qatar steel company.
A64							Answer: The contractor shall propose his vendor and source for all rebars, which shall be subject to Kahramaa review and approval.
Q65	All	Technical	Mechanical	App. A, Section 4	4 of 108	4.2.1.1	We have noticed that the pump duties mentioned in the specifications differ from the duties, mentioned in the BOQ and also there are different duties, indicated in the station drawings. Kindly advise which pump duties are to be followed.
A65							Answer: The Contractor shall refer to the pump details given in the datasheets issued with Tender Circular 9.
Q66	All	Contractual	App. A1 Scope	App. A PRPS 5	Page 20	6.5	The geotechnical report indicates that there is Appendix A and Appendix B. We request that these to be provided.
A66							Answer: This has been issued within the CD attached to tender circular No 7.

Q67	All	Technical	Civil/Structural	App. A, GI PRPS 5	Page 20	6.5	The geotechnical report indicates that groundwater was observed between elevations 1.47 and 3.66. This varies greatly from what was indicated in Circular 6, Q&A 28 which indicates the design value at +9.20 and ±0.325. This difference is significantly larger than the expected seasonal fluctuation. Please confirm if unusual groundwater conditions are expected during construction.
A67							<p>Answer: No unusual ground water conditions are expected during the construction. The ground water levels referenced in tender circular 6 relate to design groundwater levels and not current levels. During excavation at PRPS 5, ground water has only been encountered below the bottom of the base of the main pumping station.</p>
Q68	All	Technical	Civil/Structural	App. A, GI PRPS 5	Page 20	6.5	<p>During the site visit to the Enabling works at PRPS 5 Al Thumama there was no groundwater observed in the excavation of the pump station at elevation which is an area app. 7000 sq. meters at elevation + 1.40. This generally agrees with the Geotechnical Report in Appendix A. Please confirm that the difference between the design groundwater level noted in Circular 6, Q&A 28 and the observed/reported groundwater level is a design safety margin.</p>
A68							<p>Answer: The ground water levels referenced in tender circular 6 relate to design groundwater levels and not current levels. During excavation at PRPS 5, ground water has only been encountered below the bottom of the base of the main pumping station.</p>
Q69	All	Technical	Civil/Structural	App. A, GI PRPS 5	Page 20	6.5	<p>The geotechnical report included the groundwater elevation between elevation 1.47 and 3.66. Circular 6, Q&A 28 mentions that the design groundwater elevation at the reservoirs is +9.20. The subdrain system and blinding extend to app. +6.0. Is there any evidence that the groundwater may reach this level during the construction of the reservoirs.</p>

A69						Answer: The ground water levels referenced in tender circular 6 relate to design groundwater levels and not current levels. During excavation at PRPS 5, ground water has only been encountered below the bottom of the base of the main pumping station.
Q70	All	Technical	Mechanical	General Scope & Specification section 1.1.3.16	Surge Analysis Consultant	As per General Scope & Specification section 1.1.3.16 - Main Pumping Station under sub clause No. 11 states that the contractor shall carry out a Surge analysis for all the pumping systems as specified and propose the surge vessels in accordance with the study. Please provide us the Approved Surge analysis consultants.
A70						Answer: The Contractor shall identify his own consultant for this purpose and shall submit the same to Kahramaa for review and approval.

						MEP Works: Copies of Specification: As per the General Scope & specification section 1.6- Published specifications, Regulations, Notices and Circulars States that; The Works shall be executed in accordance with the latest edition of the following specifications, regulations, notices, and circulars: 1. The General Specification of Main Laying Materials for Waterworks published by Qatar General Electricity & Water Corporation (Kahramaa), Version 2005. 2. Kahramaa General Specification for Main laying Contracts latest Version. 3. The Qatar Construction Specifications, 4th Edition, 2010, published by the Qatar General Organization for Standards and Methodology. 4. The Code of Practice and Specification for Road Openings in the Highway. 5. The Survey Manual. 6. The Qatar Traffic Manual. 7. The Qatar Work Zone Traffic Management Guide, published by ASHGHAL (Public Works Authority) 8. QTel, Electrical Cables relative regulations and standard. 9. Qatar Highway Design Manual (QHDM) 10. Construction Specifications Institute (CSI) Masterspec (http://www.csinet.org/) 11. Any current and relevant regulation, notice or circular issued by the Ministry of Municipal affairs & Urban planning (including the previous Ministry of Public Works and the previous Ministry of Industry and Public Works), the previous Ministry of Electricity and Water, or the appropriate local Municipality prior to the date of the letter of invitation to Tender. As per our understanding details of any item which is not mentioned in
A71						Answer: Refer to Article 2.11 of the General Conditions of Contract

Q72							<u>All PRPSSs – Contractual – ITT – Page 13/34 – IT25.1:</u> In regards to water retaining structures, would Dams of various sizes be considered valid experience of similar nature? Please confirm.
A72							Answer: This shall be assessed during the technical evaluation on a case by case basis.
Q73	All	Contractual	App. A1 Scope	Appendix I-7	26/60 6/70 34/68 36&37/70 34/68	1.2.1/1.2.2	Please note description for M1: " <u>complete the bypass pipeline between the incoming Corridor Main and the Transmission Main including installation of valves and construction of valve chamber to allow water to be passed into service.</u> " In order to satisfy the <u>water to be passed into service</u> , the bypass pipeline should include the incoming corridor main from the site boundary and then through the bypass chamber and flow into out going transmission line end up to site boundary. However, regard to M2: " <u>The completed work shall also include installation and initial testing of the section of Corridor Main from the site boundary to the Inlet Distribution Area so that water can be received from the Corridor Main contract.</u> " In this case Corridor Main line from site boundary to bypass chamber repeated in M1&M2. Kindly clarify the SOW for the pipeline work in M1 and M2.
A73							Answer: M1 shall include all pipework from the boundary up to and including the bypass lines, for the Transmission Mains and Corridor Mains. M2 shall cover all other pipework not already commissioned under M1.
Q74	All	Technical	Mechanical				As per tender documents, a surge study shall be foreseen for each package. Does this mean 5 hydraulic studies, from 5 different contractors? It is assumed that the transmission pipelines of all packages can be operated in an open manner. In such a case an overall hydraulic and surge study is required (to study e.g. effect of sudden valve closure of one package on all other packages). Does an overall hydraulic and surge study exist? Please explain the responsibilities of the surge study for each package.

A74							Answer: The existing Model is an overall model of the network. Each Contractor shall complete a run of the existing model to demonstrate the effect that his intended plant and equipment shall have on the system. This updated model shall then be returned to Kahramaa for them to input into an overall iterated model to confirm the final system.
A75	All	Technical	ICA/SCADA	APPENDIX A SECTION 8 AUTOMATION SPECIFICATION	Page no. 191 of 316	Clause no. clause no. 8.14.5 Bandwidth and Storage Requirement	As per this clause total estimated cameras are approximately 250 nos. Customer is requested to provide the breakup of 250 nos, camera based on Fixed/PTZ, Internal/External, Dome/Box type construction.
Q75							Answer: Refer to Table 10 in Appendix A8.
Q76	PRPS 3	Technical	Civil/Structural	MQ174-R3-DH-LE-1000A to MQ174-R3-DH-LE-7002 A	external Works	Landscaping	Please provide AutoCAD drawings for landscaping work. From provided DWF drawings not able to scale the landscape areas.
A76							Answer: Further AutoCAD drawings shall not be provided.
Q77	All	Technical	MEPF				Country of Origin for HVAC Items: As per the manufacturers list, issued for HVAC system no country of origin is mentioned for the HVAC items. Please advise the country of origins to be considered for the same.
A77							Answer: All equipment shall be procured from the Europe, North America, or Japan. Items of Middle East origin may be considered subject to Kahramaa review and Approval.
Q78	All	Technical	Foundation Structures	Appendix F/ 03 Structural			Could you confirm if it is possible the optimization of steel reinforced quantity or the quote must be based on the drawings? If it is possible only in an alternative proposal could you kindly provide the technical requirements and the hypothesis for the structural calculation.

A78							Answer: The Bidder must place his price on the drawings provided. Any alternative price provided must be provided as an Alternative offer with full substantiation. The technical requirements and the hypothesis of the structural calculations shall not be provided.
Q79	All	Technical	MEPF	App. A Section 8	258 to 261/263	8.4.22	a) Please clarify whether the spares listed considered as extra spares. b) Please clarify whether the warranty periods stated is to be covered by the manufacturer or by the contractor.
A79							Answer: The spares listed shall be considered as extra spares. The Warranty periods shall be provided by the manufacturer.
Q80	PRSP2	Technical	Connections to Existing Pipelines	Scope of Works	Page 15/70	1.1.3.12	The clause states " Connections into operational pipelines are to be made and the affected pipework tested, sterilized, flushed as necessary and brought back into service within possession periods to be agreed with Kahramaa. No connection into an existing pipeline shall be made until Kahramaa has accepted and signed a Notification of Safety Precautions (NOSP) certificate..." a) We understand that all the connection points as specified on the tender drawings are all new and non-operational constructed by mega-pipelines contractor i.e. GTC600 Package A & B. Therefore please clarify above clause.." b) Please confirm that the non-operational pipeline sections from tie-in point of GTC 626 to the existing and operational pipelines i.e. RLA, RLB and RLC constructed by mega-pipelines contractor (GTC600 Package A & B) are already tested, sterilized and flushed prior to connecting on them because all sections are dead ends and high turbidity is expected at dead end points. This is to draw the line of responsibility in case any contamination at tie-in points.

A80							Answer: a) The Contractor is required to complete Milestone 1 to allow the Corridor Mains, transmission mains and associated bypass to be put into service. At this point, this section shall become an operational line. b) The sections constructed by other contractors shall be assumed to be hydraulic tested and sterilized by those contractors.
Q81	PRSP2	Technical	Pipeline Swabbing, Sterilization and commissioning	Scope of Works	Page 14/70	1.1.3.11	The clause states " All chlorinated water shall be de-chlorinated prior to discharge to waste..." a) Please clarify the types of de-chlorinating Kahramaa require as referred in the above statement. b) Please provide the location of de-chlorination plant required as stated in the above clause. c) Please confirm that as the item above is not found in the BOQ, this item is to be included in the rates of the contractor for the item sterilization, testing, flushing, etc.. or BOQ 9. d) If the total quantity of one compartment is approx. 160000 m3 please provide the discharge point at the site, once this water is re-used and testing completed for all reservoir's compartments.
A81							Answer: The Contractor shall provide suitable dechlorination for the water to be disposed off. Disposal of this water and the identification of an appropriate location for this disposal remains the Contractors responsibility.
Q82	All	Commercial	Terms of Payment	Appendix B	8/27	1.2	We confirm that as per Clause 1.2 of Appendix B to the Contract, and repeated in Appendix A Scope of Works and Specifications, this Contract is for Procurement and Construction and that the detailing required from the Contractor is as per Clause 1.2 of Appendix B, and that the Design requirements of Articles 3.14, 3.20, 3.43 and 4.40 are not applicable as they have been undertaken by the Consultants. Please acknowledge.
A82							Answer: The Contractor shall comply with the Contract given. All articles of the GCC remain.

Q83	PRPS (D)	General	General	03_Structural	N/A	N/A	We noted that it is required to install under floor drain under the raft slabs. That drainage system will be from perforated pipes. During the construction heavy equipments (like tractors, cranes and concrete transit mixer) will pass upon that embedded drainage system and its anticipated that damage will be happened to the drainage system. We recommend to cancel the embedded drainage system specially from the internal area of reservoirs and may be only at the outside parameter to done only.
A83							Answer: The Contractor shall protect such drains during construction. These drains are required.
Q84	PRPS (D)	General	Scope	GTC626-2014 APpA1D PRPS 3 Scope Rev. 0	11	1.1.3.8	In page 11/68 from section civil scope of work Item 1.1.3.8 regarding Reservoirs Testing it is mentioned that (any repairing to the wall section (for any leaks) to be done from inside face). Its suppose if there is any leak and need to be repaired by injection (which is the most convenient and active method used to stop the leak) to be done from outside face while water is still inside.
A84							Answer: Any leaks shall be repaired by the method considered most suitable to resolve the problem. The Contractor shall propose any such repairs for Kahramaa to review and approve.
Q85	All	Technical	ICA/SCADA	App.A6	24/40	6.3.8	Kahramaa generally require an independent temperature monitoring and transmission. Please confirm that this is not required for this project?
A85							Answer: Independent Thermowell is included in the revised Specifications as issued with Tender Circular No 9.
Q86	All	Technical	ICA/SCADA	App.A6	26/40	6.3.8.C	The distillate water has mixed disinfection of Cl and ClO2. An amperometric chlorine sensor is unable to read the combination of the two disinfectants. Please confirm that this is acceptable and an accurate reading of residual chlorine as stated in clause 6.3.8.C is not required.

A86							<p>Answer: Specified Chlorine sensor is to detect free and combined chlorine. Amperometric sensors able to detect both free and combined chlorine are available in the market. Accuracy of sensor specified is in accordance with Kahramaa's requirement, Tenderer to comply. In addition, revised Specifications will include Chlorine Dioxide sensors as well.</p>
Q87	All	Contractual	Specifications	Circular Letter No.4	Pages 8 & 9	A42, A44 & A48	<p>The tender document repeatedly states in reference to the specifications "Any conflict shall be raised by the contractor in tender stage and be resolved in writing by Kahramaa or the Engineer". Clauses:- 4.2.1.1/4.3.1.1/4.4.1.1/4.5.1.1/4.6.1.1/4.7.1.1/4.8.1.1/4.9.1.1/4.11.1.1. Where conflicts have been raised, the response has been "The Contractor shall include for the most onerous requirements". If the onus to make this decision at tender stage rests with the contractor then his decision is binding contractually. This is contrary to the above stated clauses.</p>
A87							<p>Answer: Where possible, Kahramaa shall resolve conflict during the tender stage. Where this is not possible, Article 2.11 shall prevail.</p>
Q88	All	Technical	ICA/SCADA	Appendix I: Materials Supplied By contractor REV01	25/45	Appendix 1-4	<p>Please provide approved list of manufacturers for Enclosure/Panel/Cabinet.</p>
A88							<p>Answer: No list shall be provided. The Contractor shall submit for approval his proposed supplier, which shall be subject to Kahramaa review and approval.</p>
Q89	All	Technical	ICA/SCADA	MQ174-R2-DH-PI-0001			<p>All P&ID's are showing gate valves as isolation valves for instrument connections. Normally there is an isolating SS316 ball valve connection directly on the pipe tapping plus a SS316 ball valve for draining/depressurizing the instrument connection. Please clarify the requirement.</p>

A89							Answer: Isolation valves are shown on the P&IDs. For more accurate picture of instrument connections see Hook Up drawings which is inline with the Tenderer's understanding.
Q90	PRSP2	Technical	Pumping Station	Scope of Works	Page 17/70	1.1.3.15	The clause states "The Contractor shall take account of all works related to the installation of future pumps. Where required to avoid unnecessary modifications and shutdowns during installation of future pumps and pipework, the Contractor shall complete the work required for future facilities such as pump foundations, supports, cable trays, sleeves, trunking, empty blank control cubical, etc." <i>a) Please clarify the requirement in details specifying all works required for future facilities in the Scope of works to allow the Contractor to price all items and include them in his price.</i> <i>b) Please provide the tender drawings showing the limit of works for future facilities.</i>
A90							Answer: Where required, such works are shown on the contract drawings. However in the procurement of plant and equipment, the Contractor shall consider the intended future installations.
Q91	All	Technical	ICA/SCADA	App.A6	24/40	6.3.8	Kahramaa generally require an independent temperature monitoring and transmission. <i>Please confirm that this is not required for this project?</i>
A91							Answer: All required monitoring is covered under the revised Instrumentation Specifications issued in Tender Circular No 9.
Q92	All	Commercial	Quantities	Enabling works Appendix F			Please confirm that we shall use the Enabling Works drawings for calculation of earthworks/backfill quantities at reservoirs, lagoons and roads within enabling works area. There is a discrepancy between information in particular the number and location of lagoons (difference between enabling works drawings and original base plans shown in Appendix F). Please clarify
A92							Answer: The Contractor shall use the Enabling Works drawings for this purpose.
Q93	All	Technical	Architectural	Enabling works Appendix F			For areas beyond the Enabling Works limits, will the levels be according to "existing ground" levels shown on road profiles?

A93							Answer: For all areas not covered by the Enabling works Contract, the existing levels shall be taken as the existing ground levels given.
Q94	All	Technical	Mechanical				As per the chiller specifications, the chiller shall be of screw type but further to our discussion with chiller manufacturer's they have confirmed that for such small capacity, screw chillers may not be available hence Scroll chillers can be used for those capacity units. Kindly clarify if we can consider Scroll chillers instead of screw chillers.
A94							Answer: Use of scroll chillers is acceptable as long as the space requirements and all other building service interfaces can be met within the design.
Q95	PRPS 5	Technical	Civil				During site visit we could not find graded backfill material at site. We presume graded material will be made available for backfilling during execution
A95							Answer: This shall be made available during the excavation contracts.
Q96	All	Contractual	ITT	Instructions to Tenderers	Page 10	IT.16 Submission of Tenders	It said "Technical Package should not have any commercial proposal, but should contain the following only". Contrary to this "only", please confirm bidders could add more contents in technical package to show capability as required, such as financial statement, ISO certificates, etc.
A96							Answer: The Contractor May submit more information in the technical package to show further capability.
Q97	All	Contractual	ITT	Instruction to Tenderers; Appendix E	Page 14 in ITT; Page 17,18 in Appendix E-Annexure (11),(12)	25.1-a); Annexure (11),(12)	In ITT, it requires project location, client address, date of commissioning, completion certificate, etc. But in tables of Appendix E-Annexure (11,12), these required information above is missing. Please revise the table, or to confirm that bidder could ignore these required information in ITT.
A97							Answer: This information shall be provided in addition to the table given in Appendix E.

Q98	All	Technical	ICA/SCADA	Communication Protocol			Bidder understand that bidder can consider any open protocol for this project like HART, Profibus DP or Foundation Fieldbus based on the most competitive solution available from various reputable technology vendors in the market. Kindly confirm..
A98							Answer: Not confirmed. The Bidder should follow the requirements of the Tender Documents.
Q99	All	Technical	MEPF	GTC626_2014-AppA6_PRPS_Instrument_Spec-10.04.2014_Rev.1			Please provide details on following: Paddle flow Switch: a) Insertion type or Inline Version? b) Type of process connection c) Flow Range d) DPDT contacts are not available. SPDT can be quoted. Please confirm.
A99							Answer: Flow switches have been removed from specifications.
Q100	All	Technical	MEPF	GTC626_2014-AppA6_PRPS_Instrument_Spec-10.04.2014_Rev.1			Please provide details on following: Pressure Switch: a) Type of electrical connection b) DPDT not available. SPDT is available and can be quoted. Please confirm.
A100							Answer: Section on General Design Consideration in the ICA Specifications states that all instrument electrical connection shall be via M20X1.5 cable glands. DPDT is a Kahramaa requirement. Tenderer to comply.
Q101	All	Technical	MEPF	GTC626_2014-AppA6_PRPS_Instrument_Spec-10.04.2014_Rev.1			Please provide details on following: By-Pass Level Gauge: a) Length of by-pass tube b) Type of roller indicator c) Maximum temperature d) Type of process connections

A101							Answer: A) Refer to relevant Mechanical/Civil drawings for the vessel/tank heights. B) By roller it is assumed Tenderer is referring to the float. This shall be magnetic as indicated in the Specifications. C) Refer to Section on General Design Considerations in the ICA Specifications and also the Data Sheets. D) Refer to Hook Up Drawings and Data Sheets as issued in tender circular No 9.
Q102	All	Technical	MEPF	GTC626_2014-AppA6_PRPS_Instrument_Spec-10.04.2014_Rev.1			We have presently not including the following field instruments in our proposal: a) Weight scale b) Vibration sensors for vibration monitoring s/m, as vibration monitoring system is presently not considered. c) Temperature sensors for temp monitoring s/m.
A102							Answer: The Tenderer shall include for the instrumentation required in the Tender Documents.
Q103	All	Technical	ICA/SCADA	GTC626_2014-AppA8_PRPS_Automation_Rev 1_Clause 8.1.4_Page No. 19 of 316			Our understanding is that UPS is not in our scope of supply. Please confirm the same.
A103							Answer: All UPS shall be in the supply of the GTC626/2014 contractor.
Q104	All	Technical	ICA/SCADA	General			Please confirm that Project Scope is for all five Packages to be considered in our proposal.
A104							Answer: the Contractor may price for all or any one of the 5 sites. Each price must be presented separately as a stand alone price.
Q105	PRPS 2	Technical	Civil/Structural	BQ No. 8	8/24/12	8.5.3	Kindly confirm us the bulk excavation of Lagoon 1 is under PRPS scope of work or not?

A105							Answer: Refer to drawings issued in Tender Circular No 2. All excavation works that is not completed by the Enabling Works Contracts shall be completed under this contract.
Q106	PRPS 2	Technical	Civil/Structural	BQ No. 8	8/24/-14	8.6.4	Refer to Land Drainage system, dwg. no. MQ174-R2-DH-CI-3201-A to 3208 mentioned for all 8 numbers of reservoir, whereas our understanding is that the scope limited to only 5 numbers of reservoir. Kindly clarify.
A106							Answer: The scope for land drainage is only limited to 5 reservoirs.
Q107	All	Contractual	App. C-K	Appendix E Annexure 10			Regarding the Financial Requirements in Appendix E Annexure 10 it is stated that "The information must show the financial situation of the Applicant or each party of a Joint Venture and not that of a sister or parent company". If the bidding company is a Qatari subsidiary and its Financial Statements are incorporated in the Holding Financial Statements, would it be acceptable to submit the Consolidated Financial Statements of the Holding?
A107							Answer: This shall be considered on a case by case basis during the technical evaluation.
Q108	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-CI-1001 / A			Please confirm if the attached drawing reference MQ174-R1-DH-CI-100/A, area highlighted with green color is only the contractor's scope of work.
A108							Answer: Not Confirmed. This drawings shows a coloured legend for different types of pipe. The Contractor shall construct the whole of the works within the contract.
Q109	All	Technical	Electrical	MQ174-R1-DH-SE-7101.pdf and MQ174-R1-DH-CI-6201	-	-	None of the arrangement drawings show any room allocated for batteries and chargers nor UPS.
A109							Answer: Central batteries have been provided for emergency lighting and indicated on the Tender drawings. All security and telecoms equipment is supplied via rack-mounted UPS and batteries, and are described in the SCADA design.

Q110	PRPS 1	Technical	Electrical	MQ174-R1-DH-SE-2251.pdf	Item 5.1.3.4	-	SoW as per document BOQ - PRPS 1 - Bill 5 - M&E- Supply.pdf Item 5.1.3.4 indicates rating of LV Diesel Generator at 1275 kVA, whereas single line diagram as per documents MQ174-R1-DH-SE-3203.pdf and MQ174-R1-DH-SE-3204.pdf show 1600 kVA
A110							Answer: Single line diagram MQ174-R1-DH-SE-3203.pdf and MQ174-R1-DH-SE-3204.pdf shows 1280kVA . T1280kVa shall be provided.
Q111	PRPS 1	Technical	Electrical				Please confirm if the UPS batteries required to be is Nickel cadmium for all the UPS's including Rack mounted UPS for SCADA and security systems and the required backup time.
A111							The contractor shall disregard the UPS specification provided in Appendix A7.4 8.4.17 26 3301 - DC Battery Systems and Uninterruptable Power Supplies, and follow the specification provided in Appendix A8
Q112	All	Technical	MEPF	App. A7.4	107/263	8.4.3/1.14	Revenue Metering: Please confirm if the revenue metering is required at the main intake 11kV switchgear incomers or it will be provided by Kahramaa at the Primary Substation as general practice for similar projects. Also, note that the specified manufacturer "ION" for energy meters is not on the approved list of Kahramaa ENA.
A112							Answer: Revenue metering shall be provided in the main intake switchgear. Please refer to the revised Appendix A7.4 Section 8.4.4 26 1300 - Medium Voltage Switchgear for details of the metering requirements. The contractor shall be responsible for obtaining approval from Kahramaa on all manufacturer material submittals.
Q113	All	Technical	Electrical	Appendix 5 & 7			Specification Appendix A5 relates to MV motors and drives as a 'Project Specification'. Appendix A7 is provided as the 'Project Specification' for the remaining electrical works. Much of specification is tied to USA standards and refers to USA practice. Confirm that the USA standards are now acceptable throughout Kahramaa current specifications.

A113							Answer: The contractor shall follow the Tender specifications, however, it is his responsibility to obtain approval from Kahramaa on all material submittals.
Q114	PRPS 1	Technical	ICA/SCADA	-	-	-	Bulk Fuel Storage Tanks are not mentioned in the P&ID. We understand there is no Instrumentation & Control requirement for Bulk Fuel Storage tanks. Please confirm.
A114							Answer: Contractor is to provide two stage low level warning indication.
Q115	All	Technical	MEPF				Please advise if all electromechanical equipment, mentioned under Bill 5, 6 & 9 such as drain pumps, motorized valves, elevators & HVAC equipment etc. have to be supplied with suitable electrical disconnect/isolating switches as no BOQ section is related to these items.
A115							Answer: Power supplies to all equipment shall be provided via local isolators.
Q116	PRPS 1	Technical	Civil/Structural	(MQ174-R1-DH-AR-4085-A) & (MQ174-R1-DH-AR-4020-A)	Auxiliary Building	Roof Insulation	The polystyrene layer of the roof specified in the schedule is 50mm thick and in the drawings it is 100mm thick. Assume the detail given in the schedule is applied.
A116							Answer: Follow the thickness as shown on the drawings (100mm).
Q117	All	Technical	MEPF	Appendix A 7.4 MEPF Electrical Specification, Rev 1	Page No 218 of 263	Clause no 1.10 240 V AC Uninterruptable Power Supply	Referred clause states that (UPS) system shall supply continuously regulated AC power as required for DCS and telecommunication, CCTV and access control systems and Condition Monitoring Systems (only central equipment). Every UPS system shall have a minimum autonomy of 3 hours. However MQ174- R1-DH- SC-2210 SCADA rack details show that rack mounted 6 KW, 240 V AC ruggedized UPS with 90 minutes battery back up shall be used for control & security system loads. Please confirm the battery autonomy and UPS location & its type .

A117							Answer: The contractor shall disregard the UPS specification provided in Appendix A7.4 8.4.17 26 3301 - DC Battery Systems and Uninterruptable Power Supplies, and follow the specification provided in Appendix A8
Q118	All	Technical	MEPF	App.A7.4	46/263	1.10	A. The lead sheathed stranded copper conductor not less than 240mm ² is used for the main grid and down leads. C. The grid conductors are 240mm ² but the down leads are not less than 400mm ² which disagrees with A; D. states that all lead sheathed stranded copper conductors shall be uniform throughout the contract. <i>a) Please confirm that this means all the grid conductors and down leads to be 400mm² lead sheathed stranded cables.</i> <i>b)Please provide the standard to which lead sheathed stranded copper conductors are manufactured.</i>
A118							Answer: Down leads refer to the lightning protection down conductor and the branch from the indoor earthing system.
Q119	All	Technical	MEPF	App.A7.4	46/263	1.10	Please confirm that due consideration has been given to the use of lead on a site storing drinking water.
A119							Answer: Lead sheathed cabling will not be installed within any structure containing water.
Q120	All	Technical	MEPF	App.A7.4	49/263	1.21.F	Please confirm that spacing between electrodes can be ignored as all the earth electrodes are penetrating the water table
A120							Answer: The requirements of clause 1.21.F shall be followed.
Q121	All	Technical	MEPF	App.A7.4	21/263	1.44.G.H	Please confirm that the auxiliary switches and the locking off facility are for MCCB's and not miniature circuit breakers.
A121							Answer: Confirmed.
Q122	All	Technical	MEPF	App.A7.4	25/263	1.53.E	Please can we have this clause clarified. The Qatar Regulations for the Installation of Electrical Wiring, Electrical Equipment and Air Conditioning Equipment covers the earth continuity conductors along the same route as the cable.
A122							Answer: Please disregard the first sentence of this clause.

Q123	All	Technical	MEPF	App.A7.4	25/263	1.53.F	Please clarify whether the lead sheathed copper conductors are laid directly in the ground stranded conductors or tape.
A123							Answer: Lead sheathed stranded conductors shall be used for direct burial.
Q124	All	Technical	MEPF	App.A7.4	25/263	1.53.O	Please confirm that the term 'grounding conductor' is the 'bonding lead' in the Qatar Regulations for the Installation of Electrical Wiring, Electrical Equipment and Air Conditioning Equipment.
A124							Answer: The word "grounding" is interchangeable with the word "earthing". This refers to an "earthing conductor".
Q125	All	Technical	MEPF	App.A7.4	26/263 and 30/263 and similar	1.3.B and 1.5.I and similar	Pointwise compliance statement to the project specifications duly signed by the manufacturer/manufacturer's authorised representative and the contractor. Please clarify whether this apply to all the different specifications referred to in the tender document.
A125							Answer: It refers to all tender documents provided to the contractor. The contractor is not required to submit any third party standards referred to in these Tender documents, only confirm compliance where it is referenced in the Tender documents.
Q126	All	Technical	MEPF	App.A7.4	30/263	1.6.B	Supplying cables and accessories from a single manufacturer creates logistical problems on supply and demand. Please confirm that up to three manufacturers from the approved list can supply.
A126							Answer: The contractor must source from a single manufacturer.
Q127	All	Technical	MEPF	App.A7.4	31/263	1.12.E	Please clarify this clause as it is not understood.
A127							Answer: This states that XLPE/SWA shall be used where indicated on the drawings, and the cables shall be in accordance with the Tender specification.
Q128	All	Technical	MEPF	App.A7.4	35/263	1.19	Please confirm that MICC can be used for fire alarm systems.
A128							Answer: Please see Appendix A 7.1 Loss Prevention, clause 7.1.20.26 for fire alarm installation

Q129	PRPS 2	Technical	Electrical	MQ174-R2-DH-SE-7584 'A'	Lighting and Earthling		The earth pits are shown interconnected by a 150mm ² earth conductor however MEPF, App.A7.4, clause 1.10 on page 46/263 states this conductor to be a minimum of 240mm ² . Please clarify.
A129							Answer: The specification shall take precedence.
Q130	All	Technical	MEPF	App.A7.4	253/263	1.14	It states that all Luminaires to be IP68. Drawing MQ174-R@-DH-SE-7203 has the luminaires as IP66 and QCS2010 Section 10 Clause 11.2.6.5 states IP65. If the project specification takes precedence then they need to be IP68 but it is not possible to find street lighting at IP68. Please clarify.
A130							Answer: Street lighting luminaires shall be IP65.
Q131	PRPS 2	Technical	Electrical	MQ174-R2-DH-SE-7203	External Lighting Schedule		a) The luminaires shown are from Philips Lighting. The MVP506 range for the Security Lighting is 250W SON-T, it shows the Surge Vessel Lighting as the same description but the design load is greater as if it is the 400W SON-T model. Please confirm. b) For the Tanker Filling Station the Wattage is given as 600W. A 600W luminaire is not in this range. Also please note that these luminaires are rated for 35degree Centigrade. Please clarify if this is acceptable.
A131							Answer: a) Luminaire Type A2 shall be considered as a 400W luminaire. b) The standard IEC test temperature for luminaires is 35 degrees, however, it is the contractors responsibility to provide equipment to withstand the climatic conditions stated in Appendix A 7.4, Section 26 0500 - Common Work Results for Electrical, Clause 1.14.
Q132	PRPS 2	Technical	MEPF	App.A6.4.7	32/40	6.4.7	Specification is given for UPS systems. App.A7 -1.10 page 218/263 gives a further specification for UPS systems for various equipment as individual UPS systems. Please confirm: a) where are these UPS systems located b) what is their ratings.

A132							Answer: The contractor shall disregard the UPS specification provided in Appendix A7.4 8.4.17 26 3301 - DC Battery Systems and Uninterruptable Power Supplies, and follow the specification provided in Appendix A8. UPS's for security and telecoms equipment shall be rack-mounted. Central battery units for emergency lighting are separate systems and have been indicated on the Tender drawings.
Q133	PRPS 2	Technical	Electrical	MQ174-R2-DH-BE-8520/8591/9520/9591	WQM Building and Kiosks		The WQM buildings and Kiosks show two socket outlets identified as UPS and stated for UPS equipment. Please clarify: <i>a) if these outlets are fed from a site UPS distribution system or b) whether they are to feed small UPS systems locally.</i>
A133							Answer: These are to be supplied from a rack-mounted UPS system contained within the WQM kiosk.
Q134	PRPS 2	Technical	Electrical	MQ174-R2-DH-BE-1087	Main Pumping Station		The schematic shows no interconnection between earth pits. Please clarify.
A134							Answer: The contractor shall consider interconnection between all earth pits.
Q135	PRPS 2	Technical	Electrical	MQ174-R2-DH-BE-1087	Main Pumping Station		The schematic shows the earth bars below ground level are connected in a ring. Please confirm that this method is required on other earth bars within the building.
A135							Answer: Confirmed.
Q136	PRPS 2	Technical	Electrical	MQ174-R2-DH-BE-1260/1/2/3/4/5/6	Main Pumping Station		a) The drawings show individual earth bars to individual earth pits. Some earth bars show no connection to earth pits. Please clarify. b) The specification on earthing, App.A7.4, MEPF, 1.53 page 25/263 refers to the 'indoor grounding grid'. Please clarify the meaning of the 'indoor grounding grid'.
A136							Answer: a) The contractor shall consider interconnection between all earth pits. b) This is the interconnection of all earth bars.

Q137	All	Technical	Electrical	Appendix F	DWGs	<p>The main schematic for MV Switchgear for PRPS2- Umm Salal (MQ174-R2-DH-SE-2200) has 6 sections:</p> <ol style="list-style-type: none"> 1. MQ174-R2-DH-SE-2201 2. MQ174-R2-DH-SE-2202 3. MQ174-R2-DH-SE-2203 4. MQ174-R2-DH-SE-2204 5. MQ174-R2-DH-SE-2205 6. MQ174-R2-DH-SE-2206 <p>Out of the six, the first three [2201-2203] are Primary substation being fed from a 66kV Kahramaa line.</p> <p>Please clarify whether primary substation is also in the scope of the EPC contractor or will be supplied by Kahramaa?</p> <p>The above query is for all PRPSs.</p>
A137						<p>Answer:</p> <p>The primary substation is in the scope of Kahramaa. The Contractors scope of work shall begin at the site boundary.</p>
Q138	All	Technical	Electrical			<p>whether 66/11KV primary substations & transformers to be considered by contractor ? Please Clarify?</p>
A138						<p>Answer:</p> <p>The primary substation is in the scope of Kahramaa. The Contractors scope of work shall begin at the site boundary.</p>
Q139	All	Technical	Electrical			<p>11KV Generators to be Synchronized with Grid or with 11KV gensets only ? please confirm ?</p>
A139						<p>Answer:</p> <p>11 V generators shall be synchronized with each other. They shall operate in isolation with grid.</p>
Q140	All	Technical	Electrical			<p>Please provide the load sharing/load management requirement for gen sets.</p>
A140						<p>Answer:</p> <p>This shall be proposed by the Contractor based on the final equipment selection.</p>
Q141	PRPS 1	Technical	Electrical	MQ174-R1-DH-SE-2116		<p>Please confirm that Remote Substation No. 1 in front of Reservoir 5 is required under this Contract.</p>

A141							Answer: Confirmed, although it will have limited equipment connected to it initially.
Q142	All	Technical	Electrical	MQ174-R1-DH-SE-3100			Please clarify if LV power cables to future Water Quality Monitoring Buildings are really required under this Contract (e.g. see drawing MQ174-R1-DH-SE-3100) (query relates to all PRPS)
A142							Answer: If the WQM is not being installed, the power cabling is not required, however, spare ways / road crossing ducts etc. are all required.
Q143	All	Technical	Electrical	MQ174-R1-DH-SE-4100ff and CI-2100ff			Please confirm that the roads and street lighting around Reservoirs 5, 6, 7 and the future reservoirs are required under this Contract and to be considered in our Contract Price.
A143							Answer: Roads and street lighting is to be considered for this area.
Q144							HV & LV cable layout & cable schedule for all packages.
A144							Answer: Refer to drawing series MQ174-RX-DH-SE-2100 and MQ174-RX-DH-SE-2200.
Q145	All	Technical	Electrical				Please kindly provide, HV & LV cable layout & cable schedule for all the packages
A145							Answer: Please see drawing series MQ174-RX-DH-SE-2100 and MQ174-RX-DH-SE-2200.

Q146	All	Technical	Electrical	Dwg. Nos. MQ174-R1-DH-SE-2200, MQ174-R1-DH-SE-2201 MQ174-R1-DH-SE-2202 MQ174-R1-DH-SE-2203 MQ174-R1-DH-SE-2204 MQ174-R1-DH-SE-2205 MQ174-R1-DH-SE-2206			The main schematic for one of the packages MQ174-R1-DH-SE-2200 for PRPS1- Umm Bikra (enclosed) has 6 SLD sections: MQ174-R1-DH-SE-2201 MQ174-R1-DH-SE-2202 MQ174-R1-DH-SE-2203 MQ174-R1-DH-SE-2204 MQ174-R1-DH-SE-2205 MQ174-R1-DH-SE-2206 Out of the six SLD sections, the first three [2201-2203] are referring to 11kV switchgear of Primary substation (66/11kV) being fed from a 66kV Kahramaa line. Kindly clarify if these primary substation are also in the scope of the present tender or will be supplied by Kahramaa as part of another contract ?
A146							Answer: The primary substation is in the scope of Kahramaa. The Contractors scope of work shall begin at the site boundary.
Q147	All	Technical	Electrical	Dwg. Nos. MQ174-R1-DH-SE-2201 MQ174-R1-DH-SE-2202 MQ174-R1-DH-SE-2203 MQ174-R1-DH-SE-2204 MQ174-R1-DH-SE-2205 MQ174-R1-DH-SE-2206			Please note that the 11kV Switchgear schematic diagram does not specify the fault level. Kindly confirm if the switchgear shall be suitable to withstand 31.5kA for 1 sec.
A147							Answer: Confirmed

Q148	All	Technical	Electrical				Generator: As per Tender specification Appendix A/Section 7.4 Clause 7.4.1/1.1/A/4 Page No. 1/263 for Generators refers to Standby but in Tender BOQ 5.1.1.3 refers to Prime Duty. Please confirm which has to be followed.
A148							Answer: The generators shall be prime rated.
Q149	All	Technical	Mechanical	QCS 2010 Section 21 Part 17 Standby Diesel Generator set	Page 6/16	Day Tank Size	This spec says capacity 8 hrs at full load and manufactured to BS 799 and no mention of bund whereas Tender GTC 626/14 Appendix A7 MERF Electrical spec. Rev. 1 section 1.15 C 2 says 8 hrs at 130 % of continuous load and manufactured to UL 142 with 150 % bund. Which spec do we apply?
A149							Answer: The day tanks shall be 8 hrs at 130 % of continuous load and manufactured to UL 142 with 150 % bund.
Q150	All	Technical	Electrical	QCS 2010 Section 21 Part 17 Standby Diesel Generator set	Page 10/16	4,b	Where the standard insulation in the alternator is class H would class F temperature rise be acceptable as the spec mentions Class F insulation Class B rise.
A150							Answer: The contractor shall follow the Tender documents.
Q151	All	Technical	Civil/Structural	GTC 626/14 App. A7.4 MEPF Spec. Rev. 1	1.6 Performance requirement s Section C	Noise Level	As we have not received a generator room layout drawing do we include for the sound attenuation splitters in our supply to be installed into the room designed by others.
A151							Answer: Attenuation shall be provided to limit the noise level when measured at 3 metres to 65 dBA. The Contractor is to allow for these.
Q152	All	Technical	Electrical	MQ174-R1-DH-SE-2203			Please provide the SLD for synchronization panel.

A152							Answer: This is as per drawing MQ174-R1-DH-SE-2203. The vendor shall propose the control system.
Q153	All	Technical	MEPF				Lighting control systems are specified under tender specification whereas no other details like drawings are and schematics are not found, please provide the same.
A153							Answer: There is no special lighting control system required.
Q154	All	Technical	MEPF				Please confirm the type of light fixture to be considered for street lighting.
A154							Answer: The design is based on Philips Iridium. If the contractor proposes an alternative as listed in the approved vendors list, he shall confirm and validate the calculations.
Q155	PRPS 2	Technical	Electrical	MQ174-R2-DH-BE-0005/1311-1316	Main Pumping Station		Drawing 0005 shows a Thorn Concavia L high bay luminaire 250W with Auxiliary 150W designated 'X'. The 'XE' symbol on drawings 1311 to 1316 implies that they are emergency luminaires but the Thorn Concavia luminaires do not do emergency lighting. The 150W auxiliary light is only there to provide light until the 250W HPS lamp is at full brightness and is not an emergency light. We have been unable to find any high bay 250W HPS luminaire that has an emergency function. The only high bay emergency luminaires appear to be LED type. Please clarify and provide.
A155							Answer: At each luminaire designated as XE, the Contractor shall include for a KE-type luminaire in addition to the X-type luminaire. This KE luminaire shall be connected to the building central battery unit.
Q156	PRPS 2	Technical	Electrical	MQ174-R2-DH-BE-1011	Main Pumping Station		The symbol of 'MD' inside a circle is not given in the legend. Please clarify what it is?
A156							Answer: This is a motion detector for presence detection control of lighting.

Q157	PRPS 2	Technical	Electrical	MQ174-R2-DH-BE-1465	Main Pumping Station		The lightning conductor matrix shows conductors crossing without square clamps. Do we assume that these have been omitted in error and allow to include. This applies to several other buildings. Please clarify.
A157							Answer: Square clamps shall be provided at all conductor crossings.
Q158	PRPS 2	Technical	Electrical	MQ174-R2-DH-BE-2561	MV & Generator Building		Shows an earth conductor around each room with connections to the earth bars. Please clarify the difference between the earth conductor as shown and the earth bars.
A158							Answer: The earth conductor shall interlink each earth bar.
Q159	All	Technical	Electrical				Size & type of power conductors from MV diesel generator sets to MV switchgear inside the MV generator building, as per Dwgs. Nos. MQ174-R2-DH-SE-2200/2203 & MQ174-R3-DH-SE-2200/2203, are missing and not shown.
A159							Answer: These are 3C 240mm² 11kV cable.
Q160	All	Technical	Electrical				Sizes & types of power conductors from LV diesel generator sets to LV MDBs inside the MV generator building and remote generator building, as per Dwgs. Nos. MQ174-R2-DH-SE-3201/3202 & MQ174-R3-DH-SE-3201/3202, are missing and not shown.
A160							Answer: MV and Generator Building: These cables shall be 7No. 1c 800 sq. mm CU/XLPE/LSF. Remote Generator: These cables shall be 4No. 1c 800 sq. mm CU/XLPE/LSF.
Q161	All	Technical	Electrical				Pump Station Buildings: The LV MDBs (3 Nos.) are shown to be each supplied from the LV emergency diesel generator set housed in the MV generator building as shown on Dwgs. Nos. MQ174-R2-DH-BE-1081/1082/1083 & MQ174-R3-DH-BE-1081/1082/1083; however sizes and types of power conductors are missing and not shown.
A161							Answer: These cables shall be 7No. 1c 800 sq. mm CU/XLPE/LSF, for each MDB.

Q162	All	Technical	Electrical				The LV MDB (R2-MVG-GMDB-01) in the MV generator building, as per Dwg. Nos. MQ174-R2-DH-SE-3201 & MQ174-R3-DH-SE-3201, is shown to feed an LV MDB (R2-MPS-EMDB-01) in the pump station building which are supposed to feed the three LV MDBs inside the pump station mentioned under item 3 above; however associated sizes & types of power conductors are missing and not shown and the single line diagram of R2-MPS-EMDB-01 is missing.
A162							Answer: These three LV MDB's are each fed from the generator MDB in the MV and Generator Building. These cables shall be 7No. 1c 800 sq. mm CU/XLPE/LSF, for each MDB.
Q163	All	Technical	Electrical	Tender Circular No. 4	Query / Answer No. 72		Please advise if the 11kV cables from the primary S/S 11kV switchgear to the pump station 11kV switchgear is within the scope of works.
A163							Answer: The Contractors scope of work shall begin at the site boundary.
Q164	All	Technical	Electrical	MQ174-R2-DH-SE-2201 and 2202:			Is the 11kV switchgear shown (primary S/S) part of the scope of works.
A164							Answer: The primary substation is in the scope of Kahramaa. The Contractors scope of work shall begin at the site boundary.
Q165	All	Technical	MEPF	App.A7	212/215/24 6/263	1.8/1.9A/1.15	The 110Vdc batteries are NiCad, the telecom batteries are NiCad, the emergency lighting central batteries are lead acid and Appendix A8C, page 242/316 has lead acid batteries for the UPS systems. Please confirm all are correct.
A165							Answer: All batteries shall be NiCad.
Q166	PRPS 2	Technical	Electrical	MQ174-R2-DH-SE-2311			Refer to Drawing No. MQ174-R2-DH-SE-2311; Differential relay protection provided for 500kVA & 1600kVA, 11kV/0.415kV Distribution transformer. Generally Differential relay protection is not provided for 11kV/0.415kV Distribution transformer. Please confirm above protection is required.
A166							Answer: The relay shall be provided.

Q167	All	Technical	Electrical	Dwg. Nos. MQ174-R1-DH-SE-2201 MQ174-R1-DH-SE-2202 MQ174-R1-DH-SE-2203, MQ174-R1-DH-SE-2204, MQ174-R1-DH-SE-2205, MQ174-R1-DH-SE-2206			The main schematic for one of the packages MQ174-R1-DH-SE-2200 for PRPS1- Umm Bikra (enclosed) has 6 SLD sections: Out of the six SLD sections, the first three [2201-2203] are referring to 11kV switchgear of Primary substation (66/11kV) being fed from a 66kV Kahramaa line. a) Kindly clarify if these primary substation are also in the scope of the present tender or will be supplied by Kahramaa as part of another contract. b) As the 11kV Switchgear schematic diagram does not specify the fault level please confirm if the switchgear shall be suitable to withstand 31.5kA for 1 sec.
A167							Answer: a) The primary substation is in the scope of Kahramaa. The Contractors scope of work shall begin at the site boundary. b) Confirmed.
Q168	PRPS 3	Technical	Civil/Structural	MQ174-R3-DH-ST-5612			We refer to architectural drawing ref. MQ174-R3-DH-AR-4950 and note that finish code RF-1 refers to Epoxy Floor coating on Hollow Core Slab, however in structural drawings it does not show any Hollow Core slab. The same finish code also specified in other buildings. Please clarify.
A168							Answer: Description of RF1 finish code on drawing no. MQ174-R3-DH-AR-4950 shall be read to refer to Reinforced Concrete Slab.
Q169	PRPS 1		Bill 8 Civil Works	Tender Time Extension		8.11	Please provide the Topographic plan and existing ground levels for PRPS 1 : Package A in order to access the earthwork quantity. The same is not available in the contents of Circular 2.
A169							Answer: This was provided in Tender Circular No 9.

Q170							We refer to 626 Tender: you are kindly requested to permit us to conduct a Site visit for the following packages: - Package B - Umm Slal - Package D - Rawadat Rashed
A170							Answer: Refer to the instructions given in tender circular No 2

TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: ١٣ / ٠٧ / ٢٠١٤	TOTAL PAGES: 1+55
To: All Bidders	Fax:	
For the Attention of: General Manager	Our Ref.:	TA/TW/TWM/14/FX-1246
Subject: GTC 626/2014 – CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 12

TENDER CLARIFICATION

1. Extension of Tender Closing Date:

Please note that the Tender closing date has been extended for three (3) weeks. The revised closing date shall be on Thursday 7th August 2014 at 12:00 noon.

2. Notice of Amendment

2.1 CD for Collection

The bidder is requested to collect a CD containing updated data as referenced below, from the 19th Floor of KM 1 from Sunday 13th July

2.2 Revised Appendices

As a result of the technical queries, a number of sections within Appendix A2, A4 and A8 have been updated as listed below.

Appendix A2

The following sections have been modified:

- 2.1.2.5 Reinforcement Bars
- 2.1.2.8 Surface Treatments
- 2.1.3.1 Concrete
- 2.1.3.11 Reinforcement
- 2.6.1.2 References
- 2.6.2.1, E, Materials
- 2.6.3.1, C, General
- 2.6.3.5 (A,J) Sprayed Metal Coatings
- 2.7.2.1 Products - Materials
- 2.7.3.3 Water Proofing Systems
- 2.8.1 Reservoirs and Potable Water Holding Structures
- 2.8.3 Structures in contact with Surface Water, Land Drainage and Leak Detection

| Page 1

Warning: This fax and any attachments may contain information which is confidential. They should not be reproduced, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or telephone. Confidentiality is not implied by the recipient's acknowledgement.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : م.ص - (974) 44845333 : ف.د
عنوان: ٤١ الدوحة - قطر



- 2.8.4 Structures in contact with Irrigation and Fire Fighting
- 2.10.1.1 Bored Piles - Summary
- 2.10.1.3 Other References
- 2.14 Vitrified Clay Pipes and Fittings
- 2.15 Concrete Pipes and Fittings
- 2.18.1 Wrapping of all buried pipe joints
- 2.20.1 HDPE Duct
- 2.21 Staircase, Ladder, Grating, Open Mesh Flooring and Handrailing
- 2.23 Reservoir Access Covers
- 2.24 Reservoir Air Vents
- 2.25 Fixing metal work inside the reservoir

A4 Mechanical Specifications

The following sections have been modified:

- 4.2.2.13 Retention of pump efficiency for sustainable performance
- 4.2.3.1 Auxiliary Pumps
- 4.2.3.2 Construction
- 4.2.3.18 Retention of pump efficiency for sustainable performance
- 4.3.2 Gate Valves
- 4.3.3. Butterfly Valves
- 4.3.4 Check Valves
- 4.3.5 Air Valves
- 4.3.6 Flap Valves
- 4.3.9 Spare Parts and Special Tools
- 4.7.3 Design Considerations
- 4.8.3.2 Pipes
- 4.8.4 Internal and External Coating
- 4.8.5 Cathodic protection requirement
- 4.11.1.3 Standards and codes

2.3 Additional Drawings

The attached CD contains the following drawings:

- Civil Mechanical – Some updated drawings following tender queries.
- Architectural– Some updated drawings following tender queries.
- Landscaping– Some updated drawings following tender queries.
- Structural – Some updated drawings following tender queries.
- Fire Drawings – A set of updated fire drawings are included.



2.4 SCADA

2.4.1 Data Sheets

A full set of SCADA datasheets may be found in the attached CD.

2.4.2 Changes from Fieldbus to Hart 4- 20mA

The bidders are advised that the communication protocol for some of the instruments connected to PLCs is now changed from PROFIBUS to HART 4- 20mA. The changes impacts the size of the Kiosk connected to Rings 2, 3 and 4, and in generally the number of Racks required in the Main Pump Hall.

There is now a requirement for Wiring Racks to support the additional cabling requirements.

Supporting this instruction is a revised I/O list for PRPS2, which shall be taken as Typical for all sites, and a Typical Layout for a kiosk and racks as they will appear due to the change, all of which can be found in the attached CD. The tenders are to consider this arrangement for all instances where additional wiring is required.

The bidders shall make allowance in their bid for increasing cabling support services depicted on the drawings, for the wiring from the Wiring Cabinets to the field instrumentation.

2.4.2 Appendix A8 – Instrumentation

Appendix A8 has been modified to reflect the changes made.

2.4.3 Preferred suppliers for master PLC and SCADA HMI

The Bidder shall be advised that the procurement of the Master PLC and SCADA shall be modified, such that Kahramaa has the right to choose their preferred supplier for the Master PLC and the SCADA HMI from any of the suppliers in the Vendor list, irrespective of which preferred supplier is presented by the Contractor. This decision shall be at Kahramaa sole discretion.

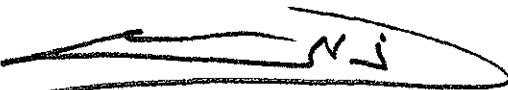


3. Reply to Tenderers Clarifications

Please find attached a table, containing replies to your clarifications.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,


ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW, GTC, File



| Page 4

acknowledging this fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by return of fax or telephone. Confidentiality is not guaranteed by electronic communication.

Tele: (974) 4484 5033 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

٤٤٨٤٥٣٩١ : فاكس : ٩٧٤ - ٤٤٨٤٥٣٣
ص.ب : ٤١ - الدوحة - قطر



No	PRPS site	Query	Subject area	Document/drawing no	Page/Location	Clause/ Item	Query and Answer
Q1			Geotech				<p>All PRPSs – Technical – Geotechnical – Appendix A:</p> <p>Refer to the tender package geotechnical information "Maximum allowable settlement", considered in the design of the reservoir is missing, please provide.</p>
A1							<p>Answer:</p> <p>The reservoirs have been designed for a general maximum settlement of 70mm and a differential settlement of 40mm. (Peaking at 102mm in specific locations under seismic loading.) This is with the assumption that the reservoir will be filled gradually as per the specifications. All pipe connections to the reservoirs would be made after the anticipated settlement has occurred.</p> <p>The raft foundations of the MPS have been designed for a maximum settlement of 80mm and a differential settlement of 60mm.</p>
Q2	All	Technical	Mechanical	GTC626_2014-AppA4_PRPS_Mech_Spec-12 04 14.pdf	8 & 12 / 108	Clause 4.2.2.3 Main Pumps Casing and 4.2.2.5 Main Pump Coating	<p>Main pumps casing shall be of high grade cast iron with a three layer internal coating.</p> <p>Is a casing of stainless steel without internal coating also acceptable?</p>
A2							<p>Answer:</p> <p>No. Stainless Steel casings shall not be accepted.</p>
Q3	All	Technical	Mechanical	Drwg. MQ174-R2-DH-CI-6340			<p>We refer drwg. MQ174-R2-DH-CI-6340, please note that pipe from the tee-off to the surge vessel might not be flexible enough. We would consider an "S" or "U" connection instead of a straight line. Please clarify.</p>
A3							<p>Answer:</p> <p>Such proposals shall be reviewed in detail during the construction stage. After award, the contractor shall present their proposal for Kahramaa review and approval.</p>

Q4	All	Technical	Mechanical	Drwg. MQ174-R2-DH-CI-6341			We refer drwg. MQ174-R2-DH-CI-6341, please note that the inlet pipe goes through vessel foundation. We propose the inlet should be single entry in front of the foundation. Please clarify.
A4							Answer: Due to the length of the vessels double entry is required.
Q5	All	Technical	Mechanical	Appendix A, A4 Mechanical Spec	79	4.8.3.2	As per the tender document, the specification for the carbon steel pipes refer to the API standard. Project vendor list mentions ACIPCO as the approved vendor for the Carbon steel pipe. Kindly note that ACIPCO - USA pipes are manufactured in accordance with AWWA standard and not API. Please clarify if pipes confirming to AWWA standard can be used for this tender?
A5							Answer: The Particular Specifications shall be followed
Q6	All	Technical	Mechanical	Appendix A4 Mech. Specification Rev01		4.4.2 &4.4.3	Kindly Clarify us the valves which state "Motorized or Motor operated " we assume have direct mounted actuators and a Spindle or Pillar is not to be supplied.
A6							Answer: Motorized valves actuator mountings are as shown in the tender drawings and not necessarily direct mounted.
Q7	All	Technical	Mechanical	Appendix A4 Mech.Specifica tion Rev01		4.3	Please provide the Specifications required for "Pressure sustaining", "Flow Modulating", Solenoid" and 'Angled main relief " Valves ,in order to propose an option.
A7							Answer: Refer to project specification, Kahramaa specification and QCS 2010.
Q8	All	Technical	Mechanical	Appendix A4 Mech.Specifica tion Rev01		6.4.4	Are the Valves "automatic air valves " and "Flanged Air Valves" the same type of valve, furthermore please clarify the size of the air valve for all the pumping stations.
A8							Answer: Automatic and flanged air valves are the same type. Air valves are DN150 mm as specified in the Tender BOQ's and Drawings.

Q9	All	Technical	Mechanical	Appendix A4 Mech.Specification Rev01		4.3	All valves which are requested with a spindle shall be offered with a length of 2mts.If however you require a floor mounted actuator.
A9							Answer: Final spindle lengths to match the site requirement as shown in the drawings.
Q10	All	Technical	Mechanical	App. A4 Mech. Spec.	34 &37/108	4.3.2.8/4.3.3.8	This Clause is not clear; please clarify which valves are subject to fail safe and provide a detailed list of valves including its fail safe position, define the criteria of failure (e.x. loss of communication with the valve, power failure, complete system failure, etc.), and clarify the mechanism of valve fail safe for each type of valves.
A10							Answer: Valves on the suction lines, directly adjacent to the pumps shall be fail safe and shall fail closed on failure of the power supply.
Q11	PRPS 1	Technical	Mechanical	General	General		Valves which state "Axial Spring Loaded NRV", we would understand High performance Non Slam "Recoil Check Valve" Please clarify.
A11							Answer: Specification and data sheet to be followed.
Q12	PRPS 1	Technical	Mechanical	General	General		Are "Recoil Check Valve" acceptable for "Non return valves" or "Flanged Swing Check Valves" as stated in the BOQ. Please clarify.
A12							Answer: Specification and data sheet to be followed.
Q13	PRPS 1	Technical	Mechanical	General	General		Valve designs are based on 16 bar rating. To allow accurate sizing and pricing of gearbox's and actuators (valve operators) please confirm the unbalanced pressures seen at the valves.
A13							Answer: Each valve has a different flow condition. The tenderer to evaluate accordingly.
Q14							Kindly provide the building-wise and over-all Schematic Diagram of CCTV and Access Control System for each package.
A14							Answer: Not required as all cameras connect back to Kiosk or Main Piller.

Q15							Kindly provide the building-wise and over-all Schematic Diagram of Telecommunication system for each package.
A15							Answer: Not required. All rings are shown on building drawings.
Q16	PRPS 1	Technical	ICA/SCADA	Appendix A Section-8, Automation Specification	Page 54	8.2.48	<p><u>8.2.48 -Redundancy:</u> The system shall support the use of I/O Redundancy whereby a single sensor or actuator is connected to two separate I/O modules. A redundant controller can utilize a mixture of redundant I/O and non-redundant I/O within the same system.</p> <p>As per the Control Level Schematic Diagram (MQ174-R1-DH-SC-2130-01 to 2149-01), We understand that all field mounted PLC shall have Controller(CPU) & I/O modules as non-redundant but Power supply & Communication link as Redundant.</p> <p>However, Master PLCs shall have Redundant Controller (CPU), Power supply and Communication.</p> <p>Please confirm the understanding.</p>
A16							Answer: Confirmed- However PLC model shall be such that if it is required to upgrade to redundancy, the chassis supports this upgrade.
Q17	PRPS 2	Technical	Mechanical	Bill no: 9	9/4/18		Details of Lifting Equipment required in chlorination and workshop building to be provided.
A17							Answer: This has been provided in the Datasheets with Tender Circular no 9.
Q18							As per recommendation from some valve suppliers, please confirm if we can quote for Re-coil Check Valves instead of Axial spring loaded NRV.
A18							Answer: Specifications and Data sheets are to be followed.

Q19	All	Technical	ICA/SCADA	Appendix-8 , Automation specification Rev 1	Page No. 191 of 316	clause no 8.14.5	Bidder understand from the referred clause that approximately 250 nos of (External & internal cameras) considered for storage & bandwidth requirements. However as per our estimation of camera quantities based on drawings provided, we observed that there are approximately 340 nos of internal & external cameras. Request company to confirm whether we can consider for 340 nos of cameras for storage requirement or not.
A19							Answer: Bidder to use the number count on the drawings , the calculation in the specs is a typical exercise, tenderers shall base their calculations on this methodology.
Q20	All	Technical	ICA/SCADA	Appendix-8 , Automation specification Rev 1 & MQ174-R1-DH-SC-8300 Site wide fiber optic layout	Page No 250 of 316	-	Bidder understand that POE/POE+ cameras (i.e. supply over Ethernet) shall be used for site wide security systems & drawing MQ174-R1-DH-SC-0003 - Typical Details 2 of 2 indicates that field Ethernet switches & MCBs shall be installed in CCTV feeder pillar . Bidder understands that distribution board inside CCTV feeder pillar is for providing non UPS power lighting loads & Ethernet switch installed in CCTV feeder pillar. Please confirm that bidder understanding is correct.
A20							Answer: Distribution Boards are Generator backed and therefore no RUPS is required for these specific distribution boards.

Q21	All	Technical	ICA/SCADA	APPENDIX A SECTION 6 INSTRUMENTATION SPECIFICATION	Page no. 32 of 40	Uninterruptible Power Supplies (UPS)	With respect to battery, customer is requested to clarify following points, a) As the type of maintenance free battery is not specified, please inform which type of battery to be considered for UPS - Ni-Cd or Valve Regulated Lead Acid (VRLA) type. b) Please clarify what will be the required backup time for the battery. c) Please clarify the redundancy requirement of battery - 1X100% or 2X50% or 2X100%. d) Please clarify the redundancy requirement of UPS - 1X100% or 2X100%.
A21							Answer: The invertor is 6kW output power, 2 x Extended battery to provide 2 hours autonomy at load of 2kW, battery type closed lead acid.
Q22	All	Technical	MEPF	App.A7.4	48/263	1.16.A	The dedicated earth electrodes for the transformers/reactors cannot be driven to a depth of 2m into the summer water table without drilling. The ground is hard rock and it is not possible to drive the electrodes by hammer or vibrator. <i>Please clarify what is specified by Kahramaa design.</i>
A22							Answer: The Kahramaa regulations state that the earth electrodes must be driven to a depth of 2m into the summer water table. The contractor must comply with this requirement.
Q23	All	Contractual	App. A1 Scope				Answer 19 in Tender Circular No.4 confirms that no dewatering was found required in any of the sites were the enabling contractor has worked (I.e. PRPS 2,3,4 &5). But Answer 28 in Tender circular No.6 gives the water table level and in PRPS 5 this is almost 9 meters above the formation level of the main pumping station. Please clarify.

A23							Answer: The water levels given in Tender Circular No 6 are the design water levels. These are different from the existing water levels referred in Tender Circular no 4.
Q24							As per the tender specifications Lifting Equipment shall be provided for the Workshop & Chlorination building. Please provide the crane capacity (tonnage) for the same.
A24							Answer: Refer to the datasheets enclosed in Tender Circular 9.
Q25							Please confirm the conventional Non-Return Valves and Flanged Swing Check Valves will be sufficient to protect against excessive pressure head rises or shall be used for non-Slam Recoil Type, as this project is multi-pump installation.
A25							Answer: The Bidder shall follow project specification and datasheets.
Q26	INSTRUMENTATION & CONTROL						Refer to Automation Rev. 1 Clause 8.1.34 Page No. 30 of 316, it is mentioned "For the access to the stored data, the industry-compliant software is to provide an ODBC interface, which gives other applications access to the data". Please elaborate more on the same.
A26							Answer: This relates specifically to the OPC I/O server or the Operator Server or Historians, The Microsoft Open Database Connectivity (ODBC) interface is a C programming language interface that makes it possible for applications to access data from a variety of database management systems (DBMSs). ODBC is a low-level, high-performance interface that is designed specifically for relational data stores.
Q27							Refer to app. A8 PRPS Automation rev. 1 Clause 8.2.41 Page No. 52 of 316, The standard cabinet shall conform to IP40 and a cabinet upgrade to IP55 shall be available". Please confirm the Cabinet IP Requirement.
A27							Answer: An IP40 cabinet is required. Should it be necessary to upgrade to IP55 It shall be available in the same range of cabinets, product line.

Q28							Refer to App. A8 PRPS Automation rev. 1 Clause 8.2.54 Page No. 56 of 316, Please clarify whether SOE Functionality is required for DCS System or not. Please confirm.
A28							Answer: SOE functionality is required.
Q29							a) 4-20 mA DC, 0-20 mA DC and +/- 20 mA DC, isolated and non-isolated inputs.
A29							Answer: All shall be available in the PLC Chassis - refer to I/O list for the requirement of the service module, also data sheets describe the Service Modules for the project.
Q30							The system shall be capable of supporting the following digital input types: a) 24 VDC (capable of being time stamped to 1 msec accuracy); b) 125 VDC; c) 24-48 VAC/DC, 50/60 Hz; d) 120 VAC, 50/60 Hz; e) 230 VAC, 50/60 Hz;
A30							Answer: The selection of PLC chassis, backplane, and CPU shall be capable of supporting this functionality.
Q31							The system shall support output types of 0-20 mA, 4-20 mA, +/-10 V DC, 0-10 V DC and 1-5 V DC.
A31							Answer: The selection of PLC chassis, backplane, and CPU shall be capable of supporting this functionality.
Q32							The following solid state output ratings shall at least be available: a) 24 V DC; b) 120 V AC, 50/60 Hz; c) 230 V AC, 50/60 Hz; However, IO Summary does not provide any information of the same. So, we will consider IO Modules mentioned below: AI/O - HART 4-20 mA; DI/O - 24 VDC; Please confirm.

A32						Answer: The selection of PLC chassis, backplane, and CPU shall be capable of supporting this functionality.
Q33						Refer to AppA8 PRPS Automation Rev. 1 Clause 8.2.54 Page No. 56 of 316, Our understanding is Separate/Dedicated SOE server is not required in case DCS Server has inbuilt SOE functionality. Please confirm.
A33						Answer: A fully redundant and synchronized server shall be provided.
Q34						Refer to AppA8 PRPS Automation Rev. 1 Clause 8.3 Page No. 66 of 316, OPC Server requirement is mentioned. However, information about the Third Party Systems communicating via OPC server is not provided. Please provide the details on the same.
A34						Answer: Please refer to diagrams in specification , and automation drawing package, Fig 1 specification , Figure 2,
Q35						Refer to AppA8 PRPS Automation Rev. 1 Clause 8.3.8 Page No. 70 of 316, we understand that there is requirement of Hard-disk for Data storage purpose. Please confirm.
A35						Answer: Refer to automation drawings which shows dedicated racks for data storage.
Q36						Refer to AppA8 PRPS Automation Rev. 1 Clause 8.4.14 Page No. 81 of 316, we understand that Tele control Remote Pumping Station will communicate to DCS. Please provide the communication protocol to be considered.
A36						Answer: The protocol will be OPC- HMI messaging only non real time.

Q37							Refer to AppA8 PRPS Automation Rev. 1 Clause 8.4.32 Page No. 91 of 316, Control Centre and Video Wall: The Control Console and Video Wall Frame design is based on the winsted SIGHT-LINE Architecture and Engineer Specifications. The Typical Styles and measurements for the consoles and Video Wall Frame are depicted in drawings in the Appendices of this specification. The system shall be comprised of end frames and/or intermediate frames with horizontal stringers and decorative end panels. The system will also feature a hinged dual-channel duct over with integrated aluminum VERSA-TRAK mounting system for LCD monitor arrays". We will supply our choice of Furniture. Please confirm the same and specify the quantity of the consoles to be supplied.
A37							Answer: Furniture shall be similar to that referenced and shall be subject to Kahramaa review and approval.
Q38							Refer to Control System and Telecom Clause 3 Page No. 6 of 14, please elaborate more on the following mentioned below to arrive at right solution proposition: 1. SCADA Runtime Server 2. SCADA Energy Client 3. Engineering Runtime Client 4. Physical Security Client 5. Local Historian Client
A38							Answer: Please refer to Figure 9 , these represent applications running on workstations , Process Operators will use the SCADA HMI runtime client via a SCADA HMI runtime Operator server, Energy Client will monitor MEP systems using various applications already described in clause 8.15, Physical Security and CCTV will be as described in clause 8.14 and 8.16.

Q39							Refer to Control System and Telecom RFQ Clause 4 Page 7 of 14, please provide the Controller & IO Module Segregation Philosophy to be considered for the Project.
A39							Answer: Please refer to Fig 1 of Automation Specification, the controller sits in the computer room and communicates with Field PLCs via Profinet/EthernetIP over a Fiber Optical Network, all Field PLCs are either rack mounted in buildings or in KIOSKs.
Q40	All	Technical	Mechanical			1	Please clarify that conventional Non Return Valves or Flanged Swing Check Valves shall be used @ Pump station and not high performance non slam recoil check valves which has a superior dynamic performance, longer life and maintenance free operation .
A40							Answer: <u>Follow project specification and data sheets .</u>
Q41	All	Technical	Mechanical	Appendix A4 Mechanical Specifications		Clause 4.3.3.1	Appendix A Mechanical Specification Revision 1 Clause 4.3.3.1 concerning butterfly valves is designed around a specific manufacturer's product only . Please clarify if other manufacturer's (ie glenfield etc..) product such as the Seat design replaceable stainless steel seat which allows repair / maintenance and replacement of the seat ring with the valve in situ will also be acceptable.
A41							Answer: The project specification and data sheets shall be followed. Should the product from a manufacturer on the approved vendor list vary from these documents, then the use of that product shall be subject to Kahramaa review and approval.
Q42	All	Technical	Mechanical				Please clarify if all valves outside the pumping station within the reservoir compound shall be provide with extension spindle , headstock and actuators .
A42							Answer: <u>Follow project specification and data sheets .</u>

Q43	PRPS 1	Technical	ICA/SCADA	Scope of Work and Specification rev 01	24/60	1.1.3.33	Drawing number: MQ174-R1-DH-SC-2132-01 , Page 4 of 22, large screen 50", 10 nos are shown. Referred document mentions 6 nos of 55" Large monitors. Please confirm the required quantities & dimension of the Large Monitor.
A43							Answer: 10 x 55 Inch LED screens are required.
Q44	All	Technical	ICA/SCADA	Appendix A8 Automation Specification Rev 01	161/316 & 242/316	8.10.3 & Appendix 8B	Page 161/316 - UPS operating voltage 415/240 V 3Ph 4W & Page 242/316 - Ups output / input voltage is 1Ph 220V. Please confirm if three phase (3Ph input / 3Ph output) ups or single phase ups (1Ph input / 1Ph output is required).
A44							Answer: Corrected 6kW 240 VAC output single phase 50Hz.
Q45	All	Technical	ICA/SCADA	Appendix A8 Automation Specification Rev 01	40/316 & 242/316	8.10.3 & Appendix 8B	Page 40/316 mentions UPS backup of 70-90 minutes Page 242/316 mentions Battery back-up of 7 Minutes . Please confirm the required Back-up time.
A45							Answer: Backup time is 2 hours at 2000W with extendable batteries to achieve this.
Q46	All	Technical	ICA/SCADA				Please provide a detailed Specification for Vibration Monitoring System.
A46							Answer: Refer to Appendix A6.
Q47	All	Technical	ICA/SCADA	Ring 3 Control Level - Schematic Diagram	2 of 15	-	PRPS 1 Ring 3, Network Diagram Overview Sheet 1 & 2 shows local operator panel (HMI) while detail schematic diagrams (Field Level SCADA Schematic Diagrams) does not show any local operator panel. Please Clarify.
A47							Answer: Noted- Please follow Network diagrams for touch panels.
Q48	All	Technical	ICA/SCADA	Ring 3 Control Level - Schematic Diagram	2 of 15		HVAC related PLCs are not shown in network diagram overview, while HVAC SCADA Schematic Diagrams (e.g. shows PLC are connected to network switches. Please clarify.
A48							Answer: Bidder to review again as these are shown on both drawings.

Q49	All	Technical	ICA/SCADA	BoQ			How many access cards are needed to be supplied?
A49							Answer: Please allow for 50 access cards per site for pricing purposes.
Q50	All	Technical	ICA/SCADA	BoQ			We need to know how many employees / users / contractors credentials are expected to be provisioned in the access control system?
A50							Answer: Allow for 50 user credentials for each site for pricing purposes.
Q51	All	Technical	ICA/SCADA				Any interface is required with single sign-on LDAP to be considered?
A51							Answer: This feature is to be allowed for in the bidders pricing.
Q52	All	Technical	ICA/SCADA				We assume that the digital certificate credentials will be populated and managed by any external system and the access control integrator will look-up for physical access control management with the necessary certificate validation. Please confirm
A52							Answer: This is a requirement of the system.
Q53	All	Technical	ICA/SCADA				Is there a PKI infrastructure existing?
A53							Answer: No there is no Public Key Infrastructure- the physical security offers must support this functionality.
Q54	All	Technical	ICA/SCADA	Ring 1 Control Level - Schematic Diagram (Example)	6 / 22	-	Please confirm that dedicated FOC for the redundant switches can be used. Since the tender requires two switches per location, higher availability and reliability can be achieved by providing dedicated FOC rings for the two switches respectively.
A54							Answer: Bidder to provide a compliant bid and offer this as supporting proposition.

Q55	PRPS 2	Technical	Civil/Structural	-	Reservoir	Staircase	A staircase is shown only in the civil dwgs but not shown in the structural dwgs. However we took off measurements for the shown staircase in the civil dwgs. Please advise.
A55							Answer: These are also shown on the structural drawings. Refer to drawings ST-3641.
Q56	PRPS 1	Technical	ICA/SCADA	Appendix A8 Automation Specification Rev 1	220 of 316	8.16.12 System Architecture	As per this clause, card readers or biometrics input need to be considered for physical access control system. Bidder requests customer to provide the quantity breakup for Card Reader and Biometric Readers.
A56							Answer: Bidder shall only provide Card Readers but system must support biometric readers.
Q57	All	Technical	ICA/SCADA	Appendix A Section 6	14/40	6.3.3 A 3	As per the said clause transmitter IP rating shall be IP68. We understand that IP68 rated transmitter may not be provided by many OEMs. In the view of above, customer is requested to confirm if IP67 rated transmitter can also be acceptable.
A57							Answer: IP67 rated transmitted can be accepted.
Q58	PRPS 1	Commercial	Terms of Payment	MQ174-R1-DH-CI-6023-A & MQ174-R1-DH-CI-6024-A			kindly provide us with details for ladder on mass concrete support and handrail.
A58							Answer: The query is not clear. For reference to ladder and handrail refer to MQ174-R1-DH-CI-6024 and CI-6025.

Q59	PRPSs 2,3,4 & 5	Technical	Automation & Control	Appendix F - A&B Appendix F - C Appendix F - D Appendix F - E	SCADA (Rack Diagrams vs. HVAC SCADA Field Level Schematics & Electrical SCADA diagrams)	RING 3 - SCADA DETAILS	<p>There are more PLCs depicted in the SCADA (Rack Diagrams) than in the HVAC SCADA, Field Level Schematics & Electrical SCADA diagrams. For instance, RCK-WQM6, RCK-WQM7 & RCK-WQM8 are included in the SCADA (Rack Diagrams) but they are not shown in HVAC SCADA, Field Level Schematics & Electrical SCADA diagrams. Please could you inform us which diagrams we should consider in order to prepare the bid?</p>
A59							<p>Answer: Refer to Network Overview diagrams for number of switches and PLCs required.</p>
Q60	PRPS 3	Technical	Storm water	DWG R3-DH-CI-3155&3164	DWGs		<p>Typical details on dwg 3164 do not show connection with another pipeline having angle insert into the chamber. <i>Please clarify detail in C13-CB12 & C05-CB08 on dwg 3155 or provide the details.</i></p>
A60							<p>Answer: This is a typical detail, for all connections, and shall be read in conjunction with plan/profile drawings.</p>
Q61	PRPS 2	Technical	ICA/SCADA	MQ174-R2-DH-SC-2461/62	Surge Vessels	07 Automation and Control - Field Level Schematics	<p>a) Surge vessels are normally connected by manual gate valves and locked in the open position. The only time the surge vessel needs to be isolated is for repair/replacement. Normally, in previous Kahramaa installations, all the vessels are interconnected with common level control. It appears in this case that they are all operating independently - <i>Please confirm this is acceptable in Kahramaa design.</i> b) Please provide the control philosophy for the surge suppression.</p>
A61							<p>Answer: Each dedicated pipeline is operated independently and hence the surge vessel will be operated independently. The operation and control philosophy for the project shall be provided to the successful bidder.</p>

Q62	All	Technical	Pumps	Mechanical Specification	Page 18/108, 21-22/108 - Appendix A4	Main Pumps 4.2.2.3. - N & 4.2.2.4, Aux Pumps 4.2.3.4. & 4.2.3.5	<p>The clause 4.2.2.3-N states "The contractor is responsible to take necessary steps to remedy any vibrations or noise which in the opinion of the Engineer is excessive".</p> <p>The clause 4.2.2.4 also states " The maximum permissible noise level shall be 85 dB(A).</p> <p>Please clarify in case of difference between the above two clauses i.e. opinion of Engineer and rate of 85 db(A) which clause superseded the other.</p>
A62							<p>Answer:</p> <p>The clause 4.2.2.3 refers to the vibration and any noises caused due to the same. The clause 4.2.2.4 refers to the maximum permissible noise level for the equipment during operation.</p>
Q63	All	Technical	Pumps	Mechanical Specification	Page 8/108 - Appendix A4	4.2.2.2.D	<p>The specification states "The minimum efficiency shall not be less than 70% at any other operating point located within the specified pump operation range". As no data is given for pump operating range/flows and delivery varies i.e. QUC, transmission, etc., please clarify how this requirement can be complied with for all the operating scenarios/schemes designed and used in Kahramaa hydraulic study .</p>
A63							<p>Answer:</p> <p>Follow project specification and data sheets for the selection of pumps.</p>
Q64	All	Technical	System Curve	Mechanical Specification	Page 8/108, Appendix A4	4.2.2.2-A&B	<p>Clause 4.2.2.2.A&B states "Pump duty points are to be selected to operate at their BEP (best efficiency point) within the system operating range in different operating scenarios"</p> <p>Clause 4.2.2.2.D states "The minimum efficiency shall not be less than 70% at any other operating point located within the specified pump operation range".</p> <p>Please clarify the above clauses and provide the pumps operating range/flows for BEP and 70% efficiency .</p>
A64							<p>Answer:</p> <p>Follow project specification and data sheets for the selection of pumps.</p>

Q65	All	Technical	System Curve	Mechanical Specification	Page 18/108 - Appendix A4	4.2.3.2 A&B	<p>Clause 4.2.3.2 A&B states "Pump duty points are to be selected to operate at their BEP (best efficiency point) within the system operating range in different operating scenarios"</p> <p>Clause 4.2.3.2.D states "The minimum efficiency shall not be less than 60% at any other operating point located within the specified pump operation range".</p> <p>Please clarify the above clauses and provide the pumps operating range/flow for BEP and 60% efficiency.</p>
A65							<p>Answer:</p> <p>Follow project specification and data sheets for the selection of pumps.</p>
Q66	All	Technical	Check Valves	Mechanical Specification	Page 39/108 - Appendix A4	4.3.4.1	<p>The clause states "The design of the valve body shall be such thatto minimize jamming by rags and debris."</p> <p>This clause refers to non-screened liquids. It cannot be in drinking water applications and there shall be no rags and debris in drinking water. We also understand the pipelines will be flushed upstream of control valves and control valves will not be affected. Please clarify.</p>
A66							<p>Answer:</p> <p>Rags and debris are not expected within the potable water. The Contractor shall follow the specifications and datasheets for the selection of the check valves.</p>
Q67	PRPS2	Technical	Pumps	Mechanical Specification MQ174-R2-DH-CI-6200-A	Page 7/108 - Appendix A4	4.2.2.1	<p>The specification clause states " Water velocity in pump suction and discharge nozzles shall not exceed 4 and 5 m/s.."</p> <p>SS2B Pump: 0.417 m3/s</p> <p>1) Suction: The drawing shows item #19 with ND of 350 which would result to 4.34 m/s velocity. Please clarify if the clause in specification is to be ignored and this velocity is accepted by Kahramaa.</p> <p>2) Delivery: The drawing shows item #21 with ND of 300 which would result to 5.90 m/s velocity. Please clarify if the clause in specification is to be ignored and this velocity is accepted by Kahramaa.</p> <p>General</p> <p>Please confirm that the defined pump duty point or flows shown in the specification, BOQ and Drawings are the maximum flows related to the pumping system since any changes or increase of flow may result to non-compliance of the specified above clause and cause vibration and noise in operation.</p>

A67							Answer: The Contractor shall follow the specifications and the datasheets for pump selection.
Q68	PRPS3	Technical	Pumps	Mechanical Specification MQ174-R3-DH-CI-6200-A	Page 7/10 - Appendix A4	4.2.2.1	<p>The specification clause states " Water velocity in pump suction and discharge nozzles shall not exceed 4 and 5 m/s.."</p> <p><u>SS3A Pump: 0.723 m3/s</u></p> <p>1) Suction: The drawing shows item #18 with ND of 350 which would result to 7.52 m/s velocity. Please clarify if the clause in specification is to be ignored and this velocity is accepted by Kahramaa.</p> <p>2) Delivery: The drawing shows item #34 with ND of 300 which would result to 10.23 m/s velocity. Please clarify if the clause in specification is to be ignored and this velocity is accepted by Kahramaa.</p> <p><u>SS3B Pump: 1.539 m3/s</u></p> <p>1) Delivery: The drawing shows item #19 with ND of 600 which would result to 5.45 m/s velocity. Please clarify if the clause in specification is to be ignored and this velocity is accepted by Kahramaa.</p> <p><u>General</u></p> <p>Please confirm that the defined pump duty point or flows shown in the specification, BOQ and Drawings are the maximum flows related to the pumping system since any changes or increase of flow may result to non-compliance of the specified above clause and cause vibration and noise in operation.</p>
A68							Answer: The Contractor shall follow the specifications and the datasheets for pump selection.

Q69	PRPS4	Technical	Drawing	MQ174-R4-DH- CI-9106 Rev. A			<p>The IL of the 2 Nos. DN2400 corridor suction inlets to the main pumping station at the tee connection on the DN2400 suction main is 13.39m and as it directs towards the main pump station, it crosses the corridor incoming mains and recirculation main with the same invert level, then it connects to the main pump station inlet at IL 10.39. Therefore vertical bends or rotated tee with vertical bends etc are required along this corridor suction inlet somewhere after the tee at the connection point on the suction main before it crosses the corridor incoming mains to avoid the clashes. Please note that there are no vertical bends or info shown in the referenced Tender Drawing along this DN2400 corridor suction inlet.</p> <p>a) Please provide the section of corridor suction inlet to the PS, b) Clarify and indicate in the Tender Drawings the arrangement at the crossing c) Confirm and amend the BOQ's for the contractor to price accordingly.</p>
A69							<p>Refer to drawing number MQ174-R4-DH-CI-9106-REV A which shows 11.25 degree vertical bend at chainage 22.80m. Furthermore the bidders shall read the profile correctly as the corridor suction main. The level of 10.39m described in the query relate to transmission suction main which can be find in drawing MQ174-R4-DH-CI-9108 & 9109. The vertical bends are described in the BOQ clause 6.5.4.</p>
Q70	PRPS4	Technical	Drawing & BOQ	MQ174-R4-DH- CI-6200 Rev. A			<p>Item 64 in the material list shown on Tender Drawing and described in item 6.1.74 of Tender BOQ require DN80 PN16 Air Valve. Please confirm the type of air valve as it is not specified in the Tender Drawings nor in the BOQ but there are three types of air valves in the specification.</p>
A70							<p>Answer: The air release valve shall be double orifice type, suitable to be used for priming and continuous pumps operation.</p>

Q71	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-CI-3019/A MQ174-R1-DH-CI-8004/A			We refer to drawing no. MQ174-R1-DH-CI-3019/A, Note No. 15 which states that " All structural concrete shall be Grade OPC 20 as per QCS 2010", however Section B indicates cover slab Grade OPC 35 and drawing no. MQ174-R1-DH-CI-8004/A Detail 1 indicates Concrete Grade OPC 50 reinforced concrete cover slab. Please clarify.
A71							Answer: All manholes shall be constructed with structural concrete grade OPC 40.
Q72	All	Technical	Electrical				<p>Local Area Network:</p> <p>In the provided document, Aggregation Layer Switch mentioned "integrated wireless, firewall support intrusion detection and virtualization and network analysis. Also in the appendix session the following service modules are mentioned:</p> <p>Gigabit Firewall Gigabit VPN High Performance Intrusion Detection Gigabit Content Switching Module High Performance SSL Termination Gigabit Content Services Gateway</p> <p>Is it required to consider Wireless controller module (Wsim), Firewall (ASA) and NAM module in the aggregation switches. Please advise.</p>
A72							Answer: The Bidder is to allow for all features.

Q73	All	Technical	Electrical			<p>Local Area Network:</p> <p>In the appendix session , there are two types of PLC Controller's mentioned (Multi Purpose Pipe work PLC Controller and Large Capacity PLC Controller) . The design of these PLC's are not mentioned in the drawing or spec. Please advise how many Multi purpose and Large Capacity PLC controllers considered per reservoir.</p> <p>However there is a switch quantity which does not match the Schematic drawings and the Rack Layout in some rings. Please advise which one to follow Rack layout or Schematic. Please advise.</p>
A73						<p>Answer:</p> <p>Large Capacity controllers are in the computer room, all other controllers are in the field, Multi Purpose controller are in the field.</p> <p>Please follow the rack diagrams, It should be noted that in the schematics the note clearly states that for HVAC and Electrical systems no new switches are provide and that the PLCs connect to the already defined process switches. The actual amount of switches are given on the overview network diagrams.</p>

Q74	All	Technical	Electrical				<p>For Wide Area Network /DWDM please provide the following:</p> <ol style="list-style-type: none"> 1. Number of sites 2. Distance between sites 3. Physical fiber route without common point 4. Whether they need 80 channel or 40 channel system as we cannot have 80 channel with 100GHz OR 40 channel with 50GHz 5. Service demands <ol style="list-style-type: none"> 5.1 How many 1GE, 10GE interfaces and source and destination 5.2 What type of FC link capacity 5.3 What are the SDH interface types (OC3, OC12, OC48 ..) 6. Whether all these links needs full protection over DWDM or only a selected traffic ? if selected traffic, then what are the links. 7. If SDH services are required then whether do they have common existing clock for synchronization 8. Fiber type is mentioned as G.652 and needs to know what are the expected loss per kilometer 9. whether they have cross patching between two sites or splicing 10. it is mentioned in the documents they need IPoDWDM, what is the network design, do they have ASR9K or CRS.
A74							<p>Answer:</p> <p>Bidder to provide 80ch at 50GHz spacing C Band as per updated specification , all other items are covered in the specifications, Budget Loss between sites is for another contract.</p>

							For CCTV systems, please provide/advise the following; 1. CCTV Camera Location Layout is not provided . Can the Tenderer consider the camera quantities as per the details provided in the Schematic Drawings? 2. As per the Schematic , all the camera connectivity to switch is been shown as POE Connectivity . So can we assume all the cameras are connected by copper. 3. Outdoor Camera Locations are not shown in the drawing . Please provide the same.
A75							Answer: Refer to automation drawings referenced MQ174-Rx-DH-SE-51xx. All camera positions are provided.
Q76	All	Technical	Electrical	MQ174-R2-DH-SE-2201 and 2202:			Are the 30MVA 66/11kv transformers (primary S/S) part of the scope of works. Please provide BOQ.
A76							Answer: The primary substation is in the scope of Kahramaa. The Contractors scope of work shall begin at the site boundary.
Q77	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-CI-3020/A			Please provide details for the pipe bedding as shown in the drawing MQ174-R1-DH-CI-3020 Rev. A Section C.
A77							Answer: This is a typical detail for the foul sewage manholes. The internal and external backdrop are shown on typical vertical backdrop detail in the drawing MQ174-R1-DH-CI-3020.
Q78	All	Technical	Civil/Structural	MQ174-R1-DH-CI-3320/A and MQ174-R1-DH-CI-3019/A	Section C		Please advise the extent of the concrete pipe bedding as detailed in Section C, including allowable thickness of the same.
A78							Answer: This is a typical detail for the foul sewer. This shows a typical 200mm allowed from the external pipe barrel to the edge of the mass concrete.

Q79	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-CI-3089/A			Please provide details for 2 No. handrail as shown in drawing no. MQ174-R1-DH-C1-3089 Rev.A
A79							Answer: The grab handrails support in all chambers shall be GRP material
Q80	All	Technical	electrical	MEPF Electrical Specification Rev. 1 AC and DC UPS system			Please clarify the following. 1. Rating of the each AC & DC UPS system; 2. Back up time required for each system;
A80							Answer: 1. As per Specification, 240V AC UPS shall be designed to provide uninterrupted power supply for DCSs, Telecommunication Security Management Systems and Online Monitoring Systems considering all actual loads, requirements for future expansion and 10% spare power requirements. There are no DC UPS. 2. Refer to the rack diagrams for UPS requirements.
Q81	All	Technical	Civil/Structural	Appendix F - Landscaping MQ174-R1-DH-LE-2000/A	Hardscape Key Plan	8.6.3.1	As per the layout drawing, Precast Concrete paver block shown in the Future Reservoir nos. 5, 6 & 7 Area also (not part of this Contract). Please clarify if the above scope is part of this tender?
A81							Answer: The hard landscaping around future reservoirs is not part of this contract.
Q82	All	Technical	Civil/Structural	Kiosk building			Please indicate the purpose of Kiosk buildings and kindly advise if there any MEP(Plumbing ,lightings, HVAC, etc.) work or finishing work related.
A82							Answer: The kiosks buildings are dedicated for instrumentation purposes. For the MEP requirement refer to drawings MQ174-R1-DH-BM-9510 and MQ174-R1-DH-BE-9550/9584/9585 and 9591 for AC, telecom, lighting and fire alarm requirement.

Q83	PRPS 4	Technical	Mechanical	App A-A1 CI-3049 & 3051 PI-1001 & 1002	26 of 70	1.1.3.21	Package E, PSPR 4: As per scope of works the dosing to the corridor lines shall be capable of dosing 17 kg/hr chlorine distributed equally into three pipeline. Please confirm whether corridor lines means incoming to reservoir IDC or out going from CPS2. If its incoming to reservoir IDC then please note that there are 4 corridor incoming not three, also no dosing points are shown on drawings. Please clarify.
A83							Answer: Refer to the PI&D's for the chlorine dosing. The inlet to each compartment of reservoir will receive chlorine dosing. The bidders shall read correctly the drawings as we are not dosing at the incoming pipes from the desalination plant to the IDC and not either at the suction lines to the main pumping station (refer to drawings PI-1001. Appendix A1 section 1.1.3.21 with the following paragraph shall be deleted: "The dosing to the corridor lines shall be capable of dosing 17kg/h chlorine distributed equally into three pipelines which operate at max 8.5 bar pressure".
Q84	PRPS 1	Technical	Mechanical	BOQ no.6	6/82/27	6.7.25	Motorized actuator pillar with extension spindle. Please clarify "Pillar", is it the headstock?
A84							Answer: The Pillar is the headstock.
Q85	PRPS 5	Technical	Mechanical	BOQ no.9	9/18/10	9.2.6.2	The 42m3 Capacity Bulk tank is not included in the contract drawings.
A85							Answer: Refer to drawing MQ174-R5-DH-CI-6321
Q86	All	Technical	Mechanical	Appendix A2- Civil Structure Specifications Rev1	181/186	2.11.1	Ductile iron pipework: As specified all flanged pipes and fittings should be provided with integrally casted flanges, however the pipes manufacturer are stating that this can be applied for fittings and for pipes length between 0.5 m to 2.5 m; please confirm that DI pipes outside this length range can have welded flanges
A86							Answer: All flanged pipes and fittings shall be provided with raised face integrally cast flanges and shall be rated to PN16 as detailed in BSEN 545, and supplied with approved gaskets from the same Manufacturer.

Q87	PRPS 2	Commercial	Quantities	MQ174-R2-DH-BE-1241 & MQ174-R2-DH-SC-2115			The 'Security Layout' drawings show a different layout for the CCTV to the 'SCADA Layout' drawings. Which layout is to be followed.
A87							Answer: Refer to the Automation drawing layout, which should be the same for the SCADA layout,
Q88	PRPS 2	Technical	Electrical	App.A1	24/70	1.1.3.19	Clause 1.1.3.19 gives the pump duty heads for single and twin pump operation as 5.87m and 9.96m respectively but also states that the pressure control valve shall maintain a pressure of 1.1 bar upstream. This is not compatible with the pumps specified.
A88							Answer: Refer to specification and data sheet for the pump duties. Also note that the tanker filling ps is underground and there is always positive suction head.
Q89	PRPS 2	Technical	Electrical	MQ174-R2-DH-PI-0002			This P&ID for Flow Control Valve shows a motorized butterfly valve with position transmitter. Confirm that this valve is not a flow control valve but a butterfly valve used for throttling purposes.
A89							Answer: Each incoming line from the desalination plants has an FCV located within the PRPS site refer to drawing number PI-1011, after the FCV each incoming to the IDC has a motorised BFV at the inlet chamber used for isolation and operation purpose, refer to PI-1002.

Q90	PRPS2	Technical	Drawing & BOQ	MQ174-R2-DH-CI- 3182 MQ174-R2-DH-CI- 3052 MQ174-R2-DH-CI- 6330			<p>As per Tender Drawing MQ174-R2-DH-CI- 3182, there is a 100mm dia drain pipe from the Auxiliary PS sump that is discharging to the oil interceptor network. However, as per Tender Drawings MQ174-R2-DH-CI- 3052 and MQ174-R2-DH-CI- 6330, there is another 100mm dia from the same sump that is discharging to surface water network that is directed to flood relief channel.</p> <p>a) Please clarify to which drainage system this drain pipe should be discharging. b) If one discharge line is from another set of pumps please provide us the details (e.g. drawings, connection details, specifications, etc.) as it is not found in BOQ, Tender Drawings & Specifications.</p> <p><i>Please clarify or amend the BOQ's and drawings for the contractor to price accordingly.</i></p>
A90							<p>Answer: The bidders shall read the drawings CI-3181 and CI-3182 where the 150mm drain from the axillary's pumping station and the tanker filling station gravitate to an oil interceptor prior to final discharge to lagoon, refer to BOQ clause 8.6.9 for the oil interceptor system item.</p>
Q91	All	Technical	Electrical				<p>In BOQ-Bill-9, Public Address System is defined but no drawing related with this system is issued. Kindly submit Public Address System drawings if this system is in scope of tender.</p>
A91							<p>Answer: There is no PA system in the project. The references in the drawing titles shall be ignored.</p>

Q92						PRPS 1	PRPS 1 - Technical - Electrical dwg. MQ174-R1-DH-SE-2203: Generator Farm with 3 nos. 11kV 2.6. MW Generator and 1 no. 11kV Synchronization Panel has been shown in the SLD. We could not find the location of this building. Also, there is no services plan provided. Kindly advise us if this is included in our Scope of Work or not. If it is included, please provide the required details. If not, please confirm that 11kV Generators, 11 kV Synchronization panel and 11 kV cabling up to the site boundary of the project to be not in Scope.
A92							Answer: This is part of the Contractors scope. Please refer to the layouts and design of the MV and Generator Building for the locations of this equipment.
Q93						PRPS 2	PRPS 2 - Technical - Electrical dwg. MQ174-R2-DH-SE-2203: Generator Farm with 3 nos. 11kV 3.2. MW Generator and 1 no. 11kV Synchronization Panel has been shown in the SLD. We could not find the location of this building. Also, there is no services plan provided. Kindly advise us if this is included in our Scope of Work or not. If it is included, please provide the required details. If not, please confirm that 11kV Generators, 11 kV Synchronization panel and 11 kV cabling up to the site boundary of the project to be not in Scope.
A93							Answer: This is part of the Contractors scope. Please refer to the layouts and design of the MV and Generator Building for the locations of this equipment.
Q94						PRPS 3	PRPS 3 - Technical - Electrical dwg. MQ174-R3-DH-SE-2203: Generator Farm with 3 nos. 11kV2.6. MW Generator and 1 no. 11kV Synchronization Panel has been shown in the SLD. We could not find the location of this building. Also, there is no services plan provided. Kindly advise us if this is included in our Scope of Work or not. If it is included, please provide the required details. If not, please confirm that 11kV Generators, 11 kV Synchronization panel and 11 kV cabling up to the site boundary of the project to be not in Scope.

A94							Answer: This is part of the Contractors scope. Please refer to the layouts and design of the MV and Generator Building for the locations of this equipment.
Q95						PRPS 4	PRPS 4 - Technical - Electrical dwg. MQ174-R4-DH-SE-2203: Generator Farm with 3 nos. 11kV 3.2. MW Generator and 1 no. 11kV Synchronization Panel has been shown in the SLD. We could not find the location of this building. Also, there is no services plan provided. Kindly advise us if this is included in our Scope of Work or not. If it is included, please provide the required details. If not, please confirm that 11kV Generators, 11 kV Synchronization panel and 11 kV cabling up to the site boundary of the project to be not in Scope.
A95							Answer: This is part of the Contractors scope. Please refer to the layouts and design of the MV and Generator Building for the locations of this equipment.
Q96						PRPS 5	PRPS 5 - Technical - Electrical dwg. MQ174-R5-DH-SE-2203: Generator Farm with 3 nos. 11kV2.6. MW Generator and 1 no. 11kV Synchronization Panel has been shown in the SLD. We could not find the location of this building. Also, there is no services plan provided. Kindly advise us if this is included in our Scope of Work or not. If it is included, please provide the required details. If not, please confirm that 11kV Generators, 11 kV Synchronization panel and 11 kV cabling up to the site boundary of the project to be not in Scope.
A96							Answer: This is part of the Contractors scope. Please refer to the layouts and design of the MV and Generator Building for the locations of this equipment.
Q97	All	Technical	ICA/SCADA	Appendix A8 Automation Specification Rev. 01	242/316	Appendix A8C	6 kW UPS is specified for each control system cabinet. Please confirm if less rated power UPS is acceptable, in case the required total power for all the equipment in cabinet is less than 6 kW, all other specifications remaining the same.
A97							Answer: Not confirmed. Bidder shall comply with the requirements.

Q98	All	Technical	ICA/SCADA	RING 1 - CONTROL LEVEL – SCHEMATICS – Page No. 2 of 22			We understand that MPLS PE device is not in Honeywell scope of supply. Please confirm the same.
A98							Answer: Not Confirmed. Bidder is required to price for the whole of the works.
Q99	All	Technical	ICA/SCADA	GTC626_2014- AppA8_PRPS_ Automation_Re v 1_Clause 8.1.11_Page No. 22 of 316			Please elaborate more on ERP & MES.
A99							Answer: Not a consideration of this project only that Data Storage shall support this vertical integration.
Q100	All	Technical	ICA/SCADA	GTC626_2014- AppA8_PRPS_ Automation_Re v 1_Clause 8.2.48_Page No. 54 of 316			IO Redundancy Requirement is not clear . Please provide.
A100							Answer: Not required only that support CPU and Chassis shall support this functionality.
Q101	All	Technical	ICA/SCADA	GTC626_2014- AppA8_PRPS_ Automation_Re v 1_Clause 8.3.12_Page No. 71 of 316			As per BOQ, "For cell control systems, the major levels of redundancy include: I. PLC II. PLC LAN or serial connections to server III. Computer networks IV. Computer" Please confirm whether the above requirement is for Redundant PLCs.

A101						Answer: The only redundant PLCs are the Large Capacity Controllers in the Computer Room.
Q102	All	Technical	ICA/SCADA	GTC626_2014-AppA8_PRPS_Automation_Rev 1_Clause 8.13.14_Page No. 182 of 316		As per the BOQ, there is requirement of Selector Switches, Pushbuttons and Lights. However, we cannot see any requirement of Aux Console. Please confirm whether same needs to be provided.
A102						Answer: Only Local HMI touch panels are required.
Q103	All	Technical	ICA/SCADA	Control System and Telecom BOQ Clause 4_Page No. 7 of 14		We understand that all the signals are NON-IS. Please confirm our understanding.
A103						Answer: Confirmed.
Q104	All	Technical	ICA/SCADA	Control Level Schematics-System Architecture		The location of the PLCs (shown in customer architecture) is not clear to us. Please elaborate more on the same.
A104						Answer: All PLCs are in the racks - Please refer to Rack Diagrams- All other PLCs are part of the Machine Vendors PLCs.
Q105	All	Technical	ICA/SCADA	GTC626_2014-AppA8_PRPS_Automation_Rev 1_Clause 8.2.41_Page No. 52 of 316		As per BOQ, "The vendor must offer switches suitable for mounting in switchgear cabinets." We understand Switch gear Cabinet and corresponding switches are not part of our scope. Please confirm.

A105						Answer: Switchgear cabinets are included in GTC626/2014.
Q106	PRPS 1	Technical	Electrical dwg. MQ174-R1-DH- SE-2203			Kindly provide the cable size of the following: a) Between R1-MVG-GEN-01 and 11 kW Synchronization Panel R1-GMVSG-01 b) Between R1-MVG-GEN-02 and 11 kW Synchronization Panel R1-GMVSG-01 c) Between R1-MVG-GEN-03 and 11 kW Synchronization Panel R1-GMVSG-01 d) Between 11kV Synchronization Panel R1-GMVSG-01 and 11 kV Panel R1-MVSG-01 e) Between 11kV Synchronization Panel R1-GMVSG-01 and 11 kV Panel R1-MVSG-02
A106						Answer: These are all 3C 240mm² 11kV cable.
Q107	PRPS 3	Technical	Electrical dwg. MQ174-R3-DH- SE-2203			Kindly provide the cable size of the following: a) Between R3-MVG-GEN-01 and 11 kW Synchronization Panel R3-GMVSG-01 b) Between R3-MVG-GEN-02 and 11 kW Synchronization Panel R3-GMVSG-01 c) Between R3-MVG-GEN-03 and 11 kW Synchronization Panel R3-GMVSG-01 d) Between 11kV Synchronization Panel R3-GMVSG-01 and 11 kV Panel R3-MVSG-01 e) Between 11kV Synchronization Panel R3-GMVSG-01 and 11 kV Panel R3-MVSG-02
A107						Answer: These are all 3C 240mm² 11kV cable.

Q108	PRPS 4	Technical	Electrical dwg. MQ174-R4-DH-SE-2203				Kindly provide the cable size of the following: a) Between R4-MVG-GEN-01A and 11 kW Synchronization Panel R4-GMVSG-01 b) Between R4-MVG-GEN-02A and 11 kW Synchronization Panel R4-GMVSG-01 c) Between R4-MVG-GEN-03A and 11 kW Synchronization Panel R3-GMVSG-01 d) Between 11kV Synchronization Panel R4-GMVSG-01 and 11 kV Panel R4-MVSG-01 e) Between 11kV Synchronization Panel R4-GMVSG-01 and 11 kV Panel R4-MVSG-02
A108							Answer: These are all 3C 240mm² 11kV cable.
Q109	PRPS 1	Technical	Electrical dwg. MQ174-R1-DH-SE-2200 & 2251				a) The transformer rating that feeds Pump 3/SS-1A & Pump 4/SS-1A as per Electrical dwg. MQ174-R1-DH-SE-2200 is 1600 kVA while in Electrical dwg. MQ174-R1-DH-SE-2251 it is 1000 kVA. Kindly advise us the correct rating of the transformer.
A109							Answer: Drawing MQ174-R1-DH-SE-2200 takes precedence.
Q110							The transformer rating that feeds Pump 5/SS-1A & Pump 6/SS-1A as per Electrical dwg. MQ174-R1-DH-SE-2200 is kVA while in Electrical dwg. MQ174-R1-DH-SE-2251 it is 1000 kVA. Kindly advise us the correct rating of the transformer.
A110							Answer: Drawing MQ174-R1-DH-SE-2200 takes precedence.
Q111	PRPS 2	Technical	Electrical	MQ174-R2-DH-SE-3201			In drawing no. MQ174-R2-DH-SE-3201, TFS MCC cable CBL-TFS-EMCC-01 is given as 4-1Cx240mm ² Cu/XLPE/AWA/PVC. Whereas, in drawing no. MQ174-R2-DH-SE-3253 the same cable is shown as 4x240mm ² Cu/XLPE/SWA/PVC.
A111							Answer: Drawing MQ174-R2-DH-SE-3201 shall take precedence.
Q112	PRPS 2	Technical	Electrical	MQ174-R2-DH-SE-3203			In drawing no. MQ174-R2-DH-SE-3203, the cable CBL-ACB-EMCC-01 is 16-1Cx630mm ²). However, in drawing no. MQ174-R2-DH-SE-3254, the same cable is given as 3x(4x1Cx630mm ²).

A112						Answer: Drawing MQ174-R2-DH-SE-3203 shall take precedence.
Q113	PRPS 2	Technical	Electrical	MQ174-R2-DH-SE-3203		In drawing no. MQ174-R2-DH-SE-3203, cables CBL-SVK01-EDB-02 & CBL-SVK02-EDB-02 are given as 4Cx50mm ² XLPE/SWA/PVC + 1Cx25mm ² ECC. Whereas, same cables in drawing MQ174-R2-DH-SE-7001 are given as 4Cx16mm ² XLPE/SWA/PVC + 1Cx16mm ² ECC.
A113						Answer: Drawing MQ174-R2-DH-SE-3203 shall take precedence.
Q114	PRPS 3	Technical	Electrical	MQ174-R3-DH-SE-2200		In drawing no. MQ174-R3-DH-SE-2200 11kV cable size for phase shifting transformers is 3Cx185mm ² XLPE/SWA/PVC as per note #10. Whereas, in drawing no. MQ174-R3-DH-SE-2251 the cable is mentioned as 3Cx120mm ² CU/XLPE/PVC.
A114						Answer: Drawing MQ174-R3-DH-SE-2200 shall take precedence.
Q115	PRPS 3	Technical	Electrical	MQ174-R3-DH-SE-4100		In drawing no. MQ174-R3-DH-SE-4100, all lighting feeder pillars shall be 8-way as per Additional Notes #4. Whereas, in drawings nos. MQ174-R3-DH-SE-4201 to 4208, all lighting feeder pillars are shown all to be 10-way.
A115						Answer: All lighting feeder pillars shall be 10-way.
Q116	PRPS 3	Technical	Electrical	MQ174-R3-DH-SE-3204		In drawing no. MQ174-R3-DH-SE-3204, the cable CBL-APS-EMCC-01 is 4x4-1C 630mm ² . However, in drawing no. MQ174-R3-DH-SE-3251, the same cable is given as 3x(4x1Cx630mm ²).
A116						Answer: Drawing MQ174-R3-DH-SE-3204 shall take precedence.
Q117	PRPS 3	Technical	Electrical	MQ174-R3-DH-SE-3204		In drawing no. MQ174-R3-DH-SE-3204, the cable CBL-APS-EMCC-02 is 2-4C 240mm ² . However, in drawing no. MQ174-R3-DH-SE-3251, the same cable is given as 2x(4Cx150mm ²).
A117						Answer: Drawing MQ174-R3-DH-SE-3204 shall take precedence.
Q118	PRPS 3	Technical	Electrical	MQ174-R3-DH-SE-3204		In drawing no. MQ174-R3-DH-SE-3204, TFS MCC cable CBL-ETFS-EMCC-01 is given as 4-1Cx240mm ² Cu/XLPE/SWA/PVC. Whereas, in drawing no. MQ174-R3-DH-SE-3253 the same cable is shown as 4x240mm ² Cu/XLPE/SWA/PVC.
A118						Answer: Drawing MQ174-R3-DH-SE-3204 shall take precedence.

Q119	PRPS 3	Technical	Electrical	MQ174-R3-DH-SE-3203			In drawing no. MQ174-R3-DH-SE-3203, the cable CBL-ACB-EMCC-01 is 16-1Cx630mm ² Cu/XLPE/AWA/PVC. However, in drawing no. MQ174-R3-DH-SE-3254, the same cable is given as 3x4Cx240mm ² Cu/XLPE/SWA/PVC.
A119							Answer: <u>Drawing MQ174-R3-DH-SE-3203 shall take precedence.</u>
Q120	PRPS 2	Technical	Electrical	AppA7.4	106/263	Section 8.4.3 item 1.12-K	With reference to drawing no. MQ174-R2-DH-BF-2510, we note that 11kV switchgear rooms are to be protected by a clean agent fire suppression system. However, as per specifications GTC626_2014-AppA7.4_PRPS_MEPM-Electrical_Rev 1.pdf (106/263) section 8.4.3 item 1.12-K, each 11kV switchgear cubicle is to be provided with an individual FM200 cylinder mounted at the top of the panel with pipe work distributed throughout each compartment. Please advise if this additional requirement of specifications is necessary.
A120							Answer: <u>This additional requirement is necessary and required.</u>
Q121	PRPS 2	Technical	Electrical	AppA7.4	103/263	section 8.4.3 item 1.11-E	GTC626_2014-AppA7.4_PRPS_MEPM-Electrical_Rev 1.pdf Page 103/263 section 8.4.3 item 1.11-E states that 11kV switchboard shall be equipped with intelligent type relays communicable via IEC 61850 protocol. However page 105/263 section 8.4.3 item 1.12-E.3 states that all available protection relays and multifunction meters parameters shall be remotely signaled via Profinet/Modbus TCP/IP communication protocol. Please advise which protocol is applicable.
A121							Answer: <u>The relays and meters shall follow Profinet/Modbus TCP/IP communication protocol.</u>
Q122	PRPS 2	Technical	Electrical	AppA7.4	107/263	section 8.4.3 bulletin 1.14-B	GTC626_2014-AppA7.4_PRPS_MEPM-Electrical_Rev 1.pdf Page 107/263 section 8.4.3 bulletin 1.14-B states that all 11kV incoming and outgoing feeders shall have ION make energy meters for revenue. However, in SLDs MQ174-R2-DH-SE-2300 to 2311 there is no provision for a separate KWH meter except for transformer feeders. All measurements are to be part of the protection relays. Also, in the same SLDs note #8 specifies that CT's and PT's are for local instrumentation and remote energy metering only. KWH for revenue is located at the primary 66kV supply points onto the Kahramaa site development. Please advise if SLDs are to be followed.

A122							Answer: The contractor shall follow the SLD's, however, revenue metering shall be added.
Q123	PRPS 2	Technical	Electrical	AppA7.4	108/263	section 8.4.3 bulletin 1.15-B	GTC626_2014-AppA7.4_PRPS_MEPElectrical_Rev 1.pdf Page 108/263 section 8.4.3 bulletin 1.15-B states that multifunction meters shall be included in all incomers. However, in SLDs MQ174-R2-DH-SE-2300 to 2311 there is no provision for a separate multifunction meters for all incoming and outgoing feeders. All measurements are to be part of the protection relays. Please advise if SLDs are to be followed.
A123							Answer: The contractor shall follow the SLD's, however, revenue metering shall be added.
Q124	PRPS 2	Technical	Civil/Structural	BQ No. 8			Kindly provide the drawing for fuel network.
A124							Answer: This shall be designed by the Contractor based on the actual equipment proposed.
Q125	All	Technical	ICA/SCADA	App.I-7	Tender Circular No. 7		Please clarify the action we take where the information of the data sheets contradicts the project specification? Which has precedence?
A125							Answer: The Datasheets take precedence.
Q126							Question: The Trench cover details MW-11 cannot be found in the structural drawings. Kindly provide.
A126							Answer: The contractor is referring to Drawing number AR-1525 and AR 1654 which identifies the cover material for the cable trench as open mesh galvanized steel flooring. However the note MW11 is amended to say refer to Civil drawing CI-6203 for PRPS 1, 3 & 5, and CI-6202 for PRPS 2 & 4.(As found in the attached CD)
Q127							PRPS 1 – Technical – Civil/Structural – MQ174-R1-DH-CI-3306 & 3305: These two drawings are repeated. Please clarify which shall be used and provide the missing drawing.

A127						<p>Answer: The drawing number MQ174-R1-DH-CI-3306 & 3305 remain, however drawing number CI-3305 is amended to reflect the viewport. Please note drawing number CI-3300 is also amended to reflect the sheet numbering.</p>
Q128				Appendix I		<p>PRPSs – Technical – MEPF – GTC626 2014-PRPSAppl Rev. 1 In "Appendix I-7 – Technical Data Sheets" it's stated as "Tenderers shall complete the following data sheets relating to key equipment supplies. The detailed sheets to be completed shall be issued to the contractors during the tender period." * Will those mentioned datasheets be submitted with tender or will be provided after contract? * If those datasheets will be part of the tender, could you inform when detailed sheets will be issued to us as mentioned above (during tender period)?</p>
A128						<p>Answer: Datasheets are enclosed in the attached CD as well as within Tender Circular 7 and 9. The contractor is required to submit these with the tender to demonstrate what has been offered in the price given</p>
Q129						<p>All PRPSs – Technical – Mechanical – Data Sheet: Kindly provide the blank data sheets that are to be filled and submitted along with the tenders, as mentioned in Appendix I-7 – "Technical Data Sheets".</p>
A129						<p>Answer: These are provided in the attached Cd's well as in Tender Circular 7 and 9.</p>
Q130						<p>All PRPSs – Contractual – App. C-K – Appendix I-7 – Page 44 of 45: In order to fulfill Appendix I-7 please clarify whether there is specific format for data sheets relating to key equipment supplies or we can submit technical sheets from suppliers.</p>
A130						<p>Answer: These are provided in the attached Cd's well as in Tender Circular 7 and 9.</p>
Q131						<p>Sections A & B: Please clarify the material and thickness of grating.</p>

A131							Answer: Please refer to updated specification A2 as found in the CD attached to this circular.
Q132							All PRPSs - Technical – Civil/Structural: Kindly provide the waterproof schedule which includes the material type, no. of layers etc. for vertical and horizontal face of reservoirs and other structures and specifications for each type waterproof.
A132							Answer: Refer to the typical waterproofing and construction joint details at base slab and walls on sheet ST-1024 (revised), detail (K)
Q133							Q197. PRPS 1 – Technical – Civil/Structural: Please advise tanking, protection board etc. for external face of retaining wall of main pump station.
A133							Answer: Protection board is required for the external tanking of all underground basement structures including main pumping station. Also, Refer to the typical waterproofing and construction joint details at base slab and walls on sheet ST-1024 (revised), detail (K)
Q134	PRPS 1	Technical	Architectural	MQ174-R1-DH-AR-2011	Reservoirs		We note 200x250mm stainless steel guard screen at gargoyle detail 7, please clarify if it will be typically installed on both sides.
A134							Answer : Stainless screens at the gargoyles will be omitted. Revised drawings can be found in the attached CD.
Q135	All	Technical	Mechanical	GTC626_2014-AppA4_PRPS-Mech_Spec-12 04 14.pdf	80 / 108	Clause 4.8.4.1 Internal Coating of Steel Pipeworks	It is specified that the lining shall be as specified in the data sheets. These data sheets are not included in the tender documents. Please provide these data sheets.
A135							Answer: Refer to updated Appendix A2 and A4 as found in the CD attached to this circular

Q136	All	Technical	Civil/Structural	Appendix A Scope Of Work	page 11/70	1.1.3.7	<p>Refer to Scope of Work: Exposed external concrete surfaces above ground shall be finished with pre-cast concrete architecturally molded panels. Please provide the detailed drawing of the architectural panel and its connections to structure.</p>
A136							<p>Answer: No pre-cast panels will be required. All molding and decorative elements will be formed as part of the manufacturing process of the precast walls. Precast panel shall be provided alternatively with plain panels. All panels shall be painted.</p>
Q137	PRPS 1	Technical	Mechanical	BOQ no.6	6/82/1	6.1.7	<p>Please provide specifications for quick closing valves for all pumping stations.</p>
A137							<p>Answer: This is covered in the attached revised Appendix A4,</p>
Q138	All	Technical	Mechanical	App. A4 Mech. Spec.	34/108	4.3.3.1	<p>"BFV should be Double/Triple offset type with EPDM rubber minimum thickness 3mm" please advise whether Centric BFV Series 20 can be used? Noting that it is accepted according to KM specifications " General Spec. for main laying materials Clause 7.1.2" Please confirm the type of internal lining required for BFVs, the above clause indicates that it is EPDM rubber LINING 3mm thickness.</p>
A138							<p>Answer: Refer to the Kahramaa General Specification of Main laying Materials for Waterworks. Series 20 Valves may only be used in locations where they are inline valves away from any junctions.</p>
Q139	All	Technical	Mechanical	App. A4 Mech.- Spec.	80/108	4.8.4	<p>" Internal surface of the pipes and fittings shall be... as specified in the Datasheets" specifications for Internal lining and external coating of steel pipes are not clear; please provide the referred datasheets. Or clarify the lining/coating specifications.</p>

A139							Answer: This has been revised in the attached updated Specification A4.
Q140	All	Technical	Mechanical	App. A4 Mech. Spec.	82/108	4.8.6.1	Please confirm the design standard of steel pipes ASME B31.3 or B31.4?
A140							Answer: Standard design is ASME B31.3as referenced in the attached revised Appendix A4.
Q141	All	Technical	Mechanical	App. A4 Mech. Spec.	39/108	4.3.6	"Relation of valves capacity Cv with % opening shall be linear with approximately 50% Cv, 50% opened" <i>Confirm whether simi-Linear Cv-Opening curves can be acceptable, as linear characteristic curves are not a standard production for valves manufacturers.</i>
A141							Answer: Refer to updated Appendix A4 and datasheets and the Kahramaa General Specification of Main laying Materials for Waterworks.
Q142							Door D04 indicated in the drwg. MQ174-R1-DH-AR-1533 is a double leaf door while in the door schedule is single leaf door.
A142							Answer: Door shown on drawing no AR-1533 as D04 will be renamed as D23. Door Schedule Drawing nos. AR-1890 and AR-1891 are modified accordingly.
Q143	PRPS 1	Technical	Mechanical	General	General		Please provide the following details for the Pressure sustaining valve (DN 500) & Flow control valve (DN 800 DN 1400). This is required for the manufactures to prepare an accurate offer. Min flow rate Max Flow rate Upstream pressure Downstream pressure Nominal flow rate.
A143							Answer: Refer to updated Appendix A4 and datasheets.

Q144							We are planning to join a JV for the submission of the tender. Should we submit several bid bonds which are issued from these parties, involved in the JV separately and the total amount of these bid bonds will be in line with the tender requirements. Answer:
A144							In case the Tenderer is a JV, the tender bond must be provided by the party who is signatory to the tender. Should this be a JV, this shall be in the name of the JV, and shall be accompanied by the Certificate of Registration of the JV and associated computer card. Should the JV give authority to an entity that forms part of the body of the JV, then the tender shall be signed by the authorized signatory from that entity and the tender bond shall be in the name of that entity. .
Q145	PRPS 1	Technical	ICA/SCADA	Appendix F, 07_Automation & control, FIELD LEVEL SCADA SCHEMATICS DIAGRAM	-	-	(MQ174-R1-DH-SC-2160-01 to 2166-01) As per the Field Level SCADA Schematic Diagram, We understand that for MOV's located at the suction and discharge of the pump shall be hardwired to PLC and also connected on Profibus. Please confirm the understanding.
A145							Answer: This is now modified in the attached specifications and datasheets. All MOVs will be Hart for diagnostics and DI and DO I/O and some Analogue as per the attached revised I/O list
Q146	All	Technical	Civil/Structural	MQ174-R1-DH-AR-8505-A	Remote Substation		For the Remote Substation Building, please provide the standard detail of 400 x 400 mm Catch basin.
A146				.			Answer: Catch basins for the remote building storm run-off shall be constructed, with a typical detail o 400*400mm and 500mm depth. Typical details can be found in the attached CD.
Q147	All	Technical	Civil/Structural		Bulk Fuel Storage Tank		With reference to Bulk Fuel Storage Tank structure please provide waterproofing details

A147							Answer: Waterproofing membrane (bonded type) is required for all underground structures (base and walls). Furthermore, refer to the typical waterproofing and construction joint details at base slab and walls on sheet ST-1024 (revised), detail (K)
Q148	PRPS 2	Technical	Mechanical	A4	80/108	5.2.23	External Surface of pipes to be painted with paints of 275 micron thk. Paint Specification has not been provided. Please provide.
A148							Answer : Refer to the revised attached specification and the Kahramaa General Specification of Main laying Materials for Waterworks.
Q149							Please provide the data sheet for carbon steel pipes of internal and external coating details as mentioned in pages 80 and 81 of Mechanical Specifications.
A149							Answer: Datasheets will not be provided for CS pipes, contractor shall refer to the amended specification as included in the attached CD.
Q150	All	Technical	MEPF	Appendix A 7.4 MEPF Electrical Specification, Rev 1	Page No 220 of 263	Clause no 1.10 240 V AC Uninterruptable Power Supply , Point No 12	Referred clause states that the enclosure of UPS shall be of similar construction and height, as the cubicles of LV AC and DC systems. The UPS cubicle shall be located in the LV AC & DC room. The cubicle shall be suitable for installation on false floor or above floor openings. However Appendix-F , MQ174- R1-DH- SC-2210 SCADA rack details shown that rack mounted 6 KW, 240 V AC ruggedized UPS with 90 minutes battery back up shall be used for control & security system loads. Customer to confirm that whether rack mounted 6KW UPS to be considered or standalone floor mounted UPS
A150							Answer: The centralized UPS has been removed from the contract - please only consider in rack UPS as per the automation drawings
Q151	All	Technical	Mechanical	Appendix A Section 4	80 of 108	4.8.4.1	Internal Coating of Steel Pipes - Please provide the data sheets for internal coating referred in specification but we cannot find it.

A151							Answer: Data sheets will not be provided for this element. Please refer to the updated specification Appendix A4.
Q152	All	Technical	Mechanical	Appendix A Section 4	81 of 108	4.8.4.2	External coating of Steel pipes - Kahramaa standard coating is 300 microns. Please confirm that 275 microns is acceptable by Kahramaa in this contract and provide the data sheets where this is specified.
A152							Answer: Data sheets will not be provided. Please refer to the updated specification Appendix A4.
Q153	All	Technical	Civil/Structural	MQ174-R1-DH-CI-8008A			Drawing shows pipe bedding and surrounding shall be 5mm single sized stone granular material for PE, UPVC and DI pipes. Please clarify.
A153							Answer: Refer to amended Appendix A2, Civil and structural specification.
Q154							Carbon Steel Pipes & Fittings: Please note that one of the proposed Manufacture (ACIPCO) informed that the Carbon Steel Pipes in the given Kahramaa specifications are of API pipes but ACIPCO pipes are manufactured in accordance with AWWA. Please confirm that this is acceptable to you or not.
A154							Answer: Carbon steel pipes and fittings shall be in compliance of API 5L standards as referenced in AWWA C200 standard as referenced in the revised Appendix A4, in the attached CD.
Q155	All	Technical	Mechanical	Appendix A4	5/108	4.2.1.3	Paragraph B is pointing to Appendix A1 Section 1.9 which is not found.
A155							Answer: This Appendix has been revised and can be found in the attached CD
Q156	All	Technical	Mechanical	Appendix A4	7/108	4.2.2.2	Paragraph A is pointing to "The Copies of Anticipated System Hydraulics are included", it is not included.
A156							Answer: This is included as system curves within the Data sheets.
Q157							Motor paint shade is not mentioned.
A157							Answer: This shall be blue color-RAL5005/5010/5017

Q158							Refer to AppA8 PRPS Automation Rev. 1 Clause 8.2.49, 8.2.50, 8.2.51 and 8.2.52 Page No. 54&55 of 316 is the IO Module Requirement.
A158							Answer: In part please refer to the I/O list and data sheets for the service modules
Q159							Refer to AppA8 PRPS Automation Rev. 1 Clause 8.15.7 Page No. 201 of 316, as per RFQ it is mentioned "Dedicated redundant servers shall be provided for the MEP SCADA operation for the generation of alarm reports, historical data archiving and retrieving, scheduled reports and system maintenance". Requirement is not clear as we could not find Section 3.
A159							Clause 8.15.7 should be corrected to read " The area coverage is as identified in the automation drawings ,shall be monitored, controlled and supervised from one central location".
Q160	PRPS 5	Technical	Architectural	Bill no.8	2/27 (Main Pump Station)	8.3.1.16	Drawing no. AR-1756 details 4 is not matching with plan drawing AR-1754. Please provide the correct section detail. Also this detail no. 4 is matching same with drawing no. 1755 detail 2
A160							Answer: Correct section detail will be provided. Drawing no. AR-1756 is revised in the attached CD.
Q161							Project Specification Appendix A Section 2 page 183 Clause 2.14 indicates 14mm single size beds and surrounds in compliance with Table A1 and A2 of IGN-4-08-01. Table A1 specifies four types of bedding classes (S, B, F & N). Please advise which bedding class is to be considered.
A161							Answer: Refer to updated amended specifications as contained within the CD attached to this circular.
Q162	All	Technical	Mechanical	Appendix A Section 4 Mechanical Specification	80 of 108	Appendix A Section 4 Clause 4.8.4.1	APPENDIX A - SECTION 4 - MECHANICAL SPECIFICATION - 4.8.4.1 "Internal Coating - states that Internal surface of the pipes and fittings shall be blast cleaned to SA 2.5 in accordance with ISO 8501-01/SIS 05 59 00 standards and lined as specified in the data sheet." These Data Sheets are not yet issued to Tenderers, we kindly request KAHRAMAA to issue these data sheets

A162							Answer: Datasheets shall not be issued., This is covered in the attached specification.
Q163	PRPS 2	Technical	Architectural	MQ174-R2-DH-AR-3850-A	Water Testing Facility Building	Door sizes	Door sizes of D3a,D3b,D5a are not provided. Assumed same dimensions as D3,for D3a,D3b and D5 for D5A. Please advise.
A163							Answer: Door sizes will be the same as D3 for D3a & D3b and D5 for D5a.
Q164	PRPS 5	Technical	Civil/Structural	MQ174-R5-DH-ST-6710			There are footings which are only indicated as "footing" without providing any details for the measurements. Please provide necessary footing details.
A164							Answer: This drawing is revised in the attached CD
Q165	All	Technical	ICA/SCADA	Appendix A8 Automation Specification Rev 1	256 of 316	CCTV Surveillance PTZ Type Dome IP Full HD Camera (Outdoor Type)	The referred clause is for PTZ type Dome Camera, however content of this clause are same as the content provided for Fixed Dome camera. Customer is requested to clarify.
A165							Answer: Refer to the attached datasheets.
Q166	PRPS 1	Technical	Mechanical	Appendix A Section 4			Please provide the thickness of the carbon steel pipes to be considered.
A166							Answer: This is responded in the enclosed specification A4

Q167	All	General	Tender Bond	ITT	8	IT.14	<p>In case the Tenderer is a JV, Please clarify if the Tender Bond requirement be satisfied by multiple Tender Bonds issued separately by each JV member equivalent to their share in the JV from same/different Qatar Banks.</p> <p>For Instance, a JV formed by X, Y and Z with 50%, 30% and 20% share respectively, can Tender Bond requirement be met by X submitting a Tender Bond of 10,000,000 QAR, Y submitting a Tender Bond of 60,000,000 QAR and Z submitting a Tender Bond of 40,000,000 QAR from same/ different Qatar Banks?</p>
A167							<p>Answer:</p> <p>In case the Tenderer is a JV, the tender bond must be provided by the party who is signatory to the tender. Should this be a JV, this shall be in the name of the JV, and shall be accompanied by the Certificate of Registration of the JV and associated computer card. Should the JV give authority to an entity that forms part of the body of the JV, then the tender shall be signed by the authorized signatory from that entity and the tender bond shall be in the name of that entity. .</p>
Q168	PRPS 1	Technical		MQ174-R1-DH-LE-2005/A			<p>Drawing No. MQ174-R1-DH-LE-2005/A, it is not possible to see the exact patterns in the pdf drawing given. Kindly provide AutoCAD file to identify the patterns of various paver sizes.</p> <p>Some patterns shown in the layout are not available in the legend. Please clarify.</p>

A168							Answer: Please refer to the Legends for final pattern descriptions. Patterns on layout that are not shown on the legends are hatches for cable trench cover and are deleted in the drawings. Drawings are revised and re-issued.
Q169	All	Technical	Civil/Structural	Appendix F - Landscaping MQ174-R1-DH-LE-0002/A MQ174-R1-DH-LE-2000/A	Landscape General Schedule	8.6.3.1	The Precast Concrete paver quantity in Hardscape schedule does not match with the drawing quantity and there is huge difference. Please clarify.
A169							Answer: Please refer to the following quantity of Precast Concrete Pavers for: PRPS 1 =42,775sqm; PRPS 2=72,020sqm; PRPS 3=64,525sqm; PRPS 4=63,795sqm and PRPS 5=45,295sqm. Landscape Drawing no. LE-0002 has been revised accordingly
Q170	PRPS 2	Technical	Electrical	App.A1	24/70	1.1.3.19	Clause 1.1.3.19 gives the pump duty heads for single and twin pump operation as 5.87m and 9.96m respectively but also states that the pressure control valve shall maintain a pressure of 1.1 bar upstream. This is not compatible with the pumps specified. Please clarify.
A170							Answer: The sustainable pressure valve is required to maintain pressure of 1.1 bar as the system operate by feed gravity from the reservoirs. When the pressure drop below 1.1 bar the pumps take precedence. Please refer to data sheet and specification
Q171	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-CI-3105 and MQ174-R1-DH-CI-0011/A			We refer to drawing no. MQ174-R1-DH-CI-3105 Rev. A, Node no. IR-31 indicates GL= 13.043 and IL=9.24 however in drawing no. MQ174-R1-DH-CI-0011 Rev. A IR-31 indicates GL= 13.107 and IL = 9.264. Please clarify.
A171							Answer: Refer to drawings MQ174-R1-DH-CI-0011 Rev A for levels accuracy

Q172	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-CI-1001/A			Tender Clarification TC.4, Item 14 states that the roads and landscaping for future reservoirs is not in the scope of this tender package. Please confirm that the scope of roads is as per the attached marked-up plan. Also, please provide section for the road adjacent to Drainage Lagoon No.2
A172							Answer: All the internal roads as marked in the drawings are part of this contract. For the road layout and profiles, please refer to drawings MQ174-R2-DH-CI-2101 and 2014, for road profiles please refer to road B07 and B12 adjacent to the lagoon number 2
Q173	All	Contractual	ITT	Instruction to Tenderers	Page 10	IT.16 Submission of Tenders	It requires "attested copy ...". We understand it is power of attorney attested by Qatar government/ embassy or Qatar Chamber of Commerce & Industry. Please confirm.
A173							Answer: Such documents shall be stamped by the local chamber of commerce, then by the Qatari Embassy of the country of origin, then stamped by the Foreign Affairs Ministry in Qatar to demonstrate authenticity.
Q174	All	Technical	Item Coverage	BQ no.8	26/14		Referring to BOQ 8/26/14 item 8.5.2 for the single bulk fuel storage, please provide the drawings for the same
A174							Answer: Refer to drawings under series CI-6320 and ST-6400/ST-6500
Q175							All - Contractual - ITT: We could not find the waterproofing specification external surface of reservoirs in Architectural and Civil Specification documents. Would you please supply the waterproofing specification for Reservoirs?
A175							Answer: Refer to updated Appendix A2.
Q176	All	Technical	Electrical				Kindly clarify whether cathodic protection is required in this project. If required kindly specify what structures and piping should be included in cathodic protection.
A176							Answer: Please refer to Mechanical specification under section 4.8.5

Q177	All	Technical	Architectural	MQ174-R1-DH-AR-9511 rev.A & MQ174-R1-DH-AR-2010 rev.A.		Precast Boundary Wall	Please provide the material type for "Kahramaa Logo" shown in drawing no MQ174-R1-DH-AR-9511 rev.A & MQ174-R1-DH-AR-2010 rev.A.
A177							Answer: This shall be cast into the casting of the wall.
Q178	All	Technical	Architectural	MQ174-R1-DH-AR-9511 rev.A & MQ174-R1-DH-AR-2010 rev.A.		Precast Boundary Wall	In precast Boundary wall & Cladding pattern is coming, is this patterns are in GRC or will cast with precast panel during manufacture period? means it is precast pattern or GRC?
A178							Answer: GRC is no longer required. The pattern shall be cast into the wall panels upon casting.
Q179	All	Technical	MEPF				There are no Specified vendor listed for sanitary ware, Tap ware, and accessories. Please provide the vendor list for the same.
A179							Answer: No further vendors shall be provided. The contractor shall provided details for his preferred vendor and submit the details for Kahramaa review and approval.
Q180	All	Technical	Mechanical				There is no specified vendor listed for drainage leak detection system. Please provide the vendor detail.
A180							Answer: No further vendors shall be provided. The contractor shall provided details for his preferred vendor and submit the details for Kahramaa review and approval.

Q181	All	Technical	Water quality	Tender Circular 7 & Appendix I & Gen Spec of Main Laying Materials	Q/A 22		TC 07 - Q/A 22 - Tender query not responded. Kahramaa answer is related to installation of steel pipes and not to water quality, therefore please clarify that: The Contractor will not be responsible for corrosion of steel pipes if corrosion is related to water quality as stated in tender query.
A181							Answer: The question is understood to related to corrosion caused by water quality. Therefore the answer remains. The Contractor should provide pipes fit for the use intended and complaint with the specifications.
Q182	All	Technical	Mechanical	BOQ. NO. 9	9/18/3	9.1.9.1	Surge Analysis to be carried out by contractor, it is understood that surge analysis has been done by Hyder , please provide analysis report in order to get better information about pipe line downstream.
A182							Answer: This shall be issued to the successful bidder.
Q183	All	Contractual	Time for Completion: Milestone 1 scope of work	MQ174-R1-DH-CI-6500	26/60	1.2.1	Milestone 1 Work Scope clarification: With reference to the Contractual details mentioned we have marked the extent of piping work need to be carried out including testing, disinfecting, flushing and commissioning with manual mode of operation for valves (<i>PT&D need to confirm for motor operated philosophy</i>) in Milestone 1, on one package drawing(PRPS-1). Please refer Annexure-I. The same philosophy will be applicable for all other packages. Request confirmation on the scope.
A183							Answer: The drawing marked up is incorrect. Include for all transmission pipework as well as all Corridor pipework.
Q184	All	Contractual	Time for Completion: Milestone 1 to 4	Appendix A1	27/60	1.2.4	With reference to the mentioned clause of Target milestone achievement it is understood that the functional operation of Chlorination system can be considered along with Milestone 4. Kindly confirm.
A184							Answer: The Chlorination system should be considered within Milestone 4.

Q185	All	Technical	Civil/Structural	Tender circular # 03	Answer A5		In tender circular No - 3, Answer no A5 stated " Internal faces of concrete water holding structures shall not be painted and tender documents will be revised" Please issue the revised documents.
A185							Answer: Revised Appendix A2 is found on the CD attached to this Circular.
Q186	All	Technical	Mechanical	Circular 7	2	App I-7	We note that no Kahramaa data sheets for pumps, valves, pipes were included. Please provide.
A186							Answer: These were issued in Tender Circular No 9.

TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 22/07/2014	TOTAL PAGES: 1+1+
To: All Bidders	Fax:	
For the Attention of: General Manager	Our Ref.:	TA/TW/TWM/14/FX- 1276
Subject: GTC 626/2014 - CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 13

TENDER CLARIFICATION

1. Extension of Tender Closing Date:

Please note that the Tender closing date has been extended for two (2) weeks. The revised closing date shall be on Thursday, 21 August 2014, at 12.00 noon. The last date for issuing tender queries to Kahramaa shall be the 7th August 2014.

2. Additional Information

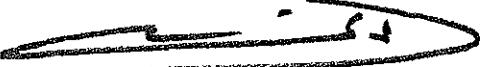
The Bidder is requested to collect a CD at 10am on Wednesday 23rd July 2014 containing additional information. A detailed schedule of the information issued will be contained within the CD.

3. Reply to Tenderers Clarifications:

Please find attached a table containing replies to your clarifications.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,


ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW, GTC, File



| Page 1

Warning: This fax and any attachments may contain information which is confidential. They should not be reproduced or copied by anyone without the approval of the sender. If you are not one of the named recipients of this fax, any attachments, and copies, please notify the sender by e-mail or fax or any other communication method as soon as possible.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ - (974) 44845333
ف.خ: ٤٤٨٤٥٣٣٣ - م.س: ٤٤٨٤٥٣٩١
ج.ب: ٤١ - الدوحة - قطر



TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 12/08/2014	TOTAL PAGES: 2+1
To: All Bidders	Fax:	
For the Attention of: General Manager	Our Ref.:	TA/TW/TWM/14/FX/1327
Subject: GTC 626/2014 - CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 14

TENDER CLARIFICATION

1. Notice of Amendment

1.1 CD for collection

The bidder is requested to collect a CD, available at KM Tower 1, 19th Floor.

1.2 Amendments to Tender Documents in CD:

- Instrument lists**

Generally to be read in conjunction with PI&D's and instrumentation data sheets

- Utility Building**

- MQ174-R1-DH-CI-6440 to MQ174-R1-DH-CI-6444 (PRPS 1)
- MQ174-R2-DH-CI-6440 to MQ174-R2-DH-CI-6444 (PRPS 2)
- MQ174-R3-DH-CI-6440 to MQ174-R3-DH-CI-6444 (PRPS 3)
- MQ174-R4-DH-CI-6440 to MQ174-R4-DH-CI-6444 (PRPS 4)
- MQ174-R5-DH-CI-6440 to MQ174-R5-DH-CI-6444 (PRPS 5)

- Internal Road Signage and Marking**

- MQ174-R1-DH-CI-2150 Series (PRPS 1)
- MQ174-R2-DH-CI-2150 Series (PRPS 2)
- MQ174-R3-DH-CI-2150 Series (PRPS 3)
- MQ174-R4-DH-CI-2150 Series (PRPS 4)
- MQ174-R5-DH-CI-2150 Series (PRPS 5)

| Page 1

Recipients of this fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not waived or lost by mistaken communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 - تلفون: 974,44845333
ص.ب: 41 الدوحة - قطر



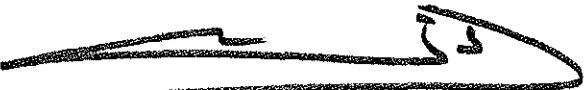
better living

2. Reply to Tenderers Clarifications

Please find attached a table, containing replies to your clarifications.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,


ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW,GTC, File



| Page 2

Recipients of this fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by e-mail or fax or telephone. Confidentiality is not retained or lost by mistaken communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

٤٤٨٤٥٣٩١ : ٩٧٤٤٤٨٤٥٣٣٣ - تلفون : ٩٧٤٤٤٨٤٥٣٩١
من.ب : ٤١ الدوحة - قطر



TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 18 /08/2014	TOTAL PAGES: 1+32
To: All Bidders	Fax:	
For the Attention of: General Manager	Our Ref.:	TA/DO/1- W/14/FX/1337
Subject: GTC 626/2014 – CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 15

TENDER CLARIFICATION

1. Extension of Tender Closing Date:

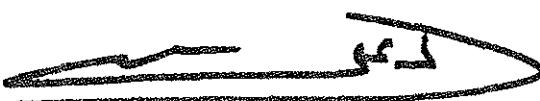
Please note that the Tender closing date has been extended for four (4) weeks. The revised closing date shall be on Thursday, 18th of September 2014, at 12.00 noon.

2. Reply to Tenderers Clarifications

Please find attached a table, containing replies to your clarifications.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,


ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW,GTC, File

| Page 1

Disclaimer: This fax and any attachments may contain information which is confidential. They should not be reprinted, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not guaranteed if lost by unauthorized communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

٤٤٨٤٥٣٩١ : ٩٧٤ - تلفون : ٤٤٨٤٥٣٣٣ : ٩٧٤ (٤٤٨٤٥٣٣٣)
ج.ب : ٤١ الدوحة - قطر



No	PRPS site	Query	Subject area	Document/drawing no	Page/Location	Clause/ Item	Query and Answer
Q1	PRPS4	BOQ	Drawing	MQ174-R4-DH-CI-6024 Rev. A			Tender Drawing requires 10 Nos of 1200mm dia double spigot pipe, Length = 1800mm but not found in the Tender BOQ. Please clarify or amend the BOQ's for the contractor to price accordingly.
A1							Answer: Refer to Bill No 6, Item 6.10.19.
Q2	PRPS3	Technical	Drawing	MQ174-R3-DH-CI-6440 Rev. A MQ174-R3-DH-CI-6442 Rev. A MQ174-R3-DH-CI-6443 Rev. A MQ174-R3-DH-CI-6444 Rev. A			All the items in the pipework schedules as shown on these Tender Drawings are not found in the Tender BOQ. Please confirm where these items are to be billed in order for the contractor to price accordingly.
A2							Answer: Pipe works related to utility pump station are measured separately (Except small dia. Irrigation pipe works) in the BOQ. Prices for external pipe work shall be included against the items; 8.6.10 & 9.1.11.3 for External fire fighting system, 8.6.4 for Irrigation System and 8.6.7 for Potable water system.

Q3	PRPS3	Technical	Drawing	MQ174-R3-DH-CI-6522 Rev. A			The following items are not found in the Tender BOQ but are required in the Tender Drawings: a) 2 Nos. DN250 DI double flanged 90deg bend b) 2 Nos. DN250 DI Collar c) 1 Nos DN250 DI flanged spigot pipe with IPF L=1800mm d) 3 Nos DN250 DI double flanged pipe, L=5300mm e) 1 No. DN250 DI double flanged pipe, L=2875mm f) 1 No. DN250 DI double spigot pipe, L=600mm Please clarify or amend the BOQ's for the contractor to price accordingly.
A3							Answer: This has been provided in the amended BOQ provided in Tender Circular No 13.
Q4	PRPS 4	Technical	Foul Sewage	DWG R4-DH-CI- 3002, 3025 & 2002	DWGs		Dwg 3025 shows depth of incoming pipe of 1.2 m. However on dwg 3002 with approx GL 13.32 m and IL 9.75 depth is more than 3.5 m. In total the depth of septic tank will increase to approx 4.8 m. <i>Please clarify.</i>
A4							Answer: The Septic Tank levels have been amended as a result of the revised foul Sewer Profiles. An updated copy of these drawings is found in the CD attached to Tender Circular No 12.
Q5	PRPS2	Technical	Drawing	MQ174-R2-DH-CI-6440 Rev. A MQ174-R2-DH-CI-6443 Rev. A MQ174-R2-DH-CI-6444 Rev. A			All the items in the pipework schedules as shown on these Tender Drawings are not found in the Tender BOQ. Please confirm where these items are to be billed in order for the contractor to price accordingly.
A5							Answer: Pipe works related to utility pump station are measured separately (Except small dia. Irrigation pipe works) in the BOQ. Costs for external pipe work shall be included against the items; 8.6.10 & 9.1.11.3 for External fire fighting system, 8.6.4 for Irrigation System and 8.6.7 for Potable water system.

Q6	PRPS 2	Technical	Mechanical	MQ174-R2-DH-CI-6330			BOM item 56 is a 'Tee' for a DN150 gate valve. Presume this is for draining down the pipeline between the check valves and the discharge outlets as shown on the P&ID MQ174-R2-DH-PI-0002. Please confirm that the water is drained directly onto the floor.
A6							Answer: The drain shall be connected to the drain trench provided.
Q7	PRPS 2	Technical	Mechanical	MQ174-R2-DH-CI-6331			The pipework arrangement shows no discharge valves whereas the respective P&ID's show motorized discharge butterfly valves. Please clarify.
A7							Answer: The bidder shall refer to Drg No . 6331 shows discharge valves for all the pumps and the schedule provided for more details.
Q8	PRPS2	Technical	Drawing & BOQ	MQ174-R2-DH-CI-6020 Bill No. 6	6/26/88	6.7	The following items were billed in the Tender BOQ but more fittings are required for outgoing combined chamber as per Tender Drawings: a) BOQ Item 6.7.7 shows 6 Nos. DN1600 DI Flanged/Spigot pipe but Tender Drawing requires 8 Nos. b) BOQ Item 6.7.8 shows 4 Nos. DN1600 DI Blank Flange but Tender Drawing requires 16 Nos. c) BOQ Item 6.7.9 shows 2 Nos. DN1600 DI double flange pipe but Tender Drawing requires 4 Nos. Please clarify or amend the BOQ's for the contractor to price accordingly.
A8							Answer: This has been amended in the updated BOQ provided under Tender Circular No 13. a) BOQ has been amended to 8 nr b) 1600 dia. Blank flanges 12 nr required not 16 Nr. C) Has been corrected as 1600 dia. Flange spigot pipe 4 nos.

Q9	PRPS2	Technical	Drawing & BOQ	MQ174-R2-DH-Cl- 6500 Bill No. 6	6/42/88	6.17.14	The following items were billed in the Tender BOQ but more fittings are required for incoming bypass valve chamber as per Tender Drawings: a) BOQ Item 6.17.14 shows 3 DN 1200 DI all flanged equal tee but Tender Drawing requires 5 Nos. b) BOQ Item 6.7.19 shows 1 No. DN 1200 DI double flanged pipe but Tender Drawing requires 3 Nos. Please clarify or amend the BOQ's for the contractor to price accordingly.
A9							Answer: a) The BOQ has been amended as issued in Tender Circular No 13 - 5 nr b) The BOQ has been amended as issued in Tender Circular No 13 - 3 nr
Q10	PRPS2	Technical	Drawing & BOQ	MQ174-R2-DH-Cl- 6500			Tender drawing requires 2 Nos. DN1200mm DI Blank flange. However, this is not found in the Tender BOQ. Please clarify or amend the BOQ's for the contractor to price accordingly.
A10							Answer: Included in the amended BOQ issued in Tender Circular No 13.
Q11	PRPS 2	Technical	MEPF	BQ # 9	9/18/4 & 5	9.1.15.1 to 16	Kindly provide the clear list of buildings in package B along with the quantities of each building as the same is not clear in scope of works. E.g. as per BOQ Bill #9/MEICA works/HVAC, Kiosk buildings are mentioned as 6nos. whereas per site architecture layout there are 7nos. of Kiosk buildings.
A11							Answer: Buildings are clearly listed in the BOQ and it is confirmed Kiosk buildings 7 nos.

Q12	PRPS 2	Technical	MEPF	BQ # 9	9/18/4 & 5	9.1.15.1 to 16	Kindly provide the clear list of buildings in package B along with the quantities of each building as the same is not clear in scope of works. E.g. as per BOQ Bill #9/MEICA works, under HVAC Kiosk buildings are mentioned as 6nos. whereas per site architecture layout there are 7nos. of Kiosk buildings.
A12							Answer: There are no HVAC kiosks as the query suggest. Bidders shall read instrumentation kiosks for inlet, outlet and scouring purposes. The numbers of kiosks are 7 for PRPS1, PRPS2, PRPS3 and PRPS4 and 8 number for PRPS5. The number of buildings can be found in the updated BOQ.
Q13	PRPS 2	Commercial	Quantities	BQ no.5		Item 5.1.1.8	In BOQ-PRPS2-Bill 5-M&E-Supply, Item 5.1.1.8 Low Voltage Generator Switchgear Panel R2-MVG-GMDB-01 is shown to have 3 No. 3200 Incomers and 2 No. 2500A Outgoings. However, as per drawings MQ174-R2-DH-SE-3201 and MQ174-R2-DH-BE-1081 to 1083 and as per clarifications to questions 26, 27 and 28 of Circular No. 5, the required number of breakers for R2-MVG-GMDB-01 shall be 1 No. 3200A Incomer and 4 No. 2500A Outgoings.: please advise if BOQ will be updated.
A13							Answer: This has been amended in the revised BOQ issued under Tender Circular No 13.
Q14	PRPS 2	Commercial	Quantities	BQ no. 5		Item 5.1.2	In BOQ-PRPS2-Bill 5-M&E-Supply, Item 5.1.2 Remote Substation 1&2, the main distribution boards R2-RS1-MDB-01 & R2-RS2-MDB-01 are not included. Please provide BOQ line item as per drawing MQ174-R2-DH-SE-3202.
A14							Answer: All the panels and DBs related to all the buildings are listed under Bill No 9 Item 9.2.8 in the amended BOQ issued in Tender Circular No 13.

Q15	PRPS 3	Commercial	Quantities	BQ no. 5		Item 5.1.1.8	In BOQ-PRPS3-Bill 5-M&E-Supply, Item 5.1.1.8 Low Voltage Generator Switchgear Panel R3-MVG-GMDB-01 is shown to have 3 No. 3200 Incomers and 2 No. 2500A Outgoings. However, as per drawings MQ174-R3-DH-SE-3201 and MQ174-R3-DH-BE-1081 to 1083, the required number of breakers for R3-MVG-GMDB-01 shall be 1 No. 3200A Incomer and 4 No. 2500A Outgoings. Please advise if BOQ will be updated.
A15							Answer: This has been amended in the revised BOQ issued under Tender Circular No 13.
Q16	PRPS 3	Commercial	Quantities	BQ no. 5		Item 5.1.2	In BOQ-PRPS3-Bill 5-M&E-Supply, Item 5.1.2 Remote Substation 1&2, the main distribution boards R3-RS1-MDB-01 & R3-RS2-MDB-01 are not included. Please provide BOQ line item as per drawing MQ174-R3-DH-SE-3202.
A16							Answer: All the panels and DBs related to all the buildings are listed under Bill No 9 Item 9.2.8 in the amended BOQ issued in Tender Circular No 13.
Q17	All	Technical	Civil/Structural	BQ No. 6			With reference to Appendix B-BOQ we have dismantling joint sizes up to 2400 mm but in appendix I (Kahramaa current Approved List) Item 4 the vendors approved up to 1600 mm only. Please advise.
A17							Answer: Refer to Appendix I rev 2, issued with Tender Circular No 13.

Q18	PRPS 5			BOQ Item 6.7	6.25/84		Please note that under Item 6.7 Reservoir Inlet Chamber details of the fitting start from Items 6.7.3 and 6.7.1 & 2 are not missing. We assume that this is a typing error in the numbering of item. Please confirm.
A18							Answer: Item numbers have been corrected in the amended BOQ issued in Tender Circular No 13.
Q19	PRPS 5			BOQ 6.16.4	Flanged Spigot Pipe		Please note that the diameter of the Pipe fitting to be corrected as 350 mm, instead of 500 mm.
A19							Answer: This has been corrected in the updated BOQ issued in Tender Circular No 13.
Q20	All	Technical	Mechanical				Refer Appendix A4, Mechanical Specification, Rev 1 a. Clause 4.3.3.1: Specification listed is designed around a specific Manufacturer's product. A Manufacturer offer the following: i. Seat Design: A replaceable stainless steel seat which Allows repair /maintenance and replacement of the seat ring with The valve in situ, whereas the specification listed does not allow this. b. Clause 4.3.4.1: As listed above the offer is Non Slam Recoil Check Valve which has Superior Dynamic Performance, Longer Life and Maintenance Free operation (proven technology approved and utilized Extensively by Kahramaa). Please confirm if we can proceed with this.
A20							Answer: The Contractor shall comply with the Tender Specification, however should the Contractor wish to offer an alternative, then this shall be subject to Kahramaa review and approval.

Q21	PRPS 4	Commercial	Architectural	Dwg. No: MQ174-R4-DH-C1-6031-A			Detail A & B indicates DN300 & DN200 GRP Vent Pipe. In Appendix A2 Clause 2.22 mentioned as Stainless Steel Air Vent pipe. Kindly advise.
A21							Answer: All air vents installed at the roof of the reservoirs are GRP material as shown on the drawings CI-6031.
Q22	All	Technical	Mechanical				Supports specification mention only following area. (Appendix A! - Package A Scope of work & specifications 1.1.3.16 Main Pumping Station: The contractor will design all pipe supports and brackets including the preparation of shop drawings for the approval of Kahramaa.). Is it applicable for all area ?
A22							Answer: All the metal works for platforms, ladders, gantries and cranes are part of the contractor shop drawings, not limited to fixing.
Q23	All	Technical	Mechanical				Material of construction for Pumped drains are not specified anywhere in the specification of drawings please provide the details.
A23							Answer: Refer to Mechanical Specifications Appendix A4, and data sheet for drain pumps specification.
Q24	All	Technical	Mechanical				As this is a multi pump installation, The Manufacturer do not generally recommend offering conventional "Non return valves" or "Flanged Swing Check Valves" as stated in the BOQ. Manufacture would recommend that high performances Non Siam Recoil Check Valve are used in these applications. If we can obtain the surge / hydraulic analysis report of the system, then we can confirm if conventional swing check valves will be sufficient to protect against excessive pressure head rises or not. If not, the manufacturer would strongly propose the recoil valves be used. Please confirm if we can proceed as per manufacturer recommendation.
A24							Answer: The Bidder is required to follow the Tender Specification.

Q25	PRPS 2	Technical	Civil/Structural	BQ no.6 and BQ No.8		8.7.13.5	In BQ 8, item 8.7.13.5 "Reservoir Scour, Outlet & Inlet chamber Type 2 (at any depth).. Reference drawing No. MQ174-R2-DH-CI-6023" "5 Nr" but there is no type 2 chambers in the BQ 6 and there is no type 2 chambers shown in the projects either. Please clarify that if type 2 chambers are in the scope of this tender and piping material will also be included in the tender cost sheets?
A25							Answer: All the materials related to two chambers in Drawing MQ174-R2-DH-CI-6023 -6025 are listed in Bill No.6 under item 6.10. Installation of the two chambers, detailed in above referenced drawings are listed in Bill No 8 under chamber construction. These chambers are in the scope of this contract. The Bidder shall note that the reference item number has been amended (new no. 8.7.16.4 & 8.7.16.5) in Tender Circular No 13.
Q26	PRPS 4	Technical	Civil/Structural	BQ no.6 and BQ No.8		8.7.17.5	In BQ 8, item 8.7.17.5 "Reservoir Scour, Outlet & Inlet chamber Type 2 (at any depth).. Reference drawing No. MQ174-R2-DH-CI-6023" "5 Nr" but there is no type 2 chambers in the BQ 6 and there is no type 2 chambers shown in the projects either. Please clarify that if type 2 chambers are in the scope of this tender and piping material will also be included in the tender cost sheets?
A26							Answer: All the materials related to two chambers in Drawing MQ174-R2-DH-CI-6023 -6025 are listed in Bill No.6 under item 6.10. Installation of the two chambers, detailed in above referenced drawings are listed in Bill No 8 under chamber construction. These chambers are in the scope of this contract.
Q27	All	Technical	Mechanical				Please provide the operating conditions for the flow control valves for all the packages.
A27							Answer: Refer to the data sheets for the various operating conditions for the flow control valves.

Q28	PRPS 5	Technical	Civil / Structural	Dwg Nos MQ174-R5-DH- CI-1001, MQ174-R5-DH- ST-6200 MQ174-R5-DH- ST-6203 MQ174-R5-DH- ST-6206	Bill 8 Page 8/27/12 Bill 8 Page 8/27/13	Remote Substation Building	BOQ shows total 4no Remote Substation Buildings. However, List of Units Drawing No. MQ174-R5-DH-CI-1001 shows 3 Remote Substations Buildings (1&2 and 3). Please clarify the location and building no. of Remote Substation Building 4 which is detailed on structural drawings. Please confirm that 4no Remote Substation Buildings will be constructed and included in the scope of this contract.
A28							Answer: Only three substation buildings are required. This is corrected in the updated BOQ issued in Tender Circular No 13.
Q29	PRPS 5	Technical	Civil / Structural	MQ174-R5-DH- AR-6000	Bill 8 Page 8/27/14	Kiosks Building	Bill 8 Page 8/27/14 specifies 7nos Kiosks building to be constructed. However, Drawing number MQ174-R5-DH-AR-6000 shows 8nos Kiosks Building with numbers 19,20,21,21a,22,23,25 and 26. Please clarify total number of Kiosks to be included in this contract by specifying their unit nos.
A29							Answer: 8 nr. Kiosks buildings are required as shown in the revised BOQ in Tender Circular No 13.
Q30	PRPS 1	Technical	Civil	MQ174-R1-DH- CI-3070 to 3095	Drawings of Site plan	Potable water system-Site plan	These drawings show the Potable water system layout even for future reservoirs which are not in this scope. Kindly clarify where it has to be plugged and detail for scope limit under this contract.
A30							Answer: The inlet and suction ring mains as shown on the drawings are part of this contract, refer to pipe process drawings and P&ID's.
Q31	PRPS 1	Technical	Civil	MQ174-R1-DH- CI-3180 to 3185	Drawings of Site plan	Storm water drainage site plan	These drawings show the Storm water Drainage layout even for future reservoirs which are not in this scope. Kindly clarify where it has to be plugged and detail for scope limit under this contract.
A31							Answer: Storm water drainage is required for the entire site road layout as shown on the drawings .

Q32	All	Technical	Hydraulic	Tender Circular 7 & General Terms and Conditions & SoW/Specification	Q/A 24 & 25		<p>TC 07 - Q/A 24& 25. As per Kahramaa response we understand:</p> <ul style="list-style-type: none"> a) The contractor is not responsible for hydraulic operation of final equipment. b) The contractor is not required to carry out any modeling of the reservoirs. c) The contractor is not responsible to verify designs related to final equipment selection against the maximum and minimum water levels in the reservoirs for all equipment and scenarios. d) The Contractor is not responsible for water stagnancy, which is related to designed Kahramaa hydraulic, in any phase of operation. e) The contractor is not responsible for verification of equipment sizing such as scour pumps which are related to dead water volume in the reservoirs. <p>If Kahramaa answer is "our understanding is incorrect" please clarify each item above.</p>
A32							<p>Answer: The Contractor is not required to verify the designs, however they are required to make sure that final equipment supplied complies with all requirements such as minimum and maximum water level in the reservoirs.</p> <p>Refer to Appendix A1 and the project specifications.</p>

Q33	PRPS 2	Technical	Drainage lagoon	MQ174-R2-DH-CI-1001 Rev. A & C100-MQ174-A-DH-00	DWG's & Tender Circular No #2		<p>1) Under this contract Lagoon No. 1, Lagoon No. 2 & Standby Lagoon are to be built. Please confirm</p> <p>2) Lagoon No. 1, Lagoon No. 2 & Standby Lagoon location shown on drawing no. MQ174-R2-DH-CI-1001 Rev. A does not match with the excavation drawing. C100-MQ174-A-DH-00. Please clarify which drawing is correct.</p> <p>3) Please confirm Lagoon No. 1, Lagoon No. 2 & Standby Lagoon excavation will be carried out by Enabling Works Contractor as drawing. C100-MQ174-A-DH-00 does not show Lagoon No.2</p> <p>4) As per Enabling Works excavation drawing C100-MQ174-A-DH-00 PRPS Enabling Works Contractors Office is Located at the Permanent Works Area such as Lagoon 1 Area, Building No. 7 to 11 & 23. Hence please confirm the Enabling Works Contractors Site Office will be moved before award of Main Works Package Contract</p>
A33							<p>Answer:</p> <p>The footprint of the lagoons for the PRPS 2 site, as shown on the tender drawings and the enabling works contract are correct, for lagoon number 2 and the standby lagoon. Lagoon number 1 as shown on the tender drawings is also required and is part of the PRPS site contractor scope of work.</p>
Q34	All	Technical	Mechanical Specification	Appendix A4	8/108	4.2.2.2.C	<p>Paragraph 2 states: "The Contractors shall verify the NPSH Available value". Provide the designed by Kahramaa NPSH Available values for all suction pipelines which are very long for the suction arrangements shown in the tender. The pump manufacturers requested this information for proper selection of NPSH required and Pumps billed in the BoQ. As this is a PC contract the NPSH available figures are mandatory for pump selection during the Bid preparation.</p>
A34							<p>Answer:</p> <p>Refer to the data sheets for the NPSH values for the pumps.</p>

Q35	All	Technical	Mechanical Specification	Appendix A4	8/108	4.2.2.2.C	Paragraph 3 states : "Any deviation in the NPSHR of the pumps shall be corrected at the Contractor's expense". Clarify this statement. For the pump(s) selected in the BID the NPSH required figures are fixed along the pump performance curves and cannot be corrected unless a new model is proposed or the suction system amended to revise the NPSH available. Therefore provide the designed by Kahramaa NPSH available figures for proper selection of pumps and NPSHR on the pumps in the tender.
A35							Answer: Refer to the data sheets for the NPSH values for the pumps.
Q36	All	Technical	Mechanical Specification	Appendix A4	7/108	4.2.2.1	Paragraph 5 states: "The Contractor shall confirm the proposed pump arrangement..". Clarify as the pump arrangement was fixed by Kahramaa in the BOQ indicating the number of pumps and duty/stand-by operation. We understand this statement shall be read "The contractor shall confirm the proposed pipework arrangement".
A36							Answer: Each pump and its associated equipment have been arranged in such a manner as to permit easy access for operation, maintenance and pump removal without interrupting pumping operation. The contractor shall confirm compliance with this requirement when submitting the construction drawings.
Q37	All	Technical	Mechanical Specification	Appendix A4	16/108	4.2.2.13	Item 3 states "Parallel pumps operation curves". Confirm the number of pumps vs duty/stand mode i.e 4 pumps required, mode of operation 2+2 or 3+1.
A37							Answer: Refer to the scope of works and the data sheets for the number of pumps duty/standby and maintenance spare.
Q38	Package B	Technical	BOQ	Bill No. 5	5/8/13	5.3.1.2.	Provide the Control Philosophy and Particular specification/schedules for Drain down pumps.
A38							Answer: Control philosophies shall be provided to the successful Bidder.

Q39	Package B	Technical	Mechanical Specification & Drawings	Appendix A4 & Hydraulic Flow table DWG MQ174-R2-DH-CL-1003			a) Provide the control philosophy for the Inlet distribution chambers and the reservoirs to distribute required design flow to all reservoirs for the commissioning purpose. b) If Kahramaa is going to request to check during the commissioning the scenario when one reservoir is under maintenance provide also this control philosophy.
A39							Answer: Operation and Control Philosophies shall be provided to the successful Bidder.
Q40	All	Technical	Electrical				Hazard Area Classification Drawing is not listed for any of the PRPS, Please Provide the same.
A40							Answer: A hazardous area classification drawing is not included. But the hazardous area requirement are included in the data sheets.
Q41	All	Technical	Mechanical	BOQ. NO. 9	9/18/3	9.1.9.1	Surge Analysis to be carried out by contractor, : please advise downstream boundary we can use for the hydraulic model, the length of the main pipelines and if there any tap offs along the line.
A41							Answer: Bidders should refer to Appendix 4 clause 4.7.3.
Q42	All	Contractual	Time for Completion: Milestone 2	MQ174-R1-DH-CL-6000	26/60	1.2.2	After successful completion of hydrotest for reservoir 1 and the three compartments our understanding is the tested water can be retained in the same reservoir compartments to be used for testing of other reservoirs. If not kindly confirm the alternate location for Safe storage, disposal or transfer of water. Additionally we would like to confirm that the manual mode of operation of valves during this milestone stage shall be considered.
A42							Answer: The Contractor may retain water on the site for reuse in other reservoirs. Manual use of valves during this phase shall be considered, although the Bidder is reminded that pressure testing shall not take place against any valves. Refer to appendix A1 section 1.1.3.8.

Q43	PRPS 1	Technical	Mechanical	Appendix F / Package A(PRPS 1) / Civil & Mechanical & Appendix F / Package A(PRPS 1) / P&ID	MQ174-R1-DH-CI-3057, MQ174-R1-DH-CI-3061, MQ174-R1-DH-CI-3065 & MQ174-R1-DH-PI-1002, MQ174-R1-DH-PI-1004, -1006, MI-1008	--	We have observed that overflow of Reservoir 2, 4, 6 & 7 is being collected in nearby manholes as shown in "Process Pipes Layout plans" (MQ174-R1-DH-CI-3057, MQ174-R1-DH-CI-3061, MQ174-R1-DH-CI-3065) . Whereas the P&ID (MQ174-R1-DH-PI-1002, MQ174-R1-DH-PI-1004, MQ174-R1-DH-PI-1006, MQ174-R1-DH-PI-1008) shows that overflow is collected in common header. Kindly arrange to clarify the exact LOW (Limit of work) for Reservoir overflow common header pipe.
A43							Answer: The Bidders shall review the drawings as the overflow from the reservoirs are not connected to the inlet or suction lines.
Q44	PRPS 3	Commercial	Item coverage	CI-6028			For reservoirs 3, 5 & 7 the overflow arrangement is different from the remaining reservoirs at PR PS3 and different from PR PS2. An overflow collection steel pipe is provided as per drawing CI-6028 and is not combined with the site storm water drainage. Please confirm.
A44							Answer: The Bidder shall follow the drawings as the system of overflow and storm are designed with different parameters.
Q45	All	Technical	Electrical	MQ174-R5-DH-SE-4101			The lighting fixture Circuit no. 16/02/10 is missing in the layout drawing.
A45							Answer: The text reading "16/2/10" is an error on the drawing. The contractor shall rename luminaire "16/2/11" to "16/2/10".

Q46	All	Technical	Instrumentation	MQ174-R1-DH-PI-1010			In the Drawing MQ174-R1-DH-PI-1010: Main Pump detail P&ID, Temperature sensor for motor winding (R, Y, B) - How is to be considered? (As local installation type or imported?) (for all 5 PRPS)
A46							Answer: Motor winding temperature sensors and moisture sensors are embedded into the motor windings by the motor manufacturer as part of the motor's protection system based on the user's requirements, as a standard manufacturing practice.
Q47	All	Technical	Instrumentation	MQ174-R1-DH-PI-1013			In the Drawing MQ174-R1-DH-PI-1013: Drain down pump detail P&ID, winding temperature sensor & moisture sensor - How is to be considered (As local installation type or imported). (for all 5 PRPS)
A47							Answer: Motor winding temperature sensors and moisture sensors are embedded into the motor windings by the motor manufacturer as part of the motor's protection system based on the user's requirements, as a standard manufacturing practice.
Q48	All	Technical	Instrumentation	MQ174-R1-DH-PI-1015			In the Drawing MQ174-R1-DH-PI-1015: Scour Pump detail P&ID, winding temperature sensor & moisture sensor - How is to be considered (as local installation type or imported) (for all 5 PRPS)
A48							Answer: Motor winding temperature sensors and moisture sensors are embedded into the motor windings by the motor manufacturer as part of the motor's protection system based on the user's requirements, as a standard manufacturing practice.

Q49	All	Technical	Instrumentation	MQ174-R1-DH-PI-1031			In the Drawing MQ174-R1-DH-PI-1031: Chlorination Plant P&ID, all the instruments (FI, FCV, ZT, HS, PI, PSH, and PSL) associated with Automatic Chlorination Cabinet - How is to be considered (as Local Installation type or imported) (for all 5 PRPS)
A49							Answer: The instruments shown in the Chlorination Cabinet are factory assembled into the Chlorination Unit by the Chlorination System manufacturer. The instruments shown are typical of the standard instruments found in a Chlorination Cabinet and will be subject to final system vendor selection. The query of whether these shall be "local installation type or imported type" is not relevant to this type of installation.
Q50	All	Technical	Instrumentation	MQ174-R1-DH-PI-1035			In the Drawing MQ174-R1-DH-PI-1035: Portable water & irrigation pump detail P&ID, winding temperature sensor - How is to be considered (as local installation type or imported) (for all 5 PRPS)
A50							Answer: Motor winding temperature sensors and moisture sensors are embedded into the motor windings by the motor manufacturer as part of the motor's protection system based on the user's requirements, as a standard manufacturing practice.
Q51	PRPS 3	Technical	Civil/Structural	CI - 1100			The locations of the drainage lagoons are different than what is shown in the drawing of the enabling contractor. Please confirm the location is as per drg CI - 1100 and that the excavation of the lagoons is within the scope of this contract
A51							Answer: Refer to enabling works drawings rev 2 issued in Tender Circular No 9.

Q52	PRPS 1	Technical	Mechanical	MQ174-R1-DH-BP-2020			In PRPS1-UMM BIRKA PACKAGE A, In Main Guard House Drawing No: MQ174-R1-DH-BP-2020, Ground Floor of Drainage layout is provided instead of Ground Floor of Water layout, Please provide the Water layout Ground Floor Drawing.
A52							Answer: Refer to drawing MQ174-R2-DH-BP-2020 for costing purposes. A final plan shall be produced for IFC.
Q53	PRPS 3	Commercial	Quantities	BQ no.6	35/91	6.13	The quantity of flexible coupling DN 900mm item 6.13.8 is not matching with drawing.
A53							Answer: This is amended in the updated BOQ issued with Tender Circular 13.
Q54	PRPS 3	Commercial	Quantities	BQ no.6	35/91	6.13	The quantity of carbon steel spool pipe DN 900mm item 6.13.9 is not matching with drawing
A54							Answer: This is amended in the updated BOQ issued with Tender Circular 13.
Q55	PRPS 3	Commercial	Quantities	BQ no.6	35/91	6.13	The quantity od carbon steel unequal tee DN 2400x900 item 6.13.10 is not matching with drawing.
A55							Answer: This is amended in the updated BOQ issued with Tender Circular 13.

Q56	ALL	Commercial	Architectural				<p>It is stated in previous circular that the Palm Trees around boundary wall which is in front of the site is remained. However, there is no irrigation system shown for these trees. Is irrigation system required for these trees? Please Clarify.</p>
A56							<p>Answer: Irrigation shall be required to the front of the site. The bidder shall allow for this in his price.</p>
Q57	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-ST-6710-A	Emergency tanker filling station floor plan sheet 1 of 2		<p>We refer to drawing MQ174-R1-om-st-6710-a, footing is shown in the part plan of the tanker filling station. Please confirm and provide details if this is required.</p>
A57							<p>Answer: These are required as shown on CI-6394 and ST 6717.</p>
Q58	ALL	Technical	mechanical	Circular No.9	1.4 Mechanical Data Sheets	040-1/040-2	<p>It is requested to fill the data sheets of gantry cranes for Auxiliary Pumping Station and Tanker Filling Pumping Station. But there is no gantry cranes in the boq and in the drawings either. Please clarify.</p>
A58							<p>Answer: These may be found under 9.1.14 of the updated BOQ issued in Tender Circular no 13.</p>
Q59	All	Commercial	Item coverage	Notes on pricing	P18 & 19	E & H	<p>From NOP we understand that the currency adjustment formula applicable for Bill no. 1 only, and construction & site cost in bill no.5 shall not be adjusted to any currency exchange. But according to BOQ we got Bill no.1 to 7 all should be adjusted the currency adjustment formula, and bill no.8-10 shall not be adjusted to any currency exchange. please confirm</p>
A59							<p>Answer: The currency adjustment formula shall be applied to the Bills as given in Appendix B Bills of Quantity.</p>

Q60	All	Contractual	App. A1 Scope	SOW		1.2.2	Regarding the testing mentioned under the Milestone 2, kindly clarify that testing of Reservoir No.1 for leakage is to be completed within this milestone.
A60							Answer: Testing of the reservoir for leakage is to be completed, The reservoir is to be ready for hydrostatic testing in this duration, therefore it does not need to have completed the hydrostatic (leakage) testing.
Q61	All	Commercial	Item coverage	BOQ No 7	7/1/9	7.1.7	Reference to the revised specifications Appendix A6, rev2, page 20/34, item D "Level transmitter-Radar", clause D.1, second paragraph "two level transmitters for redundancy" are specified for each reservoir cell, while the BOQs are still showing the same Qty of single transmitters, please provide the revised BOQ or advise where to include these additional transmitters (current Qty to be multiplied by 2).
A61							Answer: This was included in the updated BOQ issued in Tender Circular No 13.
Q62	All	Commercial	Item coverage	BOQ No 7	7/1/9 & 7/2/9	7.1 & 7.2.2	Reference to the revised specifications Appendix A6, rev2, page 25/34, clause 6.3.8, the Water Quality Analyzers include new parameters (Temperature & Chlorine Dioxide), while the P&IDs and BOQs are not updated to include these new parameters. Please provide the revised BOQ including these additional sensors or advise where to cover these new sensors.
A62							Answer: This was included in the updated BOQ issued in Tender Circular No 13.

Q63	All	Technical	Civil/Structural	Tender circular 11	A3 & A48		Referring to your responses in tender circulars #11, A3 & A48, please confirm that rebars shall be epoxy coated and not be uncoated as described in the project specification.
A63							Answer: As the response given in Tender Circular 11, bars shall be epoxy coated where in water retaining structures or in underground structures.
Q64	PRPS 1	Commercial	Quantities	Bill 8		Excavation	The video on Kahramaa's website describes PRPS 1 by saying "It is located at an existing quarry therefore no enabling works are foreseen for this site". But the topographic drawings of the site show very big quantities of excavation required for the reservoirs , lagoons, and buildings. Please advise.
A64							Answer: The Contractor shall follow the tender, and use the documents with it. The Video is for general information purposes and does not form part of this tender documentation. There is no separate enabling works contract for PRPS 1,. All earthworks shall be completed under this contract.
Q65	PRPS 1	Commercial	Quantities	Bill 8		Excavation	Is the excavation for future reservoirs included within our scope of PRPS 1? Or should the tenderer allow for the excavation of the structures to be constructed in this tender only?
A65							Answer: The Bidder shall allow for the excavation of the structures to be constructed under this contract only.

							We refer Appendix B Bill of Quantities all packages; - Bill No 1 "Supply of Main Pump, Motors and Spares – Preferred Supplier" - Bill No 2 "Supply of Main Pump, Motors and Spares – Alternative Supplier No 2" - Bill No 3 "Supply of Main Pump, Motors and Spares – Alternative Supplier No 3" - Bill No 4 "Supply of Main Pump, Motors and Spares – Alternative Supplier No 4" Please confirm our understanding that each of these Bills are required to be priced but only the total of Bill No 1 shall be carried forward into the grand summary. (i.e. Bill's 2, 3, 4 are alternative pricing only for the Clients consideration).
A66							Answer: Refer to Item 1.4 of tender Circular No 1, only Bill No 1 shall be completed. Bills No 2,3 and 4 shall be deleted.
Q67	PRPS 1	Technical	MEPF	MQ174-R1-DH-BP 2083			We notice that there is no electric water heater schedule, please clarify.
A67							Answer: This was provided in Tender Circular No 13.

Q68	All	Technical	MEPF				Please clarify our design responsibility in relation to the Surge system – can you confirm our responsibility is purely to verify the Surge Analysis based on the equipment and plant selection priced within our offer?
A68							<p>Answer: The contractor is required to verify the surge analysis based upon the plant and equipment proposed and to provide a report to confirm this. Also to confirm that this shall have no detrimental effect on other elements proposed under other contracts. Should the Contractor wish to propose equipment that impacts upon other equipment provided by others then the Contractor is required to rectify this or to pay for the rectification of this.</p>
Q69	All	Contractual	Civil/Structural	Circular-7/ PRPS 1 Temporary fence	MQ174-DH- CI-8051		Whether it should be handed over to Kahramaa or it can be taken by contractor? Since the item is not shown in the main BOQ, how the item will be paid. Please confirm.
A69							<p>Answer: As this is temporary works, the Contractor may take it upon completion of the permanent boundary wall. The cost for this shall be included within the contractors rates for the works.</p>
Q70	All	Contractual	Civil/Structural	Circular- 11, Answer 11			Charge for the third party inspection present for testing pumps?
A70							<p>Answer: The Question is not understood, however the Bidder shall allow for all third party inspections within his price.</p>

Q71	All	Technical	Civil/Structural				All the roads, CCTV, street lighting should be considered for all the future reservoirs also, Please confirm?
A71							<p>Answer: Confirmed - All elements associated with roads, footways, street lighting and CCTV are required around the areas of the future reservoirs for security purposes and access to these areas.</p>
Q72	All	Contractual	ICA/SCADA	General	NA	Circular 12	The Circular 12 informs the bidders that the supplier for MASTER PLC/SCADA HMI shall be Kahramaa sole discretion. However note that this clause is not acceptable as this will become a single vendor during execution stage. We confirm that the PLC and the SCADA supplied shall be as per KAHRAMAA specifications & supplier shall be from approved vendors given by KAHRAMAA in the tender document. The selection shall be taken by the contractor after the award of contract and it shall be at the sole discretion of bidder.
A72							<p>Answer: This shall be adhered to as a Kahramaa requirement.</p>
Q73	All	Contractual	ITT / Tender Circulars	Tender Circular No.7 and Tender Circular No. 12		Q&A 92 of Circular 7 and Q&Q 144 and 167 of Circular 12	As per Circular No.7 Q&A 72, we had already arranged for providing two or more tender bonds totaling QR 20 million for each package. Considering the little time available after Ramadan Holidays it will be very difficult to arrange for a composite single tender bond at this stage. Hence we request you to confirm acceptance of multiple tender bonds totaling the requisite value for each package.
A73							<p>Answer: This cannot be accepted. The tender has been extended and the Bidder shall comply with the requirements given.</p>

Q74	All	Contractual	ITT	Attachment 10-Summary of Contract	Page 33	SN06,iv)	It said "Within 45 days from the date of receiving Kahramaa Finance Dept. to the Contractor Correct invoice". We understand it as "Within 45 days from the date of receiving the Contractor Correct invoice by Kahramaa. "Please confirm.
A74							Answer: Payment of invoices shall be within 45 days of receiving an approved and correct invoice from the Contractor.
Q75	All	Contractual	App. A1 Scope	all	6/60	1.1.3.8	Kindly clarify if Kahramaa shall supply temporary pipe for reservoir testing, cleaning and sterilizing.
A75							Answer: The Contractor is to provide all temporary pipes required.
Q76	All	Contractual	App. A1 Scope	all	6/60	1.1.3.8	Quantity of water for reservoir testing, cleaning and sterilizing is too large, about 3.5 million cubic meters. For avoiding confusion, please kindly clarify that Kahramaa will freely supply the water, or contract shall pay for water at the Kahramaa standard rate current during the Contract.
A76							Answer: The Contractor shall pay for the water at the Kahramaa standard rate. This shall not be free supply.

Q77	All	Contractual	App. A1 Scope	all	6/60	1.1.3.8	<p>It requires that "The Contractor shall process any water to be disposed off Site to reduce the level of residual chlorine before disposal." Is it full responsibility for contractor to process all the water and then dispose it? Please kindly clarify the method to process the used water before disposal, and the assigned location for disposal.</p>
A77							<p>Answer: This is the full responsibility of the contractor and the final quality required shall be subject to the Contractors preferred disposal location for the water.</p>
Q78	All	Contractual	App. A1 Scope	all			<p>Please clarify whether Kahramaa will give permission to contractors to build batching plant and precast plant on ground of future reservoir.</p>
A78							<p>Answer: The Contractor may be allowed to build a batching plant, so long as it complies with all Qatari legislation and is only used for the site upon which it is constructed.</p>
Q79	PRPS 1	Technical	Civil/Structural	SCOPE OF WORK & SPECIFICATIONS	4/60	1.1.3.4	<p>Please clarify whether Kahramaa will provide the backfilling material for Package A.</p>
A79							<p>Answer: The Contractor is to obtain this material from his excavations on the site or elsewhere if necessary. This shall not be provided by Kahramaa.</p>

Q80	PRPS 3	Technical	Civil/Structural		External work	Enabling work	Drw no. C116-MQ174-A-DH-D-00 provided for enabling work of PRPS 3 issued with tender circular no 9 and it is dated to Oct 2013. But the tender drawing for the enabling works is issued in March 2014. Hence please clarify which drawing to be used.
A80							Answer: The Enabling Works excavation is being undertaken to the drawings issued in Tender Circular No 9.
Q81	All	Technical	Mechanical	<p style="text-align: center;">Civil & mechanical Drawing, MQ174-R1-DH-CI-6240</p> <p style="text-align: center;">MQ174-R2-DH-CI-6240</p> <p style="text-align: center;">MQ174-R4-DH-CI-6240-A</p> <p style="text-align: center;">MQ174-R3-DH-CI-6240-A</p> <p style="text-align: center;">MQ174-R5-DH-CI-6240-A</p> <p style="text-align: center;">APPENDIX-B (BOQ - PRPS 1 - Bill 5 & Bill No-9 - M&E Supply, BOQ - PRPS 2 - Bill 5 & Bill No-9 - M&E Supply,, B</p>	<p>OQ - PRPS 3 - Bill 5 & Bill No-9 - M&E Supply, BOQ - PRPS 4 - Bill 5 & Bill No-9 - M&E Supply, B</p>	Air compressor system	<p>Air compressor & Air receiver quantities are varying in the mentioned documents & drawings.</p> <p>As per Civil & mechanical Drawing the Compressor quantity is:</p> <p>3w+2S - 5 Nos -Package 1 & 5, 5W+2S-7 Nos- Package-2 4W+2S- 6 Nos. Package-3, and 5W+3S- 8 Nos. Package-4</p> <p>However as per the Appendix-B bill no. 9 Compressor quantity:</p> <p>6 Nos -Package 1 & 5, 8 Nos- Package-2 6 Nos. Package-3, and 8 Nos. Package-4</p> <p>Please clarify which one is correct</p>
A81							Answer: This has been updated in the revised BOQ issued with Tender Circular No 13.

Q82	All	Contractual	ITT			We intend to form an Unincorporated Joint Venture for the Mega Reservoirs project and as such we propose that both JV parties will sign the bonding documents submitted to the nominated bank and our bank will provide a bond(s) in the name of the Joint Venture. Can you clarify if any Joint Venture agreements in place for the Mega Reservoir project must be signed by individuals of the companies named on the Computer Cards?
A82						Answer: The bonding documents submitted to the nominated bank is a bank requirement to issue the Bid Bond. One Bid Bond should be submitted for the Joint Venture and the JV agreement should be signed by individuals of the companies named on the Computer Cards.
Q83	All	Technical	Architectural	MQ174-R(1-5)-DH-CI-6030		Reference to the drawing no.MQ174-R(1-5)-DH-CI-6030 for Fiber optic cable, please provided the specification and advise in which item of BOQ the FOC work was involved.
A83						Answer: The specification has been included in Tender Circular no 13.
Q84	All					The changes/updates in the revised specifications issued with Circular no. 12 are not highlighted. Please re-issue the revised specs with highlighted changes/updates so that we can realize the changes/updates and take it into account in the bid price.
A84						Answer: The sections changed are listed in the fax that accompanied Tender Circular No 12.

Q85	All	Technical	Electrical	APPENDIX A5 REV.2	13/41	5.3/5.3.3.1	MV VFD: according to the revised specs, the VFD and Motor shall be supplied from the same manufacturer (the word "preferably" has been removed from the specs). This change leaves the competition only among some manufacturers who produce both VFDs and Motors (listed for both VFDs and Motors) and will exclude other manufacturers from the approved list like SCHNEIDER, ALLEN BRADLEY and ANSALDO. Please reconsider and confirm the requirement.
A85							Answer: The VFD and Motor may be supplied by different manufacturers, provided they are on the project approved list.
Q86	All	Technical	ICA/SCADA				1. The following Level Switches are appearing in the I/O List, but not included in the Instrument BOQ (Bill No.7). Please clarify. R2-61-LS-01 to 10 (10 no.s)
A86							Answer: The Bidder should refer to the updated BOQ issued in Tender Circular No 13.
Q87	All	Technical	Quantities	Bill no. 9	3/18	9.1.10.1	In the Instrumentation BOQ (Bill no.9) only instruments for 1 Air compressor has been considered. However while reviewing the equipment BOQ (Bill no.9) we found more than 1 air compressors. For Example, 6 no air compressor in PRPS-1. Please clarify.
A87							Answer: The Bidder shall refer to the updated BOQ issued in tender circular no 13.
Q88	All	Technical	Civil/Structural	Drawings	MQ174-R3-DH-ST-2001		The imposed load (5 kN/m ²) on the roof slab appears very high. Please provide details or source of this high value and whether a lower value can be used
A88							Answer: This load must be adhered to and the Contractor should price the designs given.

Q89	All	Technical	Electrical	CL No 9	App.A 5		Electrical Specification - Revision 2. Can you please highlight the changes made from Revision 1.
Q89							Answer: Items changed were listed in the fax accompanying the Tender Clarification.
Q90	All	Technical	ICA/SCADA	CL No 9	App. A 6		Instrumentation Specification - Revision 2. Can you please highlight the changes made from Revision 1.
A90							Answer: Items changed were listed in the fax accompanying the Tender Clarification.
Q91	All	Technical	MEPF	CL No 9	App.A 7.4		MEPF Specifications - Revision 2 - Electrical Specification. Can you please highlight the changes made from Revision 1.
A91							Answer: Items changed were listed in the fax accompanying the Tender Clarification.
Q92	All	Contractual	ITT	Circular no. 12	46	A167	In the case of a tenderer that is an unincorporated joint venture, if one of the entities forming part of such joint venture is appointed as the joint venture representative and given authority by the joint venture, then the authorized signatory of such entity will sign the tender and the tender bond would be issued in the name of such entity (i.e. the tender bond would be issued in the name of the entity appointed as the joint venture representative). Please confirm that our understanding is correct.
A92							Answer: This is correct provided that the same is mentioned in the Joint Venture agreement, which should be submitted along with the tender offer.

Q93	All	Contractual	ITT	Circular no. 12	48	A173	A173 addresses the attestation requirements of foreign companies. If an entity is an entity registered in Qatar, please confirm the attestation channels relating thereto.
A93							<p>Answer: The attestation shall be the computer card issued by the concerned Authority in the Ministry of Interior.</p>
Q94	All	Contractual	GCC	Circular no. 1	2	9(ii)	<p>Pursuant to Paragraph 9(ii), the parties cannot terminate the joint venture agreement without the consent of Kahramaa.</p> <p>In circumstances where an unincorporated joint venture is being utilized for tendering purposes, a joint venture agreement governing such joint venture would be submitted to Kahramaa. If a contract is awarded, a new joint venture company would, as required by Kahramaa, be incorporated in the State of Qatar and a shareholders' agreement relating to such new joint venture company would therefore be necessary.</p> <p>Would Kahramaa consider allowing the termination of the joint venture agreement relating to the unincorporated joint venture, and its replacement with the shareholders' agreement relating to the newly formed company.</p>
A94							<p>Answer: The submitted technical and commercial offers by the JV company formed by certain companies shall be evaluated by Kahramaa and if that JV company is successful and the tender is awarded to them, the contract with Kahramaa should be signed by the same JV company. No replacement is allowed without Kahramaa consent, which means that it is subject to Kahramaa discretion to reassess the situation and evaluate the new shareholders capacity and in this risky case Kahramaa shall have the right to confiscate the Bid Bond should the original JV company be terminated after award.</p>

TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 20/08/2014	TOTAL PAGES: 1+94
To: All Bidders	Fax: 20 AUG 2014	
For the Attention of: General Manager	Our Ref.:	TA/TW/TWM/14/FX/344
Subject: GTC 626/2014 – CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 16

TENDER CLARIFICATION

Reply to Tenderers Clarifications

Please find attached a table, containing replies to your clarifications.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,



ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

 CC: TW,GTC, File

| Page 1

Warning: This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not retained or lost by electronic communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 - تلفون: (974)44845333
ص.ب : 41 - الدوحة - قطر



No	PRPS site	Query	Subject area	Document/drawing no	Page/Location	Clause/ Item	Query and Answer
Q1							<p><u>PRPS 1 – Technical – Civil/Structural – MQ174-R1-DH-ST-4521:</u></p> <p>Referring to the tender document drawing Package A (MQ 174-R1-DH-ST-4521) Main pumping station basement level pile schedule. Please provide the depth/length of each pile from the cut off level.</p>
A1							<p>Answer:</p> <p>Final pile design shall be carried out by the contractor (as noted on the referred drawings) considering the required design forces as per note no. 5 on the same sheet. The current pile design is indicative and requires confirmation by the contractor, however the contractor must work to the pile layout given.</p>
Q2							<p><u>PRPS 1 – Technical – Architectural - MQ174-R1-DH-CI-2137-A to 2139-A:</u></p> <p>The drawing no's MQ174-R1-DH-CI-2137-A to MQ174-R1-DH-CI-2139-A is not covering the road signage and marking for the internal network roads. Please provide the detailed drawings.</p>
A2							<p>Answer:</p> <p>Refer to drawing set CI-2150 to CI-2168, issued in Tender Circular No 14.</p>
Q3							<p><u>PRPS 2 - Technical – Architectural - MQ174-R2-DH-CI-2130-A to 2132-A:</u></p> <p>The drawing no's MQ174-R2-DH-CI-2130-A to MQ174-R2-DH-CI-2132-A is not covering the road signage and marking for the internal network roads. Please provide the detailed drawings.</p>
A3							<p>Answer :</p> <p>Refer to drawing set CI-2150 to CI -2162, issued in Tender Circular No 14.</p>

Q4							<p>All PRPSs – Technical – Civil/Structural – BQ No. 8 – P. 14/26 – Item 8.6.1:</p> <p>Kindly provide road signage and road markings layout drawings for internal roads and their locations.</p>
A4							<p>Road signage and road marking layouts for all internal roads was provided in Tender Circular No 14.</p>
Q5	All	Technical	Civil/Structural	Specification	Appendix A, 2.1 Cast In-Situ	2.1.2.2 A.3	<p>Please confirm that local limestone as concrete aggregate will not be accepted by Kahramaa.</p>
A5							<p>Answer: The Contractor shall use aggregates that comply with the requirements of the project specs clause 2.1.2.2 AGGREGATES. Local limestone will only be accepted if it fully complies with the specifications.</p> <p>Furthermore; design is based on a Coefficients of thermal expansion of 10 microstrain/$^{\circ}\text{C}$, which must be complied with.</p>
Q6	All	Technical	Civil/Structural	Specification	Appendix A, 2.1 Cast In-Situ	2.1.3.1	<p>Please confirm that the whole reservoir concrete including roof slab, chambers, baffle walls needs to be Waterproof Concrete taking into consideration that the price for this waterproofing concrete as specified with 500 Coulomb is very expensive type.</p>
A6							<p>Answer: Durability levels could be considered as "Moderately High Level" hence the limit could be 1000 at 28 days. Please note that durability requirement shall be requested at 56 days.</p>

Q7	All	Technical	Civil/Structural	Specification	Appendix A, 2.1 Cast In-Situ	2.1.3.1	<p>Please confirm the required value of 500 Coulomb for Max Rapid Chloride Permeability which is a very high and moreover a very costly requirement. Please confirm also that this value needs to be achieved for the roof slab of the reservoirs as well.</p>
A7							<p>Answer: All reservoir elements (including the roof slab) shall be built using a waterproof concrete mix (WPC class C as specified on the project specification). For the purpose of the Concrete Mix Design and test prior to execution (project specs clause 2.1.3.1 item B. Concrete mix design); The target limit for the Rapid Chloride Permeability test shall be 500 Coulombs (or less). Furthermore, durability test may be executed at 28 or 56 days. For the purpose for the Field Quality Control and tests during construction (project specs clause 2.1.3.9 item F. Durability Tests); The durability test results will be deemed to be acceptable only if both of the following conditions are met:</p> <ol style="list-style-type: none"> 1. The average value of all of the results for each test on each type of concrete is less than or equal to the pertinent value in the above table. (for Rapid Chloride Permeability; the average shall be 800 coulombs) 2. Each test shall be given a weighting of unity and the overall score of the four durability test results on each set of samples shall be evaluated in accordance with the following formula: $Score = (RCP/800)+(DIN/8)+(ISAT/0.02)+(WA/1.0)$ (for the waterproof concrete; the minimum score shall be 4)

Q8	All	Contractual	Specifications	AppA2_PRPS_Civil-Struct_Spec_Rev1	13/186	Clause 2.1.2.2 (A) 3	<p>It states that "The use of limestone crushed aggregates is preferred for their lower thermal expansion behavior." Does refer to imported limestone only, and would it be a requirement in all concrete?</p>
A8							<p>Answer: All types of aggregates are acceptable provided that they comply with the requirements given in the project specs clause 2.1.2.2 AGGREGATES. Furthermore; design is based on a Coefficients of thermal expansion of 10 microstrain/$^{\circ}\text{C}$, which must be complied with.</p>
Q9	PRPS 1	Technical	ICA/SCADA	-	-	-	<p>4 reservoirs are part of the Package A. We understand that control system requirement is for 4 reservoirs + 25% spares. Please confirm.</p>
A9							<p>Answer: The control system for the current works is to cover 4 reservoirs, however to keep it similar to the other sites, it shall also contain 25% spares. All control systems provided shall be fully expandable to cater for the future reservoir requirements.</p>

Q10	All	Technical	ICA/SCADA	Appendix-8 , Automation specification Rev 1	Page No. 290 of 316	-	Bidder understand that 230 V AC operated turnstile shall be provided as part of Physical Address Control System (PACS). Please provide following information. 1) whether we need to consider half or full height turnstiles 2) Please inform about application of use. Whether indoor or outdoor type. 3) No of locations where turnstiles to be installed.
A10							Answer: Turnstiles are not required. Full height gates with Electromagnetic locks are to be provided instead.
Q11	All	Technical	ICA/SCADA	APPENDIX A SECTION 6 INSTRUMENT ATION SPECIFICATIO N	Page no. 31 of 40	Operator Panel for Motor Control Module	As per specified clause, "Operator panel for controlling the motor feeder shall be EEx d, EEx e and ATEX certified. Bidder understand that as the operator panel will not be located in hazardous area, hence Ex d, EEx e and ATEX certification is not required. Please confirm that bidder's understanding is correct.
A11							Answer: The Contractor shall comply with the specifications.
Q12	All	Technical	ICA/SCADA	APPENDIX A SECTION 8 AUTOMATION SPECIFICATIO N	Page no. 41 of 316 & Page no. 171 of 316	Clause no. 8.2.11 & Clause no. 8.12.20 : Optical Fibre Type	On page no. 41, clause no. 8.2.11, proposed fiber cable shall be Multimode OM3 type, whereas as per page no. 171, clause 8.12.20 , the optical fibre shall be ITU-T.G.652 single mode optical fibre. Customer is requested to clarify which type of fiber optic cable need to be considered.
A12							Answer: This refers to Multimode fiber for Plantwide, 8.12.20 is Single Mode for Site Wide Communications. The Contractor not responsible for integrating the 5 sites within GTC626/2014, however this cabling specification is given here, so that the contractor may include for the correct transceivers.

Q13	All	Technical	ICA/SCADA	APPENDIX F Field Level Schematic Drawing	-	-	Bidder understand from the specified Field level schematic drawing that all the Motor Operated valves (MOVs) shall be controlled from respective PLCs through Profibus protocol. In the view of above, bidder understand that hardwired open/close/travel/stop & local/remote feedback are not required. please confirm that bidder's understanding is correct.
A13							Answer: This is not correct. Bidder shall refer to the latest I/O list. All MOVs are Digital with HART 4-20ms for diagnostics.
Q14	All	Technical	MEPF			Spe.Clause 1.1.3.9	RC Non process pipework is mentioned on the specification clause 1.1.3.9 But the same is not included in the BOQ & Drawings , please confirm the scope.
A14							Answer: RC pipes are required for the storm water network (see item no. 8.6.5)
Q15	All	Technical	MEPF				uPVC irrigation pipeline to landscaped areas are mentioned on the Specification and Drawings the same is not included in the BOQ please confirm the scope.
A15							Answer: Please refer item no. 8.6.4

Q16	All	Technical	Electrical	Appendix F	Electrical Drawings		Please specify the Site wide Security layout conduit details are required
A16							<p>Answer: Armoured CAT6A cabling UPOE to Controller - Cabling to devices (Card Readers, Mag Locks) shall be 12VDC 2 Core Armoured. All security devices are wired back to racks either in buildings or Kiosk, The contractor is to make allowance for wiring these devices back to the Kiosks using suitable armored cables buried in ground within the allowed cabling corridor.</p>
Q17	All	Technical	Electrical	Appendix F	Electrical Drawings		Please specify the Site wide security layout -wire rating and description details are required
A17							<p>Answer: Controllers (240VAC 15W), Mag Locks (25W 12VDC). 2 Core 2.5mm² Steel Wired Armoured From Kiosk Rack to Roof Access Doors.</p>
Q18	All	Technical	Electrical	Appendix F	Electrical Drawings		Please specify the reservoir No.1 roof level power & containment cable details are required
A18							<p>Answer: Refer to drawing series MQ174-RX-DH-SE-7300 for the layout and drawing series MQ174-RX-DH-SE-4200 for the cable sizes. These sockets are supplied from street lighting feeder pillars.</p>
Q19	All	Technical	Electrical	Appendix F	Electrical Drawings		Please specify the reservoir No.3,5,7 roof level power & containment cable details are required
A19							<p>Answer: Refer to drawing series MQ174-RX-DH-SE-7300 for the layout and drawing series MQ174-RX-DH-SE-4200 for the cable sizes. These sockets are supplied from street lighting feeder pillars.</p>

Q20	All	Technical	Electrical	Appendix F	ctrical Drawings		Please specify the reservoir No.1 roof level lightning protection layout the cable rating details are required.
A20							Answer: The cabling shall be lead sheathed throughout. Roof and downconductor cross section to 25x3mm.
Q21	All	Technical	ICA/SCADA	MQ174-R1-DH-SC-2267-01	9/10		Referred drawing is a sample. Please confirm all Digital Input Signals are to be connected to Digital Input modules and NOT to Analog Input modules. For instances of wire breakage , Digital Input modules with suitable diagnostics are available.
A21							Answer: The referred drawing is a sample. Refer to the updated I/O list for signals related to instrument using the I/O list as the example given for PRPS2 for all sites.
Q22	PRPS1						Kindly Clarify on the discrepancies noticed between BOQ and Drawings regarding the mis match of pump capacities
A22							Answer: This has been corrected in the revised BOQ issued in Tender Circular No 13.

Q23	PRPS2						Kindly Clarify on the discrepancies noticed between BOQ and Drawings regarding the mis match of pump capacities
A23							Answer: This has been corrected in the revised BOQ issued in Tender Circular No 13.
Q24	PRPS 3						Kindly Clarify on the discrepancies noticed between BOQ and Drawings regarding the mis match of pump capacities
A24							Answer: This has been corrected in the revised BOQ issued in Tender Circular No 13.
Q25	PRPS 4						Kindly Clarify on the discrepancies noticed between BOQ and Drawings regarding the mis match of pump capacities
A25							Answer: This has been corrected in the revised BOQ issued in Tender Circular No 13.
Q26	PRPS5						Kindly Clarify on the discrepancies noticed between BOQ and Drawings regarding the mis match of pump capacities
A26							Answer: This has been corrected in the revised BOQ issued in Tender Circular No 13.

Q27	PRPS4	Technical	Drawing & BOQ	MQ174-R4-DH-CI-3040 to 3060 & MQ174-R4-DH-CI-9100 to 9124 Rev. A Bill No. 6	6/22/81	6.6	<p>The following items were billed in the Tender BOQ but more fittings are required as per Tender Drawings along corridor and transmission mains:</p> <ul style="list-style-type: none"> a) BOQ Item 6.6.2 shows 36 Nos. of 1600mm dia socketed 45 deg bend but Tender Drawings (MQ174-R4-DH-CI-3040 to 3060) require 48 Nos. b) BOQ item 6.6.5 shows 24 Nos. of 1400mm dia socketed 45 deg bend but Tender Drawings (MQ174-R4-DH-CI-3040 to 3060) require 26 Nos. c) BOQ Item 6.6.6 shows 8 Nos. of 1400mm dia socketed 22.5 deg bend but Tender Drawings (MQ174-R4-DH-CI-3040 to 3060) require 12 Nos. d) BOQ Item 6.6.10 shows 20 Nos. of 1200mm dia socketed 45 deg bend but Tender Drawings (MQ174-R4-DH-CI-3040 to 3060) require 44 Nos. e) BOQ Item 6.6.11 shows 8 Nos. of 200mm dia socketed 22.5 deg bend but Tender Drawing (MQ174-R4-DH-CI-9117) require 17 Nos. f) BOQ Item 6.6.19 shows 18 Nos. of 800mm dia equal tee but Tender Drawings (MQ174-R4-DH-CI-9115 to 9116) require 19 Nos. <p><i>Please clarify and amend the BOQ's for the contractor to price accordingly.</i></p>
A27							<p>Answer: This has been updated in the revised BOQ issued in Tender Circular No 13.</p>

						The following items are not found in the Tender BOQ but are required/shown in the Tender Drawings: a) 4 Nos. 1400/1200mm socket reducer (Tender Drawing MQ174-R4-DH-CI-3045) b) 1 No. 1200mm dia socketed 11.25 bends (Tender Drawing MQ174-R4-DH-CI-9110) c) 2 Nos. 500mm dia 45 deg bend (Tender Drawing MQ174-R4-DH-CI-3046) d) 5 Nos. 500mm dia 90 deg bend (Tender Drawing MQ174-R4-DH-CI-3046) e) 303 L.M. 500mm dia pipe (Tender Drawing MQ174-R4-DH-CI-3046) f) 1 No. 500mm dia Equal tee (Tender Drawing MQ174-R4-DH-CI-3046) g) 20 Nos 1200mm Flange socket piece (Tender Drawing MQ174-R4-DH-CI-3054) h) 192 L.M. 100mm dia pipe (Tender Drawing MQ174-R4-DH-CI-3045) i) 3 Nos. 100mm dia socketed 90 deg bend (Tender Drawing MQ174-R4-DH-CI-3045) <i>Please clarify, include in the BOQ's or amend the BOQ's for the contractor to price accordingly.</i>
A28						Answer: This has been updated in the revised BOQ issued in Tender Circular No 13.
Q29	PRPS4	Technical	Drawing	MQ174-R4-DH-CI-6028 Rev. A		The following items are not found in the Tender BOQ but are required in the Tender Drawing: a) 12 Nos. DN900 Flexible Coupling b) 3 Nos. DN900 Flanged Spigot Pipe, Length = 4140mm c) 2 Nos. DN900 DI double spigot pipe, L=1350mm d) 5 Nos. DN1000 double spigot pipe, L=1350m <i>Please clarify or amend the BOQ's for the contractor to price accordingly.</i>
A29						Answer: This has been updated in the revised BOQ issued in Tender Circular No 13.

Q30	PRPS4	Technical	Drawing & BOQ	MQ174-R4-DH-CI-6392 Rev. A Bill No.6	6/39/81	6.15.5	Tender Drawing and pipework schedule specifies motorized butterfly valve with extension spindle but Tender BOQ requires butterfly valve with extension spindle only. <i>Please clarify.</i>
A30							Answer: The BOQ description has been re-phrased to refer to Motorized Butterfly Valve
Q31	PRPS4	Technical	Drawing & BOQ	MQ174-R4-DH-CI-6393 Rev. A Bill No. 6	6/40/81	6.16.6	Tender Drawing and pipework schedule specifies motorized butterfly valve with extension spindle but Tender BOQ requires butterfly valve with extension spindle only. <i>Please clarify.</i>
A31							Answer: The BOQ description has been re-phrased to refer to Motorized Butterfly Valve
Q32	PRPS3	Technical	Drawing & BOQ	MQ174-R3-DH-CI-3050 to 3062 & MQ174-R3-DH-CI-9100 to 9118 Rev. A Bill No. 6	6/20/81	6.5.2	BOQ Item 6.5.2 shows 1 No of 2200 mm dia. Welded 90deg bends. However as per Tender Drawing the number is 6. <i>Please clarify.</i>
A32							Answer: This has been updated in the revised BOQ issued in Tender Circular No 13.

Q33	PRPS3	Technical	Drawing & BOQ	MQ174-R3-DH-CI-3050 to 3062 & MQ174-R3-DH-CI-9100 to 9118 Rev. A Bill No. 6	6/20/91	6.6	<p>The following items were billed in the Tender BOQ but more fittings are required as per Tender Drawings along corridor and transmission mains:</p> <ul style="list-style-type: none"> a. BOQ Item 6.6.2 shows 12 Nos. 1600mm dia socketed 45deg bends but Tender Drawing (MQ174-R3-DH-CI-9100) requires 28 Nos. b. BOQ Item 6.6.11 shows 10 Nos. 1200mm dia socketed 45deg bends but Tender Drawings (MQ174-R3-DH-CI-9115, 9116 & 9106) require 24 Nos. c. BOQ Item 6.6.15 shows 20 Nos. 900mm dia socketed 45deg bends but Tender Drawing (MQ174-R3-DH-CI-9117) requires 40 Nos. d. BOQ Item 6.6.16 shows 2287 L.M. 800mm dia DI pipe but Tender Drawings (MQ174-R3-DH-CI-9107 to 9109, 9112 & 9113) require 2508 L.M. e. BOQ Item 6.6.19 shows 18 Nos. 800mm dia equal tee but Tender Drawings (MQ174-R3-DH-CI-9107 - 9111) require 19 Nos. f. BOQ Item 6.6.24 shows 7 L.M. 500mm dia DI pipe but Tender Drawings (MQ174-R3-DH-CI-3051 to 3052) require 570 L.M. g. BOQ Item 6.6.32 shows 115 L.M. 150mm dia DI pipe but Tender Drawings (MQ174-R3-DH-CI-3051 to 3052) require 233 L.M. <p><i>Please clarify or amend the BOQ's for the contractor to price accordingly.</i></p>
A33							<p>Answer: This has been updated in the revised BOQ issued in Tender Circular No 13.</p>

							The following items are not found in the Tender BOQ but are required/shown in the Tender Drawings: a. 1 No. 1200mm dia socketed 22.5 deg bend (Tender Drawing MQ174-R3-DH-CI-9115) b. 2 Nos. 1200mm dia socketed 11.25 deg bend (Tender Drawing MQ174-R3-DH-CI-9106) c. 20 Nos. 1200mm dia. flanged socket piece (Tender Drawings MQ174-R3-DH-CI-9102 to 9103) d. 2 Nos 500mm dia socketed 90deg bend (Tender Drawings MQ174-R3-DH-CI-3051 to 3052) e. 6 Nos 500mm dia socketed 45deg bend (Tender Drawings MQ174-R3-DH-CI-3051 to 3052) f. 206 L.M. 100mm dia DI pipe (Tender Drawing MQ174-R3-DH-CI-3053) g. 3 Nos. 100mm dia socketed 90deg bends (Tender Drawing MQ174-R3-DH-CI-3053) <i>Please clarify and amend the BOQ's for the contractor to price accordingly.</i>
A34							Answer: This has been updated in the revised BOQ issued in Tender Circular No 13.
Q35	PRPS3	Technical	Drawing & BOQ	MQ174-R3-DH-CI-6028 Rev. A Bill No. 6	6/35/91	6.13	a) BOQ Item 6.13.8 shows 13 Nos. DN900 Flexible Coupling but Tender Drawing requires 28 Nos. b) Tender Drawing requires 3 Nos. DN900 DI flanged spigot pipe, L=2780mm but not considered in Tender BOQ. <i>Please clarify or amend the BOQ's for the contractor to price accordingly</i>
A35							Answer: This has been updated in the revised BOQ issued in Tender Circular No 13.

Q36	PRPS3	Technical	Drawing & BOQ	MQ174-R3-DH- CI-6500 - 6501 Rev. A Bill No. 6	6/41/91	6.18.3	<p>BOQ Item 6.18.3 shows 4 Nos. DN1600 DI flanged spigot pipe 2135mm long with IPF 1085 from flange, but Tender Drawings require 12 Nos.</p> <p><i>Please clarify or amend the BOQ's for the contractor to price accordingly</i></p>
A36							<p>Answer: This has been confirmed 12 Nos. and is given in the updated BOQ included within Tender Circular No 13.</p>
Q37	All	Technical	Auxiliary Pumps	Mechanical Specification	Page 28/108 - Appendix A4	4.2.3.14	<p>The clause states "The commissioning trials shall extend until each pump unit has run continuously for at least 3 days under all operating conditions.</p> <p>The term continuously shall include running fixed speeds or on a start/stop basis as determined by the control system."</p> <p>Please provide the referred control system as it is not found in any of the tender documents in order for the contractor to assess and evaluate, then to include in his rates.</p>
A37							<p>Answer: This is referring to the pump control system as required to control each pump.</p>

Q38	PRPS4	Technical	Pumps	Mechanical Specification MQ174-R4-DH- CI-6200-A MQ174-R4-DH- CI-6330-A	Page 7/108 - Appendix A4	4.2.2.1 4.2.3.1	<p>The specification clause states " Water velocity in pump suction and discharge nozzles shall not exceed 4 and 5 m/s.."</p> <p><u>SS4B Pump: 0.417 m3/s</u></p> <p>1) Suction: The drawing shows item #21 with ND of 350 which would result to 4.34 m/s velocity. Please clarify if the clause in specification is to be ignored and this velocity is accepted by Kahramaa.</p> <p>2) Delivery: The drawing shows item #19 with ND of 300 which would result to 5.90 m/s velocity. Please clarify if the clause in specification is to be ignored and this velocity is accepted by Kahramaa.</p> <p><u>SS4B Pump: 1.9m3/s</u></p> <p>1) Delivery: The drawing shows item #21 with ND of 300 which would result to 9.68 m/s velocity. Please clarify if the clause in specification is to be ignored and this velocity is accepted by Kahramaa.</p> <p><u>General</u></p> <p>Please confirm that the defined pump duty point or flows shown in the specification, BOQ and Drawings are the maximum flows related to the pumping system since any changes or increase of flow may result to non-compliance of the specified above clause and cause vibration and noise in operation.</p>
A38							<p>Answer:</p> <p>The maximum flow velocity for the suction and discharge nozzle shall be 4 m/s and 5 m/s, which shall not be exceeded . Higher velocities are not acceptable. The final design of these shall be subject to the selection of the final pump manufacturer.</p>

Q39	PRPS2	Technical	Drawing & BOQ	MQ174-R2-DH-CI-6200 Rev. A Bill No. 6		6.1.14	BOQ Item 6.1.14.shows 34 Nos. of DN200 PN16 Gate Valve but Tender Drawing (MQ174-R2-DH-CI-6200) requires 36 Nos. Please clarify and amend the BOQ's for the contractor to price accordingly.
A39							Answer: This has been updated in the revised BOQ issued in Tender Circular No 13.
Q40	PRPS 5	Technical	Architectural	BOQ No. 8	27/12 & 27/13	8.4.10 & 8.4.11	There are 4 nos. of building provided in the structural drawings for Remote Substation Building similar to the BOQ. Whereas there are only 3 nos. of buildings, indicated in Architectural drawings. Also in the general tender scope of works at site it is mentioned as 2 nos. of buildings and in the site plan drawings MQ174-R2-DH-AR-1000-A only 3 nos. of drawings are shown. Please clarify the scope.
A40							Answer: PRPS 5 contains Remote Substation 1, Remote Substation 2 and Remote Substation 3. i.e it requires 3 substations. This is now shown in the BOQ issued in Tender Circular No 13.
Q41	All	Technical	Civil/Structural	MQ174-R5-DH-CI-3163		Notes No. 2	Refer to the stormwater drawing: Typical catchbasin details mentions as "All reinforcement to be epoxy coated and in accordance with 8S 4449 or ASTM A 615" we understand that epoxy coating is only required in this particular items, other structures like reservoir, pumping station building and other ancillary buildings are using uncoated reinforcement. Please confirm us our understanding is correct or not?
A41							Answer: Epoxy coated reinforcement is required in all water retaining structures and all underground structures.

Q42	PRPS 1	Commercial	Quantities	BOQ no.7	7/1/10	7.1.5	The Qty of flow transmitters doesn't match with the Qty of flow meters in BOQ No.6 Page 6/82/50 item No 6.24.6 & page 6/82/53 item No 6.27.4, please confirm which one to be followed.
A42							Answer: Flow Meter quantities are correct. Flow transmitters has been removed from Bill no.7 in the updated BOQ issued in Tender Circular No 13.
Q43	PRPS 2	Technical	ICA/SCADA	MQ174-R2-DH-SE-2114			Refer Drawing No. MQ174-R2-DH-SE-2114 shows the locations of MPS1A, MPS1A, MPS2A, MPS2B, MPS5A and MPS5B are shown in Ground floor level. There is no provision in ground floor level. It can be installed only on the steel walk way in basement mezzanine floor level. Please clarify.
A43							Answer: The Racks are to be located on the walkway which provides 1.8m Clearance as depicted on the drawings
Q44	PRPS 2	Technical	ICA/SCADA	MQ174-R2-DH-SE-2134 - 01			Refer Drawing No. MQ174-R2-DH-SE-2134 - 01 sheet 6 of 28 shows the condition monitoring PLC for pumps. The location for the same is not shown in Drawing No. MQ174-R2-DH-SE-2100. Please confirm if it can be installed near to the motor in basement floor level.
A44							Answer: The Condition Monitoring PLC is supplied by the vendor of the Pumps and is typically mounted in its own cabinet adjacent to the pump motor.
Q45	All	Technical	Electrical	Dwg. No. MQ174-R1-DH-PI-1037			There are also 24 motorized valves at the station. Are these for local control only? Please provide the control philosophy for the tanker filling station?
A45							Answer: Refer to PI&D's CI-1034 for a fuller understanding of the purpose of the valve operation.

Q46	All	Technical	Electrical	Dwg. No. MQ174-R1-DH- PI-1037			Are the motorized valves shown at the filling points at ground level for isolation purposes with a shut-off valve at high level for the tanker driver's filling operation.
A46							Answer: These valves in the tanker filling bays are motorised and controlled locally for operational reasons.
Q47	PRPS2	Technical	Drawing & BOQ	MQ174-R2-DH- CI-3056			The following items are not found in the Tender BOQ but are required as per Tender drawings: a) 1 Nos. 1600/1200mm dia. Reducer (DN1200 Interconnection Chamber to SV) <i>Please clarify or amend the BOQ's for the contractor to price accordingly.</i>
A47							Answer: This has been updated in the revised BOQ issued in Tender Circular No 13.
Q48	PRPS2	Technical	Drawing & BOQ	MQ174-R2-DH- CI- 6519 Bill No. 6	6/63/88	6.35	The following items were billed in the Tender BOQ but more fittings are required for outgoing bypass valve chamber as per Tender Drawings: a) BOQ item 6.35.4 shows 21 Nos.DN 1600 mm DI all flanged equal Tee but Tender Drawing requires 24 Nos. b) BOQ Item 6.35.11 shows 9 Nos. DN 1600 mm DI double flanged pipe but Tender Drawing requires 12 Nos. c) BOQ Item 6.35.14 shows 12 Nos. DN 1600 mm DI Blank flange but Tender Drawing requires 15 Nos. <i>Please clarify or amend the BOQ's for the contractor to price accordingly.</i>
A48							Answer: This is amended in the BOQ issued in Tender Circular No 13 to: a) 1600 dia. Flanged equal tees - 24 nr b) 1600 dia. D/F Pipe - 12 nr c) 1600 dia. Blank Flange - 15 nr

Q49	All	Technical	MEPF	App.A7	212/215/24 6/263	1.8/1.9A/1.15	The 110Vdc batteries are NiCad, the telecom batteries are NiCad, the emergency lighting central batteries are lead acid and Appendix A8C, page 242/316 has lead acid batteries for the UPS systems. <i>Please confirm all are correct.</i>
A49							Answer: All batteries on the site shall be NiCad (nickel cadmium) with the exception of the rack-mounted UPS, which are sealed lead acid.
Q50	PRPS 2	Technical	Electrical	Dwg. No. MQ174-R1-DH- PI-1037			The P&ID shows the pump motors have VFD control to maintain a pressure set point derived from the discharge pressure transmitter. <i>a) Please confirm what pressure is to be maintained? b) Please clarify whether the QCS2010 Section 21 Part 5 Specification is applicable for these VFD's.</i>
A50							Answer: Refer to the SLD and data sheet for the pumps for the type of starting. Also refer to the revised P&ID issued in Tender Circular No 13.
Q51	PRPS 1	Technical	ICA/SCADA	Scope of Work and Specification rev 01	24/60	1.1.3.33	Drawing number: MQ174-R1-DH-SC-2132-01 , Page 4 of 22, large screen 50", 10 nos are shown. Referred document mentions 6 nos. of 55" Large monitors. <i>Please confirm the required quantities & dimension of the Large Monitor.</i>
A51							Answer: 10 number 55 inch Large screen Monitors are required for Each Site

Q52	All	Technical	ICA/SCADA	4-R1-DH-SC-22	9/10		Referred drawing is a sample. Please confirm all Digital Input Signals are to be connected to Digital Input modules and NOT to Analog Input modules. For instances of wirebreakage, Digital Input modules with suitable diagnostics are available.
A52							Answer: Contractor to refer to latest I/O list for signal type and to determine modules with PLCs accordingly.
Q53	PRPS 2	Technical	Mechanical	BQ # 9	9/18/4 & 5	9.1.15.1 to 16	The HVAC layouts for "Cable Gallery Tunnel roads" are available in the tender documents but this building not measured in the BOQ. Please clarify.
A53							Answer: This has been updated in the revised BOQ issued in Tender Circular No 13.
Q54	PRPS 1	Commercial	Electrical	BOQ	Bill No. 09	9.2.2.6	Which low voltage switchgears are to be priced at following BOQ item on Bill-9 PRPS-1? 9.2.2.6 Low Voltage Switchgear - NO - 5
A54							Answer: The Quantity has been amended to 7 Nr. in the updated BOQ issued with Tender Circular No 13. Bill No. 9 is for installation and the supply of LV switch Gears are included in Bill No. 5
Q55	PRPS 1	Technical	Civil				Please provide physical site limits to assess the earthwork quantities
A55							Answer: The Bidders shall read the final site grading drawings under series CI-1100. Physical site limits are the boundary of the site, unless otherwise stated.

Q56	All	Technical	ICA/SCADA	GTC626_2014-AppA8_PRPS_Automation_Re v1_Clause 8.2.58_Page No. 57 of 316			As per BOQ, "Industrialized Smart Switches Optional smart switches shall be available for use with the system that is designed for use in industrial environments. These switches shall have the following characteristics: a) Support for Fiber Optic or Copper Media. b) Built-in Digital Inputs that can be wired into the system to alert users of networking faults. c) Signaling contacts to alert users of port or power supply failure. d) Redundant power supplies. e) Built-in web-based networking management tools. f) High speed networking fail-over times of 300 msec or less. g) Fan less design. h) Extended temperature range - 0 degrees C to 55 degrees C. We will offer standard Cisco switches for our control system scope and same will be mentioned in our proposal.
A56							Answer: Refer to the SCADA Data sheets for switch features, in particular Item 10 of the Data Sheets for Lan Switches.
Q57	All	Technical	ICA/SCADA	GTC626_2014-AppA8_PRPS_Automation_Re v1_Clause 8.3.1_Page No. 66 of 316			Media Server is excluded from our scope. Please confirm.
A57							Answer: Incorrect. The CCTV Media Server shall be a service run on the Universal Connectivity Server. Refer to Item 16 of the SCADA Data Sheets.
Q58	PRPS 2	Technical	Civil/Structural	BQ No. 8			Refer to dwg. MQ174-R2-DH-CI-3250 A to 3266-A regarding Overflow and flood relief channel. Kindly provide the BOQ item of the same.
A58							Answer: Bidder should consider the flood relief channel as part of the storm water system

Q59	PRPS1	Technical	Mechanical	GTC626_2014-AppA4_PRPS_Mech_Spec-12 04 14.pdf	7/108	4.2.2.1	<p>The specification requires a maximum flow velocity for the suction and discharge nozzle of 4 and 5 m/s. Please note, that:</p> <ul style="list-style-type: none"> - the pumps of subsystem 1A have velocities of 5,9 and 8,0 m/s with the specified nozzle diameters of DN350 and DN300 and the pumps of subsystem 1B have velocities of 5,9 m/s on the discharge side with the specified nozzle diameter of DN600. <p>These values are exceeding the velocity criteria. Please clarify.</p>
A59							<p>Answer:</p> <p>The maximum flow velocity for the suction and discharge nozzle shall be 4 m/s and 5 m/s, which shall not be exceeded . Higher velocities are not acceptable. The final design of these shall be subject to the selection of the final pump manufacturer.</p>
Q60	PRPS2	Technical	Mechanical	GTC626_2014-AppA4_PRPS_Mech_Spec-12 04 14.pdf	7/108	4.2.2.1	<p>The specification requires a maximum flow velocity for the suction and discharge nozzle of 4 and 5 m/s. Please note, that:</p> <ul style="list-style-type: none"> - the pumps of subsystem 2B have velocities of 4,3 and 5,9 m/s with the specified nozzle diameters of DN350 and DN300. <p>These values are exceeding the velocity criteria. Please clarify.</p>
A60							<p>Answer:</p> <p>The maximum flow velocity for the suction and discharge nozzle shall be 4 m/s and 5 m/s, which shall not be exceeded . Higher velocities are not acceptable. The final design of these shall be subject to the selection of the final pump manufacturer.</p>
Q61	PRPS5	Technical	Mechanical	GTC626_2014-AppA4_PRPS_Mech_Spec-12 04 14.pdf	7/108	4.2.2.1	<p>The specification requires a maximum flow velocity for the suction and discharge nozzle of 4 and 5 m/s. Please note, that:</p> <ul style="list-style-type: none"> - the pumps of subsystem 5B have velocities of 5,5 and 6,9 m/s with the specified nozzle diameters of DN450 and DN400. <p>These values exceed the velocity criteria. Please clarify.</p>
A61							<p>Answer:</p> <p>The maximum flow velocity for the suction and discharge nozzle shall be 4 m/s and 5 m/s, which shall not be exceeded . Higher velocities are not acceptable. The final design of these shall be subject to the selection of the final pump manufacturer.</p>

Q62	PRPS3	Technical	Mechanical	GTC626_2014-AppA4_PRPS_Mech_Spec-12 04 14.pdf	7/108	4.2.2.1	<p>The specification requires a maximum flow velocity for the suction and discharge nozzle of 4 and 5 m/s. Please note, that:</p> <ul style="list-style-type: none"> - the pumps of subsystem 3A have velocities of 6,0 and 8,2 m/s with the specified nozzle diameters of DN350 and DN300 and - the pumps of subsystem 3B have velocities of 5,4 m/s on the discharge side with the specified nozzle diameters of DN600. <p>These values exceed the velocity criteria. Please clarify.</p>
A62							<p>Answer: The maximum flow velocity for the suction and discharge nozzle shall be 4 m/s and 5 m/s, which shall not be exceeded . Higher velocities are not acceptable. The final design of these shall be subject to the selection of the final pump manufacturer.</p>
Q63	PRPS4	Technical	Mechanical	GTC626_2014-AppA4_PRPS_Mech_Spec-12 04 14.pdf	7/108	4.2.2.1	<p>The specification requires a maximum flow velocity for the suction and discharge nozzle of 4 and 5 m/s. Please note, that:</p> <ul style="list-style-type: none"> - the pumps of subsystem 4B have velocities of 5,9 and 8,0 m/s with the specified nozzle diameters of DN350 and DN300. <p>These values exceed the velocity criteria. Please clarify.</p>
A63							<p>Answer: The maximum flow velocity for the suction and discharge nozzle shall be 4 m/s and 5 m/s, which shall not be exceeded . Higher velocities are not acceptable. The final design of these shall be subject to the selection of the final pump manufacturer.</p>

Q64	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-CI-3182			Drawing MQ174-R1-DH-CI-3182 section A shows the internal waterproofing coal tar epoxy coating, however in Note 10 it specifies 1 coat of bituminous and 2 coats bitumen paint. Please clarify
A64							Answer: Refer to update specifications Appendix A2, issued in Tender Circular No 12
Q65	PRPS 1	Technical	Civil/Structural	MQ174-R3-DH-CI-0011 Rev. A			We refer to drawing no MQ174-R3-DH-CI-0011 Rev. A and note that only 1 chamber shown for the fire fighting works (FF20). Please confirm.
A65							Answer: There is only one isolation valve chamber as shown on the key plan CI-3120. Furthermore the bidders shall also make themselves aware of the double flange valve required at each fire hydrant.
Q66	PRPS1	Technical	Mechanical	BOQ - PRPS 1 - Bill 5 - M&E-Supply.pdf			There is a discrepancy in the design point of the drain pumps inside the tanker filling pump station between BoQ item 5.4.1.2 and 10.2.8. Please clarify.
A66							Answer: Refer to the latest BOQ, scope of works, data sheets and specification for the correct values.

Q67	All	Technical	MEPF			CABLING	<p>Cabling</p> <ol style="list-style-type: none"> 1. Fiber Cable lengths are exceeding OM3 limits so do we consider Single mode cable in place of OM3 multimode, if we go with single mode fiber cable it will impact to active design also. Please advise which fiber type will be using for this Design/Solution. 2. Each cabinet is having 24 port copper patch panel. Is there any user Cat6A outlet going to connect in this panel, if yes we would require Cat6A outlet qty & location and are these outlets within 90 Mtr. 3. Is there any Rack to rack copper connectivity in the scope, if yes how many copper ports and connectivity detail would be required to prepare the BoQ. 4. Is there any connectivity between all packages or it is out of scope? If this connectivity is in scope then Auto CAD Site plan with duct route layout would be required. 5. We would require CCTV QTY & location drawings for internal & external camera then only we can design the fiber for outdoor camera and Copper for indoor cameras.
A67							<p>Answer:</p> <ol style="list-style-type: none"> 1) Bidder to provide OM3 MMF 1000Base SX for all fiber optical cabling with the plant commonly referred to as Plant Wide. 2) Not required. 3) Refer to drawings for Rack to Rack Connectivity no copper rack to connectivity required. 4) This is out of scope. No site wide connectivity is required. 5) Refer to drawings. CCTV cameras are shown for each site.

Q68	All	Contractual	App. A1 Scope	A1 - General scope of work	18 of 60	1.13.22	Power shall be sourced from KM network at 11 kW. One MV and Generator Building is ready to connect, KM supplied power can be used for construction works, testing and commissioning. Please clarify.
A68							Answer: The Contractor shall clarify the availability of power for construction and testing themselves. The Power sources for each of the site will be from new supply points and are generally not yet constructed.
Q69	All	Commercial	Civil/Structural	Appendix B , Bill 8 & 9		8.6.10, 8.6.13 9.1.11, 9.3.2	Civil defence fire fighting system and security system are indicated in Bill No. 9 MEICA works and as well in Bill 8. Civil Works. Please clarify what type of works to be considered in Bill 8 under Civil Works.
A69							Answer: Bill number 8 is to include : -External Fire Fighting civil works including supply and installation of pipes, fittings etc. in trenches, Valve chambers and all other related civil works. -Security system civil works, Including related civil works such as camera pole foundations, draw pits etc..
Q70	PRPS 4	Commercial	Quantities	Dwg. No: MQ174-R4-DH-C1-3047-A			Drawing indicates 90 OD Chlorine Dosing Line connecting from Chlorination Building to Reservoir Chambers. However this pipe line is missing from BOQ. Please clarify.
A70							Answer: Bidders shall read the drawings and price accordingly. The dosing system is described in the BOQ including the dosing line.

Q71	PRPS 2	Technical	Electrical	MQ174-R2-DH-PI-0002			This P&ID for Flow Control Valve shows a motorized butterfly valve with position transmitter. a) Confirm that this valve is not a flow control valve and cannot be used for flow control purpose. b) Or confirm that this valve is a butterfly valve used for throttling purposes/pressure with no flow control mechanism. c) Provide another control arrangement of flow control suitable for the operation philosophy selected in GTC 626 contract.
A71							Answer: a),b) and c). Typical function block for flow control valves is amended and the revised P&ID No. PI - 0002 Rev B was included in Tender Circular No. 13.
Q72	All	Technical	Water quality	Tender Circular 7 & Appendix I & Gen Spec of Main Laying Materials	Q/A 21		TC 07 - Q/A 21 - a) Please revise Appendix I to comply and be in line with WHO standards b) Provide the data sheets for disinfection requirements on the inlet and outlet of Kahramaa reservoir sites
A72							Answer: Appendix I is updated. All equipment supplied shall comply with WHO standards. Data sheets for disinfection shall not be provided.
Q73	All	Commercial	Item coverage				Please provide the item for site grading for Package B-E, and whether we can consider this item from item 8.8 additional works
A73							Answer: Final site gradings shown in the drawings are part of this contract and shall be priced as described in the BOQ.

Q74	All	Technical	Mechanical	Civil & Mechanic	MQ174-R1/2/3/4/5-DH-CI-624	Please confirm that monorail crane is not required to be installed in the Compressor building, since drawings are showing only Lifting Hooks	
A74							Answer: Confirmed. Monorail crane is not required for the compressor building.
A75	PRPS 1	Technical	Mechanical	PRPS_1_Scop_e_rev1 & MQ174-R1-DH-CI-6340-A	Page 7/108	1.1.3.18 Surge Suppression & Surge Vessel GAPlan & sections sheet 01 of 02	As per the referred clause, surge analysis shall be done by bidder and design of surge vessels shall be carried out considering the outcome of surge analysis report. Also as per Tender Circular no. No. 6 (Page No. 7 of 22, reply of question no. 33), it's indicated that the Surge Analysis Report will be provided to successful bidder. Kindly arrange to provide Design condition (i.e. Design Pressure, Design Temperature, Surge Pressure etc.) of the surge vessel, so that we can calculate the thickness of the Surge vessel & estimate the cost of it.
A75							Answer: Refer to the various data sheets of the surge vessels for PRPS 1 which were attached to Tender Circular No.09.
Q76	PRPS 2	Technical	Mechanical	PRPS_2_Scop_e_rev1 & MQ174-R2-DH-CI-6340-A	16/60	1.1.3.18 Surge Suppression & Surge Vessel GAPlan & sections sheet 01 of 02	As per the referred clause, surge analysis shall be done by bidder and design of surge vessels shall be carried out considering the outcome of surge analysis report. Also as per Tender Circular no. No. 6 (Page No. 7 of 22, reply of question no. 33), it's indicated that the Surge Analysis Report will be provided to successful bidder. Kindly arrange to provide Design condition (i.e. Design Pressure, Design Temperature, Surge Pressure etc.) of the surge vessel, so that we can calculate the thickness of the Surge vessel & estimate the cost of it.
A76							Answer: Refer to the various data sheets of the surge vessels for PRPS 2 which were attached to Tender Circular No.09.

Q77	PRPS 3	Technical	Mechanical	PRPS_3_Scop_e_rev1 & MQ174-R3-DH-CI-6340-A	22/68	1.1.3.18 Surge Suppression & Surge Vessel GAPlan & sections sheet 01 of 02	<p>As per the referred clause, surge analysis shall be done by bidder and design of surge vessels shall be carried out considering the outcome of surge analysis report. Also as per Tender Circular no. No. 6 (Page No. 7 of 22, reply of question no. 33), it's indicated that the Surge Analysis Report will be provided to successful bidder.</p> <p>Kindly arrange to provide Design condition (i.e. Design Pressure, Design Temperature, Surge Pressure etc.) of the surge vessel, so that we can calculate the thickness of the Surge vessel & estimate the cost of it.</p>
A77							<p>Answer: Refer to the various data sheets of the surge vessels for PRPS 3 which were attached to Tender Circular No.09.</p>
Q78	PRPS 4	Technical	Mechanical	PRPS_4_Scop_e_rev1 & MQ174-R4-DH-CI-6340-A	24/70	1.1.3.18 Surge Suppression & Surge Vessel GAPlan & sections sheet 01 of 02	<p>As per the referred clause, surge analysis shall be done by bidder and design of surge vessels shall be carried out considering the outcome of surge analysis report. Also as per Tender Circular no. No. 6 (Page No. 7 of 22, reply of question no. 33), it's indicated that the Surge Analysis Report will be provided to successful bidder.</p> <p>Kindly arrange to provide Design condition (i.e. Design Pressure, Design Temperature, Surge Pressure etc.) of the surge vessel, so that we can calculate the thickness of the Surge vessel & estimate the cost of it.</p>
A78							<p>Answer: Refer to the various data sheets of the surge vessels for PRPS 4 which were attached to Tender Circular No.09.</p>
Q79	PRPS 5	Technical	Mechanical	PRPS_5_Scop_e_rev1 & MQ174-R5-DH-CI-6340-A	22/68	1.1.3.18 Surge Suppression & Surge Vessel GAPlan & sections sheet 01 of 02	<p>As per the referred clause, surge analysis shall be done by bidder and design of surge vessels shall be carried out considering the outcome of surge analysis report. Also as per Tender Circular no. No. 6 (Page No. 7 of 22, reply of question no. 33), it's indicated that the Surge Analysis Report will be provided to successful bidder.</p> <p>Kindly arrange to provide Design condition (i.e. Design Pressure, Design Temperature, Surge Pressure etc.) of the surge vessel, so that we can calculate the thickness of the Surge vessel & estimate the cost of it.</p>
A79							<p>Answer: Refer to the various data sheets of the surge vessels for PRPS 5 which were attached to Tender Circular No.09.</p>

Q80	All	Technical	Quantities				Please Clarify the no of KISOK buildings to be construct in each of the five packages.
A80							Answer: Please refer to the site layout plans for each site.
Q81	ALL	Technical	mechanical				Kindly Request you Provide the specification bulk Fuel system
A81							Answer: For fuel tanks refer to Appendix 7.4, Section 26 3213 - Packaged Engine Generators, Clause 1.15. Tanks shall be intumescent coated and shall be protected with a medium expansion foam system.
Q82	ALL	Technical	ICA/SCADA	Appendix f/ Building service and Electrical /Electrical drawings	-	-	Please note that appendix F 1) Building service and Electrical / Electrical drawings 2) Building service and Electrical / Infrastructure drawings 3) Automation and control / Building Drawings These 3 folder indicates for CCTV The total Quantity of CCTV indicated in the bill no.9 Clause no.9.3.2.1 is less than the CCTV quantity indicated in these Drawing. Please inform whether we need to consider CCTV from all These CCTV drawings of quantity mentioned in the bill no.9 is correct.
A82							Answer: The BOQ is amended accordingly as issued in Tender Circular No 13.

Q83	ALL	Technical	Mechanical				Bulk fuel system- the fabrication of fuel tank by local experienced fabricator is acceptable. Please confirm.
A83							Answer: This is acceptable, provided that full compliance with all requirements in the Tender Documents is achieved including, but not limited to, Woqod, NFPA and UL 142.
Q84	PRPSs	Technical	Design	Appendix I 7-015.B.2	2	17	Design temperature is mentioned as 50C. Please clarify whether this is the fluid design temperature?
A84							Answer: This is the design ambient temperature based on the climatic conditions at Qatar which needs to be considered for the pumps selection and its operations.
Q85	All	Technical	ICA/SCADA	APPENDIX 8	161/316	8.10.3	For SCADA system individual rack-mount UPSs, please confirm the 6kW power rating since we think it is overrated for individual UPS racks (we estimate the maximum individual rack consumption to be 2kW in the worst case).
A85							Answer: Bidder to provide 6kW as requested each UPS serves as back up to the adjacent rack

Q86	All	Technical	ICA/SCADA	APPENDIX 8	161/316	8.10.3	<p>For SCADA system individual rack-mount UPSs, please confirm the needed backup time, since there are several values stated in the specs and drawings:</p> <ul style="list-style-type: none"> - 7 mins is mentioned in Appendix 8 C.Hardware Specification (page 242 of 316); this probably refers to the UPS backup time without external batteries. - 1 hour is mentioned in Appendix 8 clause 8.10.3 (page 161 of 316) - 90min single UPS & Battery are mentioned in some SCADA Racks drawings (e.g. MQ174-R1-DH-SC-2110-01) - 70min dual UPSs and two Extended Runtime Modules are mentioned in other drawings (e.g. MQ174-R1-DH-SC-2111-01). <p>Also, please confirm whether this backup time is required at 80% of the full load of the UPS (6kW) or 80% of the maximum load required by the individual rack hardware (estimated <2000W in the worst case).Please note the large size of the batteries needed to support 90min @80% of full load of 6kW; it will require adding a separate rack next to each PLC/server rack since it needs a lot of battery power to cover the requirement (>17 rack units).</p>
A86							<p>Answer: Bidder to provide 6kW as requested each UPS serves as back up to the adjacent rack- the requirement is now 2 hours autonomy at a load of 3kW, 1 hour at 6KW when serving two racks at 3kW each, this will require 10 Rack Units as indicated on the drawings</p>

Q87	All	Technical	ICA/SCADA	MQ174-R1-DH--		In the P&IDs (e.g. MQ174-R1-DH-PI-1001), the Water Quality Equipment & Flowmeter signals are drawn with a dashed line which means a hardwired signal, but in the SCADA 'Field Level Schematics' (e.g. MQ174-R1-DH-SC-2368-01) they are shown as Profibus only. The same applies to pumps' suction and discharge pressure signals (e.g. Ma174-R1 - DH-PI-1013 vs. MQ174-R1-DH-SC-2266-01). Please confirm whether WQE, Flow & Pressure transmitter signals are to be hardwired (4-20mA) only, Profibus only, or both?
A87						<p>Answer:</p> <p>All Water Quality Analysers shall be PROFIBUS.</p> <p>All other instruments with analogue output shall be 4-20mA plus HART.</p> <p>All MOVs shall be hardwired for digital I/Os plus HART.</p> <p>All FCVs shall be hardwired for digital and analogue I/Os plus HART.</p>
Q88	All	Technical	Mechanical	MQ174-R1-DH-PI-0002		In the P&IDs (e.g. MQ174-R1-DH-PI-0002), the Motorized Valves signals are drawn with a dashed line which means a hardwired signal, but in the SCADA 'Field Level Schematics' (e.g. MQ174-R1-DH-SC-2368-01) they are shown as both Profibus DP and hardwired. Please confirm whether Motorized Valves signals are to be hardwired (4-20mA) only, Profibus DP only, or both?
A88						<p>Answer:</p> <p>All Water Quality Analysers shall be PROFIBUS.</p> <p>All other instruments with analogue output shall be 4-20mA plus HART.</p> <p>All MOVs shall be hardwired for digital I/Os plus HART.</p> <p>All FCVs shall be hardwired for digital and analogue I/Os plus HART.</p>

Q89	All	Technical	ICA/SCADA	APPENDIX A8	242/316	APPENDIX A8C	Please note that SCADA system individual rack-mount UPSs shall have sealed lead acid batteries in accordance with project specs Appendix A8C 'Hardware Specifications' (page 242/316) and as shown on SCADA Racks drawings (e.g. MQ'74-R1-DH-SC-2111-01). Please confirm that sealed lead acid batteries shall be used for the rack-mount UPSs.
A89							Answer: Sealed lead acid batteries shall be used for the rack mounted UPSs.
Q90	All	Technical	ICA/SCADA	Appendix A6, R125/34	6.3.8 A		In Circular no 11 answers no A4 & A7 mentioned that the specifications have been revised "to remove insertion type sensors". Please confirm the required type of WQA sensors and revise the specifications/data sheets accordingly.
A90							Answer: All water quality analysers shall be flow cell type, except Temperature sensor which shall be Thermowell type.
Q91	All	Technical	ICA/SCADA	MQ174-R4-DH-SC-2435-01 & MQ174-R4-DH-			SCADA drawings "Control Level Schematics" (e.g. MQ174-R4-DH-SC-2435-01) & "SCADA Racks Diagrams" (e.g. MQ174-R4-DH-SC-2414-01); we understand that the PLC named "Master PLC" is of a single CPU, please confirm our understanding is correct.
A91							Answer: Master PLC shall be dual CPU, Dual Communication Module and Dual PSU as depicted on the drawings and in the specifications.

Q92	All	Technical	ICA/SCADA				We have noticed that the current design for the SCADA/PLC Racks does not include 20% spare capacity in hardware (i.e. IO modules) as per Kahramaa previous projects or 25% as per QCS 2010 Section 10 Part 2 Clause 2.6.1 (1). Please confirm if 20% or 25% spare capacity in SCADA/PLC Racks Hardware (IO modules) is required, noting that in some cases extension racks will be required for the additional modules (current design allows for a maximum of 9 modules per rack). In case an extension rack is required, please confirm if we need to consider an additional CPU for this extension rack, or just an extension via the Ethernet switches is acceptable.
A92							<p>Answer: Additional I/O will be provided by Distributed I/Os either by Profibus Extension or Proprietary Expansion protocol, Expansion is not to be met by Ethernet- The additional CPU should allow for 25% I/O expansion.</p>
Q93	All	Technical	MEPF	APPENDIX A7.4.141/354	7.4.26 (1.9E)		This clause refers to a 48VDC supply for telecommunications equipment. Please confirm that this clause is not applicable, since the telecoms equipment are powered via rack-mounted UPSs and batteries as described in the SCADA design.
A93							<p>Answer: Confirmed that this clause is not applicable for telecommunication equipment on the sites.</p>

Q94	All	Technical	MEPF	APPENDIX A7.4154/354	7.4.13 (1.14)	<p>Revenue Metering: Circular No. 11 A112 states that the revenue metering shall be provided in the main intake switchgear, which means 8 No. Revenue Meters shall be installed for the 8 No. incomers of the main intake 11kV switchgears (e.g. for PRPS 2 SLD Dwg. No. MQ174-R2-DH-SE-2200; Switchgear MQ174-R2-DH-SE-2204 & MQ174-R2-DH-SE-2205). Please note that the revenue metering shall be installed only at the main incomers of the 11kV switchgear at the Primary Substation as general practice for similar projects, which means 2 No. Revenue Meters shall be installed at the 2 No. main incomers of the 11kV switchgear at the Primary Substation (e.g. for PRPS 2 SLD Dwg. No. MQ174-R2-DH-SE-2200; Switchgear MQ174-R2-DH-SE-2201 & MQ174-R2-DH-SE-2202). Please confirm where shall the Revenue Metering be installed?</p>
A94						<p>Answer: Please note that the Primary Substation will not be dedicated for this site, so revenue metering must be at the 11kV supplies to the Main Intake Panel indicated on drawings MQ174-RX-DH-SE-2204 and MQ174-RX-DH-SE-2205.</p>
Q95	All	Technical	Architectural	MQ174-R1-DH-AR-3202A		<p>Detail 4 for Stair shows a hook like item under the stair nosing, but this is not addressed anywhere in the drawing. Please advise what this item is and provide further information.</p>
A95						<p>Answer: This hook will be deleted from the Stair Detail.</p>
Q96	All	Technical	Civil/Structural	MQ174-R5-DH-ST-5211 REV A		<p>Please confirm if handrail, caged ladder & steel platform/walkway shown on the referred drawing is part of the scope.</p>
A96						<p>Answer: The Contractor is required to construct all of the works including the Handrail, caged ladder and steel platform/ walkway referenced.</p>

Q97	All	Commercial	Specification	Structural work	General		Reinforcement Bars: Please confirm that the reinforcement required epoxy coating or not. Also confirm this is applicable to all reinforced structures pertaining to this project.
A97							Answer: Epoxy coated reinforcement shall be considered for all reinforcement to water retaining structures and underground structures.
Q98	All	Technical	Architectural	MQ174-R1-DH-AR-1753 / 1770	Main Pumping Station		We refer drawing MQ174-R1-DH-AR-1753 detail 3 and MQ174-R1-DH-AR-1770 detail 1, please confirm the termination of wall tiles. The drawings are conflict.
A98							Answer: Wall tiles will be provided 2.3m from the finish floor line (FFL) with the midtile size 300x300 and top and bottom tile size be 300x100.
Q99	All	Technical	Architectural	MQ174-R1-DH-AR-1646	Main Pumping Station		Finishes - to soffit of HCS at upper roof floor. Refer drawing MQ174-R1-DH-AR-1646 at GL 3A-4A. Drawing states that it is WF-1. Please verify.
A99							Answer: Finishes - to soffit of HCS at the upper roof floor is WF1 which refers to Plain cement plaster, 15mm thick, to be primed and painted with at least two (2) coats of emulsion paint.
Q100	All	Technical	Architectural	MQ174-R1-DH-AR-1853 / AR-1502	Main Pumping Station		There is a discrepancy on drawings for the elevation of D19. The available elevation of D19 drawing MQ174-R1-DH-AR-1853 is not matching with the plan (see GL A.1-E.2 / GL 1) drawing MQ174-R1-DH-AR-1502. Please verify.
A100							Answer: Door designation shown on Grid Line A.1-E.2/ GL1 is D18 not D19, refer to a blow up plan of dwg nos. AR-1537 and AR-1539. For elevation of D18, please see dwg no. AR-1852.

Q101	All	Technical	Electrical	GTC626_2014-AppA7.4_PRP_S_MEPElectrical_Rev 2	7.4.13 26 1300 - Medium Voltage Switchgear	1.20 ENERGY METERS	Clause 1.20 is requesting energy meters to be provided only in "type-5, type-6 and type-7" panels mentioned in this specification. However these types of panels are not defined in this specification. Furthermore this clause is in conflict with clause 1.14, which requires metering for all incoming and outgoing feeders and 1.15 where metering is required for incoming feeders only. Which clause shall apply for metering?
A101							Answer: Revenue metering shall be provided on all incoming 11kV supplies. Private sub metering shall be provided on all outgoing supplies, interfaced with the SCADA system as per Clause 1.14 B.
Q102	All	Technical	SCADA	Appendix A7.4 - MEPEF Specifications revision 2, Circular 09	114	7.4.11 26 0913 - Electronic Power Monitoring and Control	1.6C.3 Modification of remote & existing S/Ss. Please indicate which S/Ss are meant, and the extent of work to be done. 1.6C.4 Kindly indicate which S/S are meant, and provide details of scope & name of OEM. 1.6C.5 Kindly indicate which S/S are meant, and provide details of scope & name of OEM. Kindly provide or indicate relevant BoQ item.
A102							Answer: The contractor shall extend the SCS provided by Kahramaa at the Primary Substation to control the new 11/0.415kV substations located in this project.
Q103	All	Technical	Electrical	GTC626_2014-AppA7.4_PRP_S_MEPElectrical_Rev 1	107/263	1.14B REVENUE METERING	ION meters for all incoming and outgoing feeders. This is direct conflict with clause 1.15, which requires ION meter for incomers only (the logical and correct choice). Which shall prevail, 1.14 or 1.15?
A103							Answer: Revenue metering shall be provided on all incoming 11kV supplies. Private sub metering shall be provided on all outgoing supplies, interfaced with the SCADA system as per Clause 1.14 B.

Q104	PRPS 1	Technical	Electrical	Specification			With regard to the 11kV Switchgear , please advise if remote racking of 11kV circuit breakers required for safety reasons.
A104							Answer: This is not required.
Q105	PRPS 1	Technical	Electrical	Specification			With regard to the 11kV Switchgear, please confirm loss of service continuity class / partition class for panel construction,
A105							Answer: LSC2B-PM for all types of panels. The required degree of protection against internal arc classification, based on 'type of accessibility', level of fault current, duration of fault based on IEC 62271-200 Annexure -A is IAC-AFLR @ 31.5kA for 3 sec, as per the Kahramaa specification.
Q106	PRPS 1	Technical	Electrical	MQ174-R1-DH-SE-3203			We note that Generator set is rated less than transformer rating and although within proposed maximum demand value this could be an issue in the future should additional load be added, particularly if load is a motor with high starting current. Recommend increasing generator rating. Please advise.
A106							Answer: The Contractor shall follow the requirements in the Tender documents.
Q107	PRPS 1	Technical	Electrical	MQ174-R1-DH-SE-3204			We note that Generator set is rated less than transformer rating and although within proposed maximum demand value this could be an issue in the future should additional load be added, particularly if load is a motor with high starting current. Recommend increasing generator rating. Please advise.
A107							Answer: The Contractor shall follow the requirements in the Tender documents.
Q108	PRPS 1	Technical	Electrical	MQ174-R1-DH-SE-3201			We note that CBL-UPS-EMCC-01 and associated ACB is not the correct. Either increase cable size or change protective device type and rating. Please advise.
A108							Answer: This cable shall be 4x4c 300mm² fire rated cable.

Q109	All	Technical	Civil/Structural		Drainage Lagoons		Please advise if water required for testing of reservoirs (both chlorinated and non-chlorinated) may be discharged to land within plot boundary via temporary drainage lagoon(s).
A109							Answer: This shall be subject to the review and approval by Kahramaa of the Contractors Method Statements and the MOE approval of the contractors proposals.
Q110	All	Technical	Electrical	MQ174-R1-DH-SE-7301-7306			There is no circuit No. and home run routing of the 1 & 3 phase, 32 amp, IP65, socket outlet. Please confirm and provide us a cable schedule and drawing.
A110							Answer: Refer to drawing series MQ174-RX-DH-SE-7300 for the layout and drawing series MQ174-RX-DH-SE-4200 for the cable sizes. These sockets are supplied from street lighting feeder pillars.
Q111	All	Technical	Electrical	MQ174-R1-DH-SE-2203			The cable size and length of the 3 generators does not show in the skeleton schematic diagrams. Please confirm.
A111							Answer: The sizes shall be 3C 240mm² XLPE/SWA/PVC. The contractor shall establish the length based on the actual site conditions.
Q112	All	Technical	Electrical				Security Lighting pole is not found in any drawing. Please confirm and give us the exact height of the Single light security lighting pole and 4 light security lighting pole.
A112							Answer: This column is 16m in height.
Q113	PRPS 3	Technical	Civil/Structural	MQ174-R3-CI-3259-3269	Bill 8 8/26/15 item 8.6.14		Please confirm that pricing for flood relief channel to indicate under land drainage system. Please clarify if otherwise
A113							Answer: Bidder to consider the Flood relief channel as part of the storm water network.

Q114	All	Technical	Lifting Equipment	Appendix I-7-012A	Chlorination building		Now revised to zone 0. Please clarify
A114							<p>Answer: The location of cranes inside the Chlorination Building is considered as Zone 0 under hazardous area classification (Area in which an explosive gas-air mixture is continuously present or present for long periods.)</p>
Q115	All	Technical	Lifting Equipment	Appendix I-7-012B	Main Pump Station		Height of lift?
A115							<p>Answer: Bidder to consider the height of lift as 15m for the gantry crane at the main pumping station for all the PRPS sites.</p>
Q116	All	Technical	KA/SCADA	BMS			Is there any BMS(Building management system) for these packages. Please clarify?
A116							<p>Answer: All Building Automation is PLC Based and Part of SCADA</p>
Q117	All	Commercial	ICA/SCADA	Bill no.7	NA	Bill No.7	The TFS Pumping station requires Magnetic flow meters-10 Nos. as per price schedule (Bill no.7) But the P&ID indicates only 1 no. Kindly confirm the exact requirement.
A117							<p>Answer: Bidder to note that the arm details provided are typical . 10 number are required.</p>
Q118	All	Technical	ICA/SCADA	Appendix A section 6- instrumentation specification	27/34	6.3.8 C Residual chlorine analyser and D. Chlorine Dioxide Analysers	In the latest revised specification, it is indicated that the measurement range is 0 to 210ppm and accuracy is +/-510%. We understand that this typo error and range shall be 0 to 2ppm and accuracy shall be +/-5%. Kindly confirm.
A118							<p>Answer: The measurement range shall be 0 to 2 ppm and accuracy shall be +/-5%.</p>

Q119	All	Technical	ICA/SCADA	Appendix A section 6	30/34	6.3.8 G Turbidity analysers	In the latest revised specification, it is indicated that the measurement range is 0 to 510 NTU . We understand that this typo error and range shall be 0 to 5NTU. Kindly confirm.
A119							Answer: The measurement range shall be 0 to 5 NTU and accuracy shall be ±1 %.
Q120	All	Technical	ICA/SCADA	Appendix A section 6	30/34	6.3.8 Temperature Transmitters	Kindly provides us the number of transmitters and location of these temperature transmitter in the price schedule and P&ID respectively.
A120							Answer: Temperature sensors related to pumps are part of pump package and the other temperature sensors are listed in Bill No. 7
Q121	All	Technical	ICA/SCADA	Appendix A section 6	26/34	6.3.8 water quality analysers A General	The bidder understands that the only the analyzer coming in discharge pipelines to corridor and transmission mains shall be located in analyser rack. The rest of the analyser in other areas shall be field mounted. Kindly confirm.
A121							Answer: All Water Quality Analysers on the main inlets and main outlets to/from the PRPSs shall be rack mounted and located in the Analyser Room. The Analyser Room is in the Chlorination Building. The Residual Chlorine and Chlorine Dioxide analysers at the Inlets and outlets of each reservoir cell shall be rack mounted in the Water Quality Analyser Kiosk located at the reservoirs.
Q122	All	Technical	ICA/SCADA	Appendix A section 6	32/35	6.3.8 Analyzer rack	The bidder shall take maximum of 5 instruments per rack. Kindly confirm. Also provide us the approved vendors for analyser racks.
A122							Answer: Not confirmed. The number of instruments on the rack depends on the number of main inlet/outlet pipelines to/from PRPS. Please refer to answer to Query no. 123 for a better understanding. Required Vendors have been given in Appendix I. No further Vendors shall be advised

Q123	PRPS 1	Commercial	Quantities	Bill No.10 (SPARES)	1		The title of the Bill says "GTC/626C/2014, Construction of Mega reservoir PRPS as Al/Thumama-Package C" in place of package A. We believe that the items & quantity mentioned in the Bill are for Package A and the title saying package C is typographical error. Kindly clarify the same.
A123							Answer: Confirmed.
Q124	PRPS 2	Commercial	Quantities	Bill No.10 (SPARES)	2/17	10.1.2	The clause says " In Addition to 20% spare parts extra consist but not limited to the following items:(Detailed Annexure to be provided with the tender)". The clause is not clear to us. Kindly clarify whose 20% extra spare parts is referred to and for what items the detailed annexure is to be provided with the tender.
A124							Answer: The note at the start of this section has been rephrased as "Supply of additional equipment consist but not limited to following (Detailed Annexure to be provided with the tender) ".
Q125	PRPS 1	Technical	Architectural	Landscape	LE-1000, LE-1001		kindly provide us with drawings R1-DH-LE-7000, R1-DH-LE-7001 and R1-DH-LE-7002; please clarify.
A125							Answer: These drawings were issued in Tender Circular No 2.
Q126	PRPS 1	Technical	Architectural	Architecture drawing	4500, AR-4890		Doors and window schedule, door type 02 and 02A's quantity is 6, but in drawing AR-4500, ground floor plan is 7; please clarify.
A126							Answer: The correct quantity of door type 02 and 02A which is 7.
Q127	PRPS 1	Technical	Architectural	Architecture drawing	AR-0050, AR-4750		Symbols F and SHO don't have relevant abbreviations in drawing AR-0050; please clarify.
A127							Answer: Symbol F refers to faucet and SHO refers to shower.
Q128	PRPS 1	Technical	Architectural	Architecture drawing	AR-0050, AR-4753		Symbols AS, PH and SH don't have relevant abbreviations in drawing AR-0050; please clarify.
A128							Answer: Abbreviations referenced are follows: AS for ablution spray, PH for paper tissue holder and SH for soap holder.

Q129	PRPS 1	Technical	Architectural	Architecture drawing	AR-4500		G-015-Store / Janitor room wall finish is WF-1/WF-2; please provide us with drawing details; please clarify.
A129							<p>Answer: Wall finish WF-2 (300X300 porcelain wall tiles) starts from finish floor line (FFL) up to 2.1m, while wall finishWF-1 (emulsion paint) starts from 2.1m up to the top of the wall.</p>
Q130	PRPS 1	Technical	Architectural	Architecture drawing	AR-4500&AR-4950		Ground floor plan, room number G-009 store-1, G-013 store-3 and workshop-3, wall finish is WF-4, but in drawing AR-4950, schedule of finishes wall finish is WF-3 which include emulsion paint and WF-4 which include epoxy paint; please clarify.
A130							<p>Answer: Room G-009 (Store 1), G-012 (Store 3), G-14 (Workshop 3) Wall Finish will all be in epoxy paint. As shown on plan, WF3 tag refers to the gypsum wall finishes both for epoxy paint and emulsion paint. WF3 description shown on the Schedule of Finishes (dwg no. AR-4950) shall be revised at Issue For Construction to show a general description as below: Gypsum board wall with 13mm thk gypsum panels on both face with 0.60mm thk metal studs, surface to be cleaned, primed and painted. From the Schedule of Finishes, Codes B (for epoxy paint) and G (for emulsion paint) were used (see Remarks on Color Legend).</p>
Q131	PRPS 1	Technical	Architectural	Architecture drawing	AR-4500&AR-4950		Ground floor plan, room number G-002 maintenance staff room's wall finish is WF-1, but in drawing AR-4950, schedule of finishes wall finish is WF-1&3 and both WF1&3 include emulsion paint; please clarify.
A131							<p>Answer: Wall Finishes for Room G-002 are WF1 and WF3. Both are showing emulsion paint finish but referring to different wall types. WF1 for concrete walls and WF3 for gypsum wall.</p>

Q132	PRPS 1	Technical	Civil/Structural	Structure/Architecture drawing	AR-1502, AR-1700 and ST-4732		Stair-1 in drawing AR-1502 and AR-1700, detail no.4 mentioned that the staircase is a reinforced concrete staircase, but in drawing ST-4732; typical details mentioned a reinforced precast concrete; Please clarify
A132							Answer: Stair-1 is a reinforced precast concrete stair. Refer to ST-4732 for standard details.
Q133	PRPS 1	Technical	Civil/Structural	Structure/Architecture drawing	AR-1700, AR-1702 and ST-4732		Stair-3 in drawing AR-1702 and AR-1700, detail no.4 mentioned that the staircase is a reinforced concrete staircase, but in drawing ST-4732; typical details mentioned a reinforced precast concrete; Please clarify
A133							Answer: Stair-3 is a reinforced precast concrete stair. Refer to ST-4732 for standard details.
Q134	PRPS 1	Technical	Architectural	Architecture drawing	-8700, AR-8950	Remote substations buildings	Referring to drawing AR-8700, MW-5 is stair nosing, but in drawing AR-9850 defined as 200mm x 100mm x 80mm thick. precast concrete block pavers
A134							Answer: For stair nosing use 40 x 12 mm Brass stair nosing. Schedule of Finishes Dwg no. AR-8950 will be updated to show the same description for Issue For Construction.
Q135	PRPS 1	Technical	Architectural	Architecture drawing	AR-8500, AR-8505 and AR-8506	Remote substations buildings	Kindly provide us with the location of the precast concrete block pavers in plans.
A135							Answer: For location of precast concrete block pavers in plans, please refer to Landscape drawings series LE-2000.

Q136	PRPS 1	Technical	Architectural	Architecture drawing	AR-5500, AR-5510 & AR-5570	Utility pumping station	Referring to drawing AR-5500, plan and drawing AR-5510 section, all room has wall finish type WF-1&2, but in drawing AR-5570, finish schedule they have WF-4 as wall finish; please clarify.
A136							Answer: Dwg no. AR-5570 will be modified for issue For Construction to show Room Wall Finishes as WF2.
Q137	PRPS 1	Technical	Architectural	Architecture drawing	AR-4020 & AR-4085	Auxiliary pumping station	Referring to drawing 4020, roof finish details, 50mm thick. polystyrene board, but in drawing 4058, finish schedule shows 100mm thick. polystyrene board; please clarify.
A137							Answer: Roof finish detail should have 100mm thk. polystyrene board. AR-4020 rev A shows the correct thickness. Dwg no. AR-4085 was updated to revision B In Tender Circular No 12. This is in addition to all other requirements for the construction and finishing of the roof.
Q138	PRPS 1	Technical	Architectural	Architecture drawing	AR-1670, AR-1950 to AR-1953	Main pump station	Referring to roof details 1670, 75mm thick, screed with A252 mesh, but not shown in the drawing AR-1950 to AR-1953, finish schedule
A138							Answer: Refer to the description of Roof finish RF1 on dwg nos. AR-1670 and AR-1950 to AR-1953. This shows the 75mm thk screed with A252 mesh that forms part of the roofing finishes.
Q139	PRPS 1	Technical	Geotech	Scope of work			Kindly clarify that our scope of work include the grading works for all site boundary including future reservoirs that are excluded in our contract
A139							Answer: The Contractor shall be required to grade the site in the area of the future reservoir suitable to form the site boundary correctly and all roads and footways required.

Q140	All	Technical	ICA/SCADA	Tender Circular No 12, Attachment IO list , Rev 1	-	-	Understand from the referred IO list that all vibration sensors shall be connected to PLC through hardwired analog signal. However as per doc Appendix-A6 Instrumentation specification , page no 24 of 34 Clause 6.3.7 ,we understood that vibration transmitter shall have Profibus interface for SCADA connection. Please confirm the requirement of Profibus interface.
A140							Answer: Bidder to refer to I/O list issued in Tender Circular No 12. All Weighting is HART 4- 20mA
Q141	All	Technical	ICA/SCADA	Appendix A6 Instrumentation Specification Rev 2	Page No. 32 of 34	-	Cable junction boxes shall be die-cast aluminium . Please confirm the material thickness and gland plate requirement. IP-54 junction boxes for indoor application and IP-55 junction boxes for outdoor application is acceptable. Please confirm.
A141							Answer: Material thickness and gland plate requirements shall be to Analyser Rack vendor package manufacturer's standard. Bidder to follow QCS Specifications for IP rating of electrical equipment.
Q142	All	Commercial	Quantities	App B - Price Schedule	-	General	Please provide the revised Bill of Quantities (App B) after incorporating the changes as per the tender circulars issued till date.
A142							Answer: This has been provided in Tender Circular No 13.
Q143	All	Technical	SCADA / SCS	Appendix A7.4 - MEPF Specifications revision 2, Circular 09	from 114	7.4.11 26 0913 - Electronic Power Monitoring and Control	There are several reference to high voltage substations. We do not have any HV substations in our scope, please clarify.
A143							Answer: The contractor shall follow the requirements of the 11kV systems. There are no HV substations to be provided under this scope.

Q144	All	Technical	SCADA / SCS	Appendix A7.4 - MEPF Specifications revision 2, Circular 10	117	7.4.11 26 0913 - Electronic Power Monitoring and Control, item 1.6B	Reference is made to new S/S. Which S/S is meant?
A144							Answer: S/S refers to the 11/0.415kV substations contained within each site.
Q145	All	Technical	SCADA / SCS	Appendix A7.4 - MEPF Specifications revision 2, Circular 09	from 114	7.4.11 26 0913 - Electronic Power Monitoring and Control	This specification seems to be relevant only for the Kahramaa 66/11kV S/S, to be provided by others. Please advise what is the point of connecting the package S/S directly to DCC/NCC when this shall be done from the Kahramaa S/S.
A145							Answer: The monitoring and control requirements for 11kV switchgear shall be applied to this project and interfaced with the incoming 11kV from the Kahramaa Primary Substation.
Q146	All	Commercial	All	Bill of Quantities			Please confirm that items in the BOQ with quantities are re-measurable and not lump sum. (i.e.; Bill 2 - P&M, Bill 3 - P&M, Bill 4 - P&M and etc.)
A146							Answer: Items in the Bill of Quantities with Quantities are remeasurable.
Q147	All	Technical	Mechanical	Tender Circular 12	Q10		Tender circular 12 Q 10 states that "Valves in the suction lines.... Shall fail closed in failure of the power supply" we understand that all suction valve actuator should be supplied by UPS, please confirm.
A147							Bidder to follow the drawings and consider the span as 7.5 mtrs and the long travel as 15.4 mtrs.

Q148	All	Technical	ICA/SCADA	MQ174-R1-DH-SC-2162-01		As per Automation specification redundant FOC cabling is required but in Plant wide fibre optic layout drawing, only one FO cable has been shown. Kindly confirm if redundant FOC cabling is required.
A148						<p>Answer: Redundant Communication paths are required. Cable runs East and West from each switch.</p>
Q149	All	Technical	ICA/SCADA	List PRPS2 Re	Reservoir-1	<p>Following Analyzers are not included in the I/O list, but appearing in the P&ID and Instrument BOQ (Bill No.7). Please clarify.</p> <ul style="list-style-type: none"> 1. R2-11-WQE02-01 to 03 (PH Analyzers-3No.s) 2. R2-21-WQE02-01 to 06 (PH Analyzers-6No.s) 3. R2-11-WQE05-01 to 03 (Turbidity Analyzers-3No.s) 4. R2-21-WQE05-01 to 03 (Turbidity Analyzers-3No.s) 5. R2-11-WQE08-01 to 03 (ORP Analyzers-3No.s) 6. R2-11-WQE04-01 to 03 (Conductivity Analyzers-3No.s) 7. R2-21-WQE04-01 to 06 (Conductivity Analyzers-6No.s)
A149						<p>Answer: These are not required. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14). The instrument I/O's are in line with the amended P&ID, BOQ and the Instrument list.</p>

Q150	All	Technical	ICA/SCADA	List PRPS2 Re	Reservoir-1	<p>Following Analyzers are not included in the I/O list, but appearing in the P&ID and Instrument BOQ (Bill No.7). Please clarify:</p> <ol style="list-style-type: none"> 1. R2-11-WQE02-01 to 03 (PH Analyzers-3No.s) 2. R2-21-WQE02-01 to 06 (PH Analyzers-6No.s) 3. R2-11-WQE05-01 to 03 (Turbidity Analyzers-3No.s) 4. R2-21-WQE05-01 to 03 (Turbidity Analyzers-3No.s) 5. R2-11-WQE08-01 to 03 (ORP Analyzers-3No.s) 6. R2-11-WQE04-01 to 03 (Conductivity Analyzers-3No.s) 7. R2-21-WQE04-01 to 06 (Conductivity Analyzers-6No.s)
A150						<p>Answer: These are not required. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14).</p>
Q151	All	Technical	ICA/SCADA	List PRPS2 Re	Reservoir-1	<p>Following Level Transmitters are included in the I/O list, but not appearing in the P & ID as well as in the Instrument BOQ. Please clarify R2-11-LIT-02, R2-21-LIT-04 to 06 (Total 4No.s).</p>
A151						<p>Answer: These level transmitters are included in the amended P&ID and Instrument BOQ. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14)</p>
Q152	All	Technical	ICA/SCADA	List PRPS2 Re	Reservoir-2	<p>Following Analyzers are not included in the I/O list, but appearing in the P&ID and Instrument BOQ (Bill No.7). Please clarify.</p> <ol style="list-style-type: none"> 1. R2-22-WQE02-01 to 06 (PH Analyzers-6No.s) 2. R2-22-WQE05-01 to 03 (Turbidity Analyzers-3No.s) 3. R2-22-WQE04-01 to 06 (Conductivity Analyzers-6No.s)
A152						<p>Answer: These are not required. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14).</p>

Q153	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1	Reservoir-2		Following Chlorine Dioxide Analyzers are included in the I/O list, but not appearing in the P & ID as well as in the Instrument BOQ. Please clarify R2-22-WQE06-01 to 06 (6No.s).
A153							Answer: These Chlorine Dioxide Analyzers are included in the amended P&ID and Instrument BOQ. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14)
Q154	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1	Reservoir-2		Following Level Transmitters are included in the I/O list, but not appearing in the P & ID as well as in the Instrument BOQ. Please clarify R2-12-LIT-02, R2-22-LIT-04 to 06 (Total 4No.s).
A154							Answer: These level transmitters are included in the amended P&ID and Instrument BOQ. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14)
Q155	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1	Reservoir-2		Following MOV's are not included in the I/O List, but appearing in the P&ID R2-12-MOV-7& 8 (2 No.s), R2-22-MOV-21& 22 (2 No.s) - Total 4 No.s
A155							Answer: The MOVs shall be included in the I/O list. Please consider these in your pricing.
Q156	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1	Reservoir-3		Following Analyzers are not included in the I/O list, but appearing in the P&ID and Instrument BOQ (Bill No.7). Please clarify. 1. R2-23-WQE02-01 to 06 (PH Analyzers-6No.s) 2. R2-23-WQE05-01 to 03 (Turbidity Analyzers-3No.s) 3. R2-23-WQE04-01 to 06 (Conductivity Analyzers-6No.s) Tag Prefix wrongly given as "31" instead of "23" in the I/O list
A156							Answer: These are not required. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14).

Q157	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1	Reservoir-3		Following Chlorine Dioxide Analyzers are included in the I/O list, but not appearing in the P & ID as well as in the Instrument BOQ. Please clarify R2-23-WQE06-01 to 06 (6No.s). Please clarify. Tag Prefix wrongly given as "31" instead of "23" in the I/O list
A157							Answer: These Chlorine Dioxide Analyzers are included in the amended P&ID and Instrument BOQ. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14).Follow the P&ID for the tag nos.
Q158	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1	Reservoir-3		Following Level Transmitters are included in the I/O list, but not appearing in the P & ID as well as in the Instrument BOQ. Please clarify R2-23-LIT-04 to 06 (Total 3No.s). Tag Prefix wrongly given as "31" instead of "23" in the I/O list
A158							Answer: These level transmitters are included in the amended P&ID and Instrument BOQ. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14)
Q159	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1	Reservoir-4		Following Analyzers are not included in the I/O list, but appearing in the P&ID and Instrument BOQ (Bill No.7). Please clarify. 1. R2-24-WQE02-01 to 06 (PH Analyzers-6No.s) 2. R2-24-WQE05-01 to 03 (Turbidity Analyzers-3No.s) 3. R2-24-WQE04-01 to 06 (Conductivity Analyzers-6No.s) Tag Prefix wrongly given as "41" instead of "24" in the I/O list
A159							Answer: These are not required. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14).
Q160	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1	Reservoir-4		Following Chlorine Dioxide Analyzers are included in the I/O list, but not appearing in the P & ID as well as in the Instrument BOQ. Please clarify R2-24-WQE06-01 to 06 (6No.s).Tag Prefix wrongly given as "41" instead of "24" in the I/O list
A160							Answer: These Chlorine Dioxide Analyzers are included in the amended P&ID and Instrument BOQ. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14).Follow the P&ID for the tag nos.

Q161	All	Technical	ICA/SCADA	List PRPS2 Rev1	Reservoir-4	Following Level Transmitters are included in the I/O list, but not appearing in the P & ID as well as in the Instrument BOQ. Please clarify R2-24-LIT-04 to 06 (Total 3No.s). Tag Prefix wrongly given as "41" instead of "24" in the I/O list
A161						Answer: These level transmitters are included in the amended P&ID and Instrument BOQ. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14). Follow the P&ID for the tag nos.
Q162	All	Technical	ICA/SCADA	List PRPS2 Rev1	Reservoir-4	Following MOV's are not included in the I/O List, but appearing in the P&ID R2-24-MOV-21& 22 (2 No.s).
A162						Answer: The MOVs shall be included in the I/O list. Please consider these in your pricing.
Q163	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1	Reservoir-5	Following Analyzers are not included in the I/O list, but appearing in the P&ID and Instrument BOQ (Bill No.7). Please clarify. 1. R2-25-WQE02-01 to 06 (PH Analyzers-6No.s) 2. R2-25-WQE05-01 to 03 (Turbidity Analyzers-3No.s) 3. R2-25-WQE04-01 to 06 (Conductivity Analyzers-6No.s) Tag Prefix wrongly given as "51" instead of "25" in the I/O list
A163						Answer: These are not required. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14).
Q164	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1	Reservoir-5	Following Chlorine Dioxide Analyzers are included in the I/O list, but not appearing in the P & ID as well as in the Instrument BOQ.R2-25-WQE06-01 to 06 (6No.s). Please clarify. Tag Prefix wrongly given as "51" instead of "25" in the I/O list
A164						Answer: These Chlorine Dioxide Analyzers are included in the amended P&ID and Instrument BOQ. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14).

Q165	All	Technical	ICA/SCADA	List PRPS2 Ref	Reservoir-5		Following Level Transmitters are included in the I/O list, but not appearing in the P & ID as well as in the Instrument BOQ. Please clarify. R2-25-LIT-04 to 06 (Total 3No.s). Tag Prefix wrongly given as "51" instead of "25" in the I/O list
A165							Answer: These level transmitters are included in the amended P&ID and Instrument BOQ. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14).
Q166	All	Technical	ICA/SCADA	List PRPS2 Ref	Main Pump		In the I/O List there are only 42 no.s of MOV's, whereas the P&ID shows there are total 53 no.s of MOV's. The following 3 MOV Tag no.s are repeated in the P&ID; R2-31-MOV-19 to 21 (3 No.s) The following MOV's are missing in the I/O List; R2-00-MOV-03 to 10 (8 No.s) The above 11 No.s of MOV's are missing in the I/O List. There shall be 53 No.s MOV's in the I/O List, as per P&ID.
A166							Answer: Refer to the amended P&ID included in Tender Circular No. 13 for the correct number of MOVs. I/O list for PRPS 2 is provided only as a sample.
Q167	All	Technical	ICA/SCADA	List PRPS2 Ref	et Flow Control		Following Instruments are included in the I/O list, but not appearing in the P&ID and Instrument BOQ (Bill No.7). Please clarify. 1. R2-12-WQE01-01 to 03 (Chlorine Analyzers-3No.s) 2. R2-12-WQE06-01 to 03 (Chlorine Dioxide Analyzers-3No.s) 3. R2-41-WQE06-01 to 05 (Chlorine Dioxide Analyzers-5No.s) 4. R2-41-WQE05-01 to 05 (Turbidity Analyzers-5No.s) 5. R2-41-WQE04-01 to 05 (Conductivity Analyzers-5No.s) 6. R2-12-WQE03-01 to 03 (Temperature Sensors-3No.s) 7. R2-41-WQE03-01 to 05 (Temperature Sensors-5No.s)
A167							These instruments are required and are included in the amended P&ID and Instrument BOQ. Refer to the amended P&ID and BOQ (Tender Circular NO. 13) and the instrument list (Tender Circular No. 14).

Q168	All	Technical	Electrical	CL No. 11	Q123/A123		The clarification on the use of lead sheathed stranded copper conductors is unclear. To our knowledge there is no manufacturer producing such a product. We requested a standard to which this cable is manufactured but this wasn't answered. Can we have the name of a manufacturer?
A168							<p>Answer: These shall be as per IEC 60502-P1 & BS EN 12548 and EEMUA 133. Manufacturers shall be as per the approved Kahramaa vendor list.</p>
Q169	All	Technical	ICA/SCADA	APPENDIX I – 8 – 001	20/40	18.1	<p>As per the revised UPS datasheet, the UPS 'Back-up time' is '2h autonomy' and 'Battery Volt-Amp-Hour -Capacity-Power' is '2 x 1900W (3500W)'. It was confirmed in circular 12 that the individual rack UPS backup time is 2 hours at 2000W. Please confirm that the backup time needed is 2h @ 2000W</p>
A169							<p>Answer: Back up time is to be 3kW for 2hours for each UPS, UPS is to be rated at 6kW</p>

Q170	All	Technical	ICA/SCADA	APPENDIX I – 8 – 001	20&21/40	18.0&18.4	<p>As per the revised UPS datasheet, the UPS inverter is to be rated 6kW, and this is also mentioned in circular 12, and previously the SCADA Racks diagrams. However, it is also mentioned in clause 18.4 that the UPS dimension is to be 3U and this is also shown in SCADA Racks drawings in general, and shown as 3U for the UPS and extended battery modules in drawing MQ174-R2-DH-SC-2318-01 sheet 11of17 included in the CD attached with circular 12.</p> <p>Most rack UPSs with 3U size is maximum 6kVA, which is less than 6kW (5.4kW @ 0.9 PF), so to get 6kW requires jumping to the next rating which is 10kVA and which is much larger >=5U. The same applies for its batteries.</p> <p>Given the size requirements, and given that 2000W is needed per rack, and in case of rack A/B failure a UPS is expected to feed 4000W with some safety margin, a 6kVA UPS inverter should be enough for the requirement.</p> <p>Is it acceptable to supply 6kVA inverter instead of 6kW, to match the size requirements, and since it is sufficient for the power requirements?</p>
A170							<p>Answer: 6kW Output Power Consumption to be provided as per the specifications - 3kW with 2 hour Autonomy</p>

Q171	All	Technical	ICA/SCADA	APPENDIX A8-Rev2	190/244	8.14.1	As per Qatar Ministry of Interior (MOI) requirements the Racks for CCTV system should be separate racks with its own UPS of backup time of 1 hr while in the SCADA/Automation drawings the same is shown integrated in the same rack with other systems like process PLCs and telecommunication, please confirm which one to be followed MOI requirements or tender design drawings.
A171							Answer: To be provided as per the specifications
Q172	All	Technical	ICA/SCADA	APPENDIX A8-Rev2	190/244	8.14.1	The storage as per Qatar Ministry of Interior (MOI) requirements to be sized for 120 days and according to the no of Cameras shown on the drawings will result in a storage system of around 1000 TB for each individual PRPS package, while the storage device shown on the tender drawing no (ex. for package A; MQ174-R1-DH-SC-2133-01 sheet 5 of 22) as redundant 100TB only, please confirm which one to be followed, MOI requirements or tender design drawings.
A172							Answer: To be provided as per the specifications
Q173	PRPS 4	Technical	Civil/Structural	Appendix A1 Scope of work	Page 12 of 78, 16 of 78	1.1.3.8, 1.1.3.11	Please clarify in which bill reservoir testing, cleaning and sterilizing; pipeline swabbing, sterilization and commissioning to be priced
A173							Answer: Refer to Bill No 8 under Item 8.2 for Reservoirs and under 8.7 for Pipelines.
Q174	PRPS 4	Technical	Civil/Structural	Appendix A1 Scope of work	Page 41 of 78	1.2.2	In the mile stone 2 it is specified as reservoir 1 should be ready for hydro testing and as per the scope of the work, cladding and finishing works above the roof slab (waterproofing, above layers and parapet wall) should start after satisfactory completion of hydrotesting only which means that the above mentioned items were excluded from the milestone 2. Please confirm.
A174							Answer: Milestone 2 does not require all cladding to be completed. It requires the reservoir to be fit to take water.

Q175	All	Technical	Architectural				Please provide the Contractor during the tender a copy of the CSI/Masterspec document(s) referred to in the project architectural specification
A175							Answer: This is a commercially available documents, and the Contractor should obtain their own copy.
Q176	All	Technical	Architectural	Specification	388/471	3.11.1	Please advise the manufacturer and specific product of composite stone.
A176							Answer: The Contractor is to proposed a suitable manufacturer to comply with the specifications, for Kahramaa Review and Approval.
Q177	All	Technical	MEPF	Scope of Works			Scope of works section 1.52 refers to QP pipelines (gas and others). Please advise if any QP pipelines (gas and others) are inside any of the PRPS sites or within 25metres of the plot boundary. In addition as previously requested please provide existing infrastructure drawings for all PRPS packages to the contractor during the tender
A177							Answer: There are no QP pipes known to be within the boundary of the site. There are currently utilities expected within the boundaries of the sites, however should the contractor identify any from site visits then they are to allow for these.
Q178	All	Technical	Civil/Structural				Please confirm the Contractor may use any formwork system from any supplier for the delivery of the structural works
A178							Answer: The Contractor may use any formwork system for the delivery of the structural works, subject to Kahramaa review and Approval.

Q179	PRPS 3	Commercial	Item coverage	BOQ	6/38/95R	6.13.17	As per TC#13 - Revised Bill of Quantities - the mentioned item unit is missing. Kindly provide.
A179							Answer: Item 6.13.17, unit is NO.
Q180	PRPS 3	Commercial	Item coverage	BOQ	6/37/95R	6.13	BOQ Items are changed through TC#13. However we did not receive any revised drawings through TC#13. Kindly provide the revised drawings.
A180							Answer: The changed BOQ Items reflect the updated drawings and data sheets provided in the other Tender Circulars, 2,7,9,12 and 14.
Q181	PRPS 1	Technical	Civil/Structural	Appendix F	MQ174-R1-DH-CI-2000 to 2018 & OPW200-MQ174-A-DH-D-01 to OPW212-MQ174-A-DH-D-01		PRPS 1 Package A, please confirm if the excavation & backfilling to finish site grading level for Reservoir 5, 6 & 7 are part of Contractors scope of work.
A181							Answer: The Contractor is not required to excavate or backfill for reservoirs 5,6 and 7. Site grading in this area shall be completed sufficiently to allow for the installation of the site boundary to level and the site roads and footways in this area

Q182	PRPS 1	Technical	Civil/Structural	Appendix F	MQ174-R1-DH-CI-2000 to 2018 & OPW200-MQ174-A-DH-D-01 to OPW212-MQ174-A-DH-D-01		PRPS 1 Package A, please confirm if the excavation & backfilling to finish site grading level for Future Reservoir 1 and Future Reservoir 2 to 5 are part of Contractors scope of work.
A182							Answer: The Contractor is not required to excavate or backfill for future reservoirs 1 to 5. Site grading in this area shall be completed sufficiently to allow for the installation of the site boundary to level and the site roads and footways in this area
Q183	All	Commercial	Quantities	BQ no.7	7/9/10R	7.7	In the revised BOQ rev.02 as per TC#13, item 7.7: Chlorination plant is missing in Bill No.7 for Packages B,C,D & E.
A183							Answer: All the instrumentation and controls related to Chlorination plat shall be part of supply which included in Bill no 5. Please disregard the items listed under 7.7 in PRPS 1
Q184	All	Technical	SCADA	App A1A-GTC626_2014-PRPS_1_Scop e_Rev 2 IO List PRPS 2 REV 1			As per Scope of work document provided in Appendix 1, Tender circular 13, there are Four Rings in each Reservoir. Also in rev 0 IO Summary; there is a clear segregation of the Rings as well as Area PLC for each Reservoir. However from the revised IO Summary, the area PLC as well as Ring segregation with IOs is not clear. Please provide the segregation in order to map the IOs in area and Ring wise.
A184							Answer: Please see the drawings provided. This shows the four rings and which PLCs are connected to which ring.

Q185	All	Technical	SCADA	IO List PRPS 2 REV 1			As per revised IO summary, IO quantity is provided for different IO types against the tag number. We are not clear whether each tag number is to be considered as separate area and IO Module to be calculated for each area. Please clarify.
A185							Answer: Refer to PLC diagrams which show the instruments and their associated connections to PLCs . The only difference the new I/O list makes is that some of the PLCs will be oversubscribed and will require expansion modules.
Q186	All	Technical	SCADA	IO List PRPS 2 REV 1			In revised IO Summary we can see number of sheets having IO count. Let us know the controller as well as IO Module segregation philosophy to be considered. For example separate controller for each area (defined in each sheet) and separate IO Module for each Tag number provided.
A186							Answer: Refer to PLC diagrams and Layout drawings. The field instruments are shown on the layout drawings, the I/O list shows the signal types. The number of I/O required will mean an increase in Service Modules in the PLCs which is to be met by Distributed I/O for expansion, the calculations shall be based on this premise
Q187	All	Technical	SCADA	IO List PRPS 2 REV 1			Electrical system IOs are not provided in revised IO summary. Our understanding is same needs to consider from earlier revision. Please confirm.
A187							Answer: Correct, the Electrical I/O remains unchanged.

Q188	All	Technical	SCADA	I/O List PRPS 2 REV 1			As per revised I/O Summary, Communication protocol is provide in SOFT I/O column however the quantity of the soft signals is not provided. Please provide.
A188							<p>Answer: The I/O Type gives the number of channels required per instrument. For example PIT 01 to 25 Description , AI column 25 channels, Soft Column 25 Hart , therefore the number of Cards required in PLC is 4 as each only supports 8AI per card.</p>
Q189	All	Technical	ICA/SCADA		Tender Circular 12		KAHRAMAA mentioned that the Master PLC and SCADA will be selected by KAHRAMAA irrespective of any system offered by bidder. Since this is an open competitive international bidding, we request KAHRAMAA to withdraw this statement and allow EPC contractor to select the vendor based on techno-commercial merit. However, if KAHRAMAA wants any specific vendor for Master PLC and SCADA package, bidder request KAHRAMAA to confirm the Make and Model nos as many Vendors are declining to bid due to this statement mentioned in Tender Circular 12.
A189							<p>Answer: This statement will not be withdrawn. Kahramaa intend to connect all 5 sites together with seamless communication and to maintain all 5 sites together as a single system, which means they therefore will ultimately require single vendors for specific elements, irrespective of which main contractor is awarded each PRPS site.</p>
Q190	All	Technical		IT.16		7.f	Bidder understands that the catalogues and specifications to be submitted are the same items listed in Appendix I-3. Please Clarify.
A190							<p>Answer: This is confirmed for the Tendering process.</p>

Q191	All	Technical	ICA/SCADA		Tender Circular 13	The BOQ specified a detailed Split up for components of the Automation, SCADA, CCTV etc. in Sno. 9.3.2 and 9.3.3 under bill no :9 Please clarify the prices are to be indicated here are to be inclusive of Design, Installation, Testing & Commissioning etc. Please note it is difficult to split up the common cost such as design, engineering, software, Cabling, installation, Testing & commissioning etc. at the component level as per BOQ line item.
A191						Answer: These prices are to be inclusive of all elements of work. It is the Bidders discretion as to how they price the contracts.
Q192	All	Technical	Electrical	TC#13	APP A6	6.6 Please elaborate more on leak detection system
A192						Answer: Specifications are given in the additional section 6.6 issued in Tender Circular 13.
Q193	All	Commercial	Item coverage	BQ no.1 to 5		Although it's mentioned in circulars and shown as deleted in the Summary Page, still there are alternative price schedules given as Bill No.2, Bill No.3 and Bill No.4. Please confirm that those price schedules will not be priced.
A193						Answer: Confirmed. Bill parts 2,3 and 4 for alternative suppliers shall not be priced.
Q194	All	Commercial		Auxiliary Pumping Sta		Electrically Operated Overhead travelling gantry crane double girder type - outdoor is specified in the data sheets for cranes refer 040A-040E Gantry Crane Outdoor TDS but this is not indicated in the drawing. Please confirm if required.
A194						Answer: This is confirmed to be required.
Q195	All	Commercial		Tanker Filling Sta		Electrically Operated Overhead travelling monorail crane type - outdoor is specified in the data sheets for cranes refer 040A-040E Gantry Crane Outdoor TDS but this is not indicated in the drawing. Please confirm if required.
A195						Answer: This is confirmed to be required.

Q196	PRPS 1	Technical	Civil/Structural			In PRPS1 the contractor has noted that there are some concrete structures and underground pipes in the area of the existing quarry. If these are to be demolished by the contractor please advise of details of these structures
A196						Answer: The Contractor shall be responsible for clearing the site.
Q197	PRPS 1	Technical	Civil/Structural			In PRPS1 the contractor has noted that there are disused vehicles in the site of the existing quarry. Are these vehicles to be disposed of by the contractor or others
A197						Answer: The Contractor shall be responsible for clearing the site.
Q198	All	Technical	Civil/Structural			The Contractor has identified that the sites, for example at Umm Birka, has a very weak signal strength on site from the network provider which is insufficient for either 3G or 4G network. This effects both the Time Lapse, office computer internet connections, etc. Please advise if there is existing fibre optic cable in the vicinity of the sites to connect to and the location. Alternatively will Kahramaa be requesting that the network provider improves signal strength to 4G in the vicinity of the sites? Please advise
A198						Answer: The Contractor shall comply with the contract in this regard. It is the Contractors responsibility to investigate all alternatives to achieve this.
Q199	All	Technical	Mechanical			Please confirm that all bypass pipeline deliverables for milestone 1 (12 months from award) are not dependent on the Contractor's verification of the Client's surge analysis. This pipework must be procured immediately upon contract award as currently designed in order to achieve this milestone
A199						Answer: The Contractor may progress with this pipework prior to completion of the verified surge analysis.

Q200	All	Technical	Electrical	Appendix A7.4 - MEPF Specifications revision 2	7.4.13 26 1300 - Medium Voltage Switchgear	1.12 11 KV INCOMING SWITCHGEAR, D. Circuit Breaker Section, F. Control Power Supply	From the documents it is required to provide: - 240VAC for loading spring of MV circuit breakers; It is understood that power supply for above shall be provided from normal AC power supply, backed from the Diesel Generator set in each substation. Please confirm our understanding.
A200							Answer: Control voltage shall be 30VDC and be supplied from batteries in each substation (backed up by generator).
Q201	All	Technical	Electrical	Appendix A7.4 - MEPF Specifications revision 2	7.4.15 26 2413 - Low Voltage Switchgear	1.19 CIRCUIT BREAKERS, B	From the documents it is required to provide: -110VDC for loading spring of LV ACBs. As per Tender Clarification TC13; Q/A 2631 is requested to provide de-centralized 30VDC battery system only in each substation. We understand and propose to provide (normal net) 240VAC power supply for loading spring of the LV ACBs (same as MV ACBs), considering Diesel Generator back-up power supply in each substation. Kindly confirm our understanding and proposal.
A201							Answer: Control voltage shall be 30VDC and be supplied from batteries in each substation (backed up by generator).
Q202	All	Technical	Electrical	Appendix A7.4 - MEPF Specifications revision 2	7.4.13 26 1300 - Medium Voltage Switchgear and 7.4.15 26 2413 - Low Voltage Switchgear	(MV)1.12 11 KV INCOMING SWITCHGEAR, D. Circuit Breaker Section, F. Control Power Supply and (LV) 1.19 CIRCUIT BREAKERS, B	It is understood from TC13; Q/A 2631 to provide DC power supply for LV and MV control voltage as single system configuration with back-up of Diesel-Generator power supply. Kindly confirm our understanding
A202							Answer: Control voltage shall be 30VDC and be supplied from batteries in each substation (backed up by generator).

Q203	All	Technical	MEPF	Tender Clarification 13 Appendix B Package A PRPS 1 BOQ		BOQ Bill 1-7 & 10 Rev02	BOQ Bill 1-7&10 Rev02 was provided as attachments of Tender Circular 13 for all Packages except for Package A PRPS1. Please provide the BOQ Bill 1-7 & 10 Rev02 of the Package A PRPS1 in Excel in order to be able adapt the changes.
A203							Answer: This was provided in the version issued by Kahramaa.
Q204	All	Technical	MEPF	Mechanical Specification	Rev.2 Clause 4.8.4 - Internal & External Coating		Refer Appendix A4 – Mechanical Specification – Rev.2 Clause 4.8.4 – Internal & External Coating. The Clause 4.8.4.1 states “Fusion bonded epoxy coating for the interior and External Steel Water Pipeline” and clause 4.8.4.2 states “within the pumping station – External Coating shall be Liquid epoxy coated”. The above two statements are contradicting. Please clarify.
A204							Answer: Where the pipework is within the pumping station, it shall be externally coated with Liquid Epoxy, however where it is elsewhere on the site, ie outside of the pumping station, it shall be Fusion Bonded Epoxy Coated.
Q205	All	Contractual					Our offer is based upon any existing services being relocated by others to allow us to commence works in accordance with our programme.
A205							Answer: should any existing services be identified in the works area, this shall be within the Contractors scope to divert.
Q206	All	Contractual					Dewatering – our offer is based on the discharge of dewatering wells into temporary lagoons within the vicinity of the site.
A206							Answer: This shall be subject to the MOE approval of the Contractors CEMP.

Q207	All	Contractual				Our offer is based upon the design drawings, tender documents and clarifications.
A207						Answer: The Bidder should price the Tender on the documents and the Tender Circulars provided, as well as their own site investigations.
Q208	All	Contractual				Scope of Works – our offer is based on the scope identified with the tender documents, drawings and clarifications. We request Clause 3.1.2 be removed from the General Terms & Conditions given the lack of detail within the statement.
A208						Answer: The Bidder should price the Tender on the documents and the Tender Circulars provided, as well as their own site investigations. No amendment shall be made to the GCC.
Q209	All	Contractual				We have based our offer on our temporary designated site set up area, lay down and store locations not being moved throughout the project.
A209						Answer: The Contractor shall identify the site set up area to suit their working method. It is the Bidders discretion how this matter is priced.
Q210	All	Contractual				Design Responsibility – We are responsible for the final equipment selection, we have no other design responsibility other than to confirm the design is suitable for construction. We request clauses 3.13 – 3.33 (Design) within the General Conditions of contract be amended to suit the responses to clarifications clearly stating we have no design responsibility other than final equipment selection. (Q11/A11 circular 6) (Q23/A23 circular 7)(Q114/A114 circular 7)(Q36/A36 circular 8)
A210						Answer: The GCC shall not be amended. The Contractors design responsibility shall be as previously referenced in the Tender Circulars.

Q211	All	Contractual					Design Responsibility – Surge Analysis, we confirm we have made an allowance within our offer to update the Surge Analysis based on the equipment and plant selection priced within our offer. We accept no design liability in relation to the Surge Analysis or Hydraulic Model.
A211							Answer: This is not acceptable. The Contractor shall take responsibility for the consequence of the plant he provides and the associated design issues related to the surge and hydraulics.
Q212	All	Contractual					Vendor lists – our offer is based on the Vendor lists identified within the tender documents & clarifications, should these vendor lists change we deem this to constitute a variation to contract and claim particulars will be submitted accordingly. (Q75/A75 circular 6)
A212							Answer: Kahramaa reserves the right to alter the Vendor List at their discretion. No associated claim shall be accepted.
Q213	All	Contractual					Earthwork – our offer is based on the reuse of excavated material generated by the “Earthworks Contractor” for backfill purposes. We are unable to clarify the exact quantity of this material. Note: Package A where Earthworks are within our scope
A213							Answer: The amount of material to be left at the sites is referenced in Appendix A1.
Q214	All	Contractual					Water quality – check our responsibility for final filling and chlorination of the reservoirs. (Q96&97 /A96&97 circular 6)
A214							Answer: The Contractor will be responsible for the final filling of the tanks prior to taking over.

Q215	All	Contractual					Our offer is based on the use of the Drainage Lagoons for disposal of test water
A215							Answer: This will not be acceptable. The Lagoons must be empty and available for use at the hand over of the works.
Q216	All	Contractual					Site Access – we have based our offer on the provision of guaranteed access to all five PPRS sites.
A216							Answer: Access to all 5 sites is available, however please note the requirement in the contract to form the permanent access roads.
Q217	All	Contractual					Our offer is based on casting the reservoir walls in two pours as stipulated on the construction drawings as a minimum pour requirement
A217							Answer: This shall be subject to review and approval of the Contractors Method Statements.
Q218	All	Contractual					Authority connection fees – our offer is based on the Client covering the cost of permanent Authority and Service Provider connection fees. (Q21/A21 circular 6)
A218							Answer: Q21/A21 requires the Contractor to cover the cost of connection fees, NOT the client.
Q219	All	Contractual					Our offer is based on the disposal of surplus excavated material to stockpiles located within the site.
A219							Answer: This is not accepted. The Contractor should allow for the disposal for surplus material.

Q220	All	Contractual					Our offer is based on the provision and use of an on-site batching plant for concrete
A220							Answer: This is acceptable so long as it is used only for works within the boundary of the site.
Q221	All	Contractual					Our offer is based on the use of epoxy coated reinforcement for water retaining and underground structures (Q3/A4 circular 11)
A221							Answer: The Bidder should base their offer on the information given in the Tender Documents and the respective Circulars.
Q222	All	Contractual					We have excluded any form of internal coating to the internal faces of the reservoir structure from our offer.
A222							Answer: The reservoirs are not required to have coated internal surfaces.
Q223	All	Contractual					Our offer excludes the provision of any maintenance services.
A223							Answer: The Bidder is referred to the Warranty services required in the contract and shall comply accordingly.
Q224	All	Contractual					We have based our offer on minimal co-ordination and co-operation with any other within the plot boundary however we will accept no responsibilities for any delay caused by others which is outside our control.
A224							Answer: This shall be assessed on a case by case basis and cannot be agreed on an overall basis.

Q225	All	Contractual	PROGRAMME			We have based our offer on uninterrupted working hours day and night as necessary and no working hour restrictions will be imposed
A225						Answer: Specific details for 24 hour working shall have to be agreed with Kahramaa on a case by case basis, to consider items such as specific locations and length of time for which it is expected to occur. The Bidder should not assume complete approval in his pricing.
Q226	All	Contractual		General Conditions of Contract		We would like the opportunity to discuss further the following Contract terms during the tender discussion: A. Design – we request clause 3.13 – 3.33 be amended to correspond with the clarifications responses issued within the tender circulars 1 – 12
A226						Answer: The GCC shall not be amended.
Q227	All	Contractual		General Conditions of Contract		Price Escalation - Given the 36 month programme duration there is the potential for significant price escalation and hence we request the following clause is inserted within the Contract: A. Our offer is based upon the Advance Payment Guarantee be amended as per the attached format [Appendix A] B. Our offer is based upon the Performance Guarantee be amended as per the attached format [Appendix B];
A227						Answer: These documents shall not be amended from that given in the tender.

Q228	All	Contractual		General Conditions of Contract			Retention Money: A. We request that Article 12.5.1 be amended to release 50% of the Retention Money within 30 days of T.O.C. issue B. We request that Article 12.5.2 be amended to release the balance 50% upon the expiry of the Defects Period and not linked to the F.C.C issue
A228							Answer: The GCC shall not be amended.
Q229	All	Contractual		General Conditions of Contract			Execution Program, completion, and Acceptance A. We request that Article 9.51.1 be amended to reflect a Warranty Period of 365 days; B. We request Articles 9.38, 9.52, and 9.57 be amended to limit the responsibility of rectifying any of the Contractors defects to only the Works completed by Contractor and not works completed by Kahramaa or their Sub-contractors and that any costs should be limited to what is reasonable; C. We request Articles 9.38, 9.57 and 11.2 be amended to be limited to acts for which the Contractor is responsible for in line with FIDIC (EPC), Clause 11.2; D. We request Article 9.48 be removed;
A229							Answer: The GCC shall not be amended.
Q230	All	Contractual		General Conditions of Contract			Delay in Completion A. We request Article 10.1 be amended to have a single Completion Date being the date within the Contract Agreement;
A230							Answer: The GCC shall not be amended.

Q231	All	Contractual		General Conditions of Contract			Liabilities and Indemnities A. We request Article 20.3, 20.4, 20.5, and 24 be amended to include a cap for the Total Liability for the Contractor being at the Contract Price without any exceptions;
A231							Answer: The GCC shall not be amended.
Q232	All	Contractual		General Conditions of Contract			Latent Conditions [Ground] A. We request that Articles 3.10, 3.11, 4.10, 4.15, and 4.28 be amended to include an express entitlement to an EoT and Costs as a result of adverse physical conditions not reasonably foreseeable by an experienced contractor at the date of submitting its Bid; B. We confirm our offer is based upon the Geotechnical Site Investigation Report date November 2013 issued within the Tender Documents GTC 626/2014, Instructions to Tenderers Rev 1, Appendix A9 Ground Investigation;
A232							Answer: The GCC shall not be amended. B. The offer shall be based upon all documents provided as well as appropriate site visits and investigations.
Q233	All	Contractual		General Conditions of Contract			Employer Delay A. We request Article 14.17 be amended so it applies to Kahramaa's personnel as well and take note of the qualifications to this entitlement; B. We request that a specific entitlement to claim costs for delays caused by Kahramaa and its personnel be included
A233							Answer: The GCC shall not be amended.

Q234	All	Contractual		General Conditions of Contract			Authority Delay A. We request Article 14.17 be amended to include a specific entitlement to claim an EoT for Authority delay in line with FIDIC (EPC) 1999, Cl. 8.5 B. We request that a specific entitlement to claim cost for delays caused by Authority delays be included;
A234							Answer: The GCC shall not be amended.
Q235	All	Contractual		General Conditions of Contract		Design Delay	We request Articles 3.17 and 14.17 be amended to include a specific entitlement to claim an EoT for Design delay; We request Article 3.18 be amended to include a specific entitlement to claim cost for Design delays;
A235							Answer: The GCC shall not be amended.
Q236	All	Contractual		General Conditions of Contract		Change in Law	We request that a specific entitlement to claim cost attributed to Changes in Law after the Tender has been submitted to be included. We request Article 11.4 be amended to include a specific entitlement to claim cost for Changes in Law after the Tender has been submitted;
A236							Answer: No amendments shall be made to the GCC with regard to Changes in Law. No special entitlement shall be given.

Q237	All	Contractual		General Conditions of Contract		Payment Terms	<p>A. We request a draft copy of the approved Invoice format from Kahramaa detailing the supporting document requirement;</p> <p>B. We request Article 12.10 be amended. We request to include a 30 day Certification Period following the submission of a Contractors Invoice, and within this 30 day time period, Kahramaa will confirm in writing to the Contractor the values which are to be paid;</p> <p>C. We request Article 12.10 be amend to confirm that the payment period will start upon the submission of the Contractors Invoice submission to the Kahramaa Finance Department;</p> <p>D. We request Article 12.17.1 being removed;</p> <p>E. We request Article 12.17.2 be amend by deleting 'whether or not related to the Contract' and replacing with 'under the Contract';</p> <p>F. We request Articles 12.24 and 12.25 be amended to include a timeframe for the payment of the final amount;</p>
A237							<p>Answer:</p> <p>A. This will be provided to the successful contractor is required.</p> <p>B,C,D,E. The GCC shall not be amended.</p>
Q238	All	Contractual		General Conditions of Contract	Latent Conditions		<p>a. We request Articles 1.36 and 9.69 be amended to reflect that the liability for Latent Defects goes no further than that stipulated under Qatari law and this liability should expire 10 years after the issue of the TOC;</p>
A238							<p>Answer:</p> <p>The GCC shall not be amended.</p>

Q239	All	Contractual		General Conditions of Contract	Suspension for Non Payment	<p>a. We request that a Certification and Payment process be included within the General Terms & Conditions, as per FIDIC Cl 14.6 to allow suspension by the Contractor should there be late payments from Kahramaa. We request including within the above amendment an provision for the Contractor to have an express right to suspend for non-payment (on giving 21 days' notice) by Kahramaa within the time it is due under the Contract (within 45 days from the date of receipt by Kahramaa) and to receive extended Time and Costs as a result of this suspension;</p>
A239						<p>Answer: The GCC shall not be amended.</p>
Q240	All	Contractual		General Conditions of Contract	Termination by the Contractor	<p>a. We request amending Article 18.6 as the Contractor should be entitled to terminate the Contract for a prolonged suspension where it affects the whole of the Works. The only exclusion should be where the cause of the suspension is due to the Contractor's own acts b. We request additionally amending Article 18.6 and expanding the circumstances where Extension of Time/Costs will be granted in line with FIDIC (EPC), 1999, cl. 8.8 and 8.9 and increasing the time in which a claim needs to be made to 28 days;</p>
A240						<p>Answer: The GCC shall not be amended.</p>

Q241	All	Contractual		General Conditions of Contract	Termination by the Employer		a. We request Articles 19.1.15 and 19.1.18 be amended as the default events are very broad and should either be removed entirely or more clearly defined; b. We request Article 32 be amended. The Conflict of Interest provision is quite wide. We request limiting the provisions which actually amount to a default event (i.e. there is no need to include the warranties) and amending the definition of 'Conflict of Interest' by removing Article 32.1.1 and 32.1.2(c) which are confusing or irrelevant and linking Article 32.1.2(d) to circumstances that are detrimental to Kahramaa. The references to 'conflict of interest' in Article 32.2 to 32.5 should also be capitalized c. We request Articles 19.7.7 be amended to mean only Subcontractors engaged for the Works ^{43.4} We request Article 19.7.8 be removed/deleted.
A241							Answer: The GCC shall not be amended.
Q242	All	Contractual		General Conditions of Contract			Contractors Equipment a. We request that Article 19.7 be amended to allow the Contractor to remove its equipment on termination for any reason and without consent and Kahramaa should not be entitled to use (or permit others to use) the Contractor's Equipment following suspension and/or termination;
A242							Answer: The GCC shall not be amended.
Q243	All	Contractual		General Conditions of Contract	Subcontractors		a. We request Article 16.9 be added detailing that Kahramaa has no right to pay Subcontractors direct; b. We request that Article 16 be amended detailing that Subcontractors are to be engaged on the Contractors standard terms of Subcontract;
A243							Answer: The GCC shall not be amended.

Q244	All	Contractual		General Conditions of Contract	Terrorism is an Employers Risk	a. The Contract should contain an Employer's Risks clause in line with FIDIC (EPC) 1999, cl. 17.2 - 17.4 including terrorism;
A244						Answer: The GCC shall not be amended.
Q245	All	Contractual		General Conditions of Contract		a. We request Article 3.1.3 (scope), 3.26 (Contractor's Documents), 3.16.2 (Kahramaa's Documents) 4.11 (design and commissioning work) and 6.2 (materials and equipment for inclusion in the Plant) be amended and the Fit for Purpose references be removed. This is this is a build only Contract, any fit for purpose references should be removed;
A245						Answer: The GCC shall not be amended.
Q246	All	Contractual		General Conditions of Contract		a. We request Article 9.67 be amended to ensure any third party costs recovered by Kahramaa are limited to what is reasonable and that the Contractor accepts no responsibility for this work. The same should apply in respect of Article 8.19.;
A246						Answer: The GCC shall not be amended.
Q247	All	Contractual		General Conditions of Contract		a. Article 14 says the aggregate sum of all positive Variations shall not exceed 20% of the original Contract Price and the aggregate sum of all negative Variations shall not exceed 20% of the Contract Price unless a lower amount is specified in Appendix B. If a Variation is over/under 20% of the Contract value, can you please confirm what would happen? b. We request Article 14 be amended to include for the Contractor to object to a Variation as is the case with FIDIC (EPC) 1999, cl. 13.1; c. We also request that Article 14 be amended to include the provision for the Contractor to claim EoT regardless of an instructed or agreed variation by Kahramaa. We request that this be in line with FIDIC (EPC) 1999, cl. 8.4 as FIDIC;
A247						Answer: The GCC shall not be amended.

Q248	All	Contractual		General Conditions of Contract			a. We request Article 16.1 be amended as the Contractor should have a right to consent to any assignment by Kahramaa to ensure any prospective employer has the means to repay. Kahramaa's consent should not be unreasonably withheld.
A248							Answer: The GCC shall not be amended.
Q249	All	Contractual		General Conditions of Contract			a. We request that Article 17.1 be amended so that the Contractor is entitled to costs in addition to EoT and that Kahramaa's termination rights apply equally to the Contractor. Each Party's obligation to pay the other under the Contract should also be excluded.
A249							Answer: The GCC shall not be amended.
Q250	All	Contractual		General Conditions of Contract			a. We request that Article 20.1 be amended. The Contractor should not be required to indemnify for damage to the Works – this should be excluded (cl. 20.1(a)) in line with FIDIC 1999 (EPC), cl. 17 1, and any loss attributable to any negligence, willful act or breach of Contract by Kahramaa, its personnel or agents. b. The intellectual property indemnity within Article 20.5 should be in line with FIDIC 1999 (EPC), cl. 17 5
A250							Answer: The GCC shall not be amended.

Q251	All	Contractual		General Conditions of Contract			<p>a. The CAR policy will only extend to provide coverage for items of Plant that form, or that are intended to form, part of the Works. Accordingly, the requirement to insure the Contractor's Tools and Equipment should be deleted. This can be satisfied instead, by covering the Contractor's Tools and Equipment under a Machinery All Risks (MAR) insurance, which BMMG maintains on an annual basis and can supply evidence of on request."</p> <p>b. Any references to levels of deductible in the Contract should be deleted – deductibles are the Contractors risk/cost and the Contractor should be entitled to choose the level of deductible it wants to apply.</p> <p>c. Kahramaa does not have an insurable interest in the Contractors workmen (the subject of the WC/EL policy). We can endorse the WC/EL policy with an indemnity to principal (naming the Employer as Principal under the policy), if requested.</p>
A251							<p>Answer: The GCC shall not be amended.</p>
Q252	All	Contractual		General Conditions of Contract			<p>Value Engineering</p> <p>a. We propose Article 3.34 percentage breakdowns to be 70% Kahramaa 30% to the Contractor should any value engineering savings be approved.</p>
A252							<p>Answer: The GCC shall not be amended.</p>
Q253	All	Contractual		General Conditions of Contract			<p>Contractors Documents</p> <p>a. We request Article 3.42 be amended from 2 months to 1 month</p>
A253							<p>Answer: The GCC shall not be amended.</p>

Q254	All	Contractual		General Conditions of Contract			Design a. We request Article 4.1 be amended by deleting word 4 [Design] b. We request Article 9.53.1 be amended by deleting word 7 [Design] b. We request Article 14.9 be deleted as this is a Construct only project
A254							Answer: The GCC shall not be amended.
Q255	All	Contractual		General Conditions of Contract			Rectification of Defects a. We request that Article 4.4 be limited to Works completed by the Contractor which are not in line with the performance specifications
A255							Answer: The GCC shall not be amended.
Q256	All	Contractual		General Conditions of Contract			Warranty Period a. We request Article 9.55 be amended. The warranty Period shall commence upon issuance of the TOC and any defects shall be rectified within this period within an agreed timeframe between the Employer and the Contractor b. We request that Article 9.59 be amended. The TOC should be issued upon hand over and not upon completion of all defects.
A256							Answer: The GCC shall not be amended.

Q257	All	Contractual		General Conditions of Contract			Liquidated Damages a. We request that Article 10.4 be amended. LD's should only be deducted upon agreement and consultation with the contractor before deducting at the agreed level. b. We request that Article 10.5 be amended to say that no works or monies or penalties should be deducted from the Contractor without prior discussion and agreement between the Employer and the Contractor
A257							Answer: The GCC shall not be amended.
Q258	All	Contractual		General Conditions of Contract			Contract Price a. We request that Article 11.1 be amended to include for any Variations and/or Extensions of Time Costs incurred during the Works
A258							Answer: The GCC shall not be amended.
Q259	All	Contractual		General Conditions of Contract			Escalation We request that Article 11.4 be deleted or amended to provide an agreed mechanism for agreeing an escalation rate between the Employer and the Contractor. The long duration and large material requirements of this project means that the current price has the potential to escalate.
A259							Answer: The GCC shall not be amended.

Q260	All	Contractual		General Conditions of Contract			<p>Payments</p> <p>a. We request that Article 12.12 be amended to include a time frame for Certification</p> <p>b. We request that Article 12.19 be amended to include an agreed % of Interest and that the Interest becomes claimable following the Contractual Payment Duration expiring</p>
A260							<p>Answer:</p> <p>The GCC shall not be amended.</p>
Q261	All	Contractual		General Conditions of Contract			<p>Bonding</p> <p>a. We request that Article 13.9 be amended to include a warning mechanism that if the Contractor does not perform his obligations, that on the issuance of the Notice, the Contractor would have 14 days to rectify the problem before any deductions are made by Kahramaa</p> <p>b. We request that Article 14.16 be amended to additional costs for bonds due to Kahramaa variations</p>
A261							<p>Answer:</p> <p>The GCC shall not be amended.</p>
Q262	All	Contractual		General Conditions of Contract			<p>Liabilities and Indemnities</p> <p>a. We request that Article 20.2 be deleted.</p> <p>b. We request that Article 20.2 be deleted.</p> <p>c. We request that Article 20.4 be amended as the Contractor has no design responsibility</p> <p>d. Open Book. We request that this be deleted</p>
A262							<p>Answer:</p> <p>The GCC shall not be amended.</p>

Q263	All	Contractual		General Conditions of Contract			We request the following Articles to be included: a. We request that you include a new Article which makes LDs the sole remedy for delay in line with FIDIC (EPC) 1999, cl. 8.6 b. We request that you include a new Article which requires Kahramaa to submit an Employer Claim as per FIDIC to enable the Contractor to evaluate their position properly.
A263							Answer: The GCC shall not be amended.
Q264	All	Commercial			Item 8.6		Please provide details of Tanks for Firefighting, Irrigation and Potable water system.
A264							Answer: These tanks may be found on drawings ref: MQ174-R*-DH-CI-6440 to MQ174-R*-DH-CI-6444, rev B of which was issued under tender circular No 14.
Q265			Circular 13	Appendix A, Section 5	5.2.4.1 5.3.3.1	2808	Regarding the brands for motor and VFD, there was the Answer in Circular-13 as follows, "The MOTOR and VFD are not required from the same Vendor, however they should be subject to full FATs together to confirm compatibility." Kindly clarify whether this answer means that all the job pump, job motor and job VFD have to be combined-tested at the same place in FAT if the brands of motor and VFD are different. Or, please advise whether one representative VFD with job pump and job motor per each type is allowed to be combined-tested in FAT to confirm its compatibility.
A265							Answer: The contractors shall conduct a combined string test which includes job pump and job motor for all the pumps as per KM specification. The FAT for the VFD can be done separately in the

		Mechanical	Circular 11			Item A15	<p>Regarding the country origin of pump castings, there was the Answer in Circular-11 as follows,</p> <ol style="list-style-type: none"> 1. The casting of the pump shall be done in the countries listed in the vendor list, and is subject to KM review and approval. 2. Foundries used shall be as given in the pump vendors approved countries 3. Material composition certificates are required for the main components of the pump. Certificate of origin for component parts are also required." <p>Kindly advise if the pump suppliers are able to procure the casting of pump main components from the sub-vendors not only from the pump supplier's original country but also the other countries, based on the sub-vendors list which pump supplies had submitted during the vendor registration period before the tender. Those listed sub-vendors are under the strict QA/QC procedures certified by the pump suppliers.</p>
A266							<p>Answer: This is acceptable subject to Kahramaa prior approval of these sub-vendors and their registered countries.</p>
Q267	All	Contractual	ICA/SCADA	General	N/A	Circular 12	<p>The Circular 12 informs the bidders that the supplier for MASTER PLC/SCADA HMI shall be Kahramaa sole discretion. However note that this clause is not acceptable as this will become a single vendor during execution stage. We confirm that the PLC and the SCADA supplied shall be as per KM specifications and supplier shall be from approved vendors given by KM in the tender document. The selection shall be taken by the contractor after the award of contract and it shall be at the sole discretion of bidder.</p>
A267							<p>Answer: As Circular No 12, this shall be Kahramaa sole decision.</p>

Q268	All	Technical	Electrical	General	27 of 30	App. 1 Rev. 2	<p>1) MV & LV VDP - ABB - India, Siemens - India, Schneider, India 2) 11 KV Switchgears - ABB India, Siemens-India, Schneider-India, TEMCO-India 3) Transformers - ABB - India. Schneider-India, VOLTAMP - India, EMCO-India 4) LV Switchgear - ABB India, Siemens-India, Schneider - India, TEMCO - India 5) MV/LV Generators - Caterpillar - India, Cummins - India 6) Battery & Charger - Chloride - India, Excide - India, HI REL - India, Hitachi 7) UPS - Schneider - India, chloride India, Emerrson - India 8) 11 KV & LV Cabling - KEI - India, Polycab - India</p>
A268							<p>Answer: Additional Vendors referenced shall not be added. The Bidder shall refer to the Appendix I issued in Tender Circular No 13.</p>
Q269				4.2.2.1	Main Pumps -- Suction and Discharge Velocity		<p>Velocity of suction and discharge flange : 4m/s for suction nozzle and 5m/s for discharge nozzle We can confirm that all pumps offered comply with the suction velocity requirement of 4m/s. In order to achieve the optimum efficiencies for the pumps offered we have selected the discharge nozzle velocities may exceed the specification requirement. We can confirm that all designs offered are of proven design and have operated in similar potable water applications with the same materials grades without any issues.</p>
A269							<p>Answer: These shall comply with specification drawings and data sheets.</p>
Q270				4.2.2.2 B	Pump Max. Flow		<p>The pump shall be designed to operate at 110% of BEP at all operating speeds We can confirm the pump and motor are rated to operate in accordance with the specification.</p>
A270							<p>Answer: These shall comply with specification drawings and data sheets.</p>

Q271				4.2.2.2 C	Net Positive Suction Head		NPSH required by the pumps will be at least 1.5m less than the NPSH available. As per the specification we have calculated the NPSH A for each pump station and we attach for your reference our calculation. In accordance with our NPSH A calculation we can confirm that the pumps can comply with the NPSH margin, i.e. 1.5m less than the available.
A271							Answer: These shall comply with specification drawings and data sheets.
Q272				4.2.2.3 E	Wear Rings		The impeller and casing shall both be provided with appropriate wearing rings. We can confirm that we have provided wear ring rings for both the impeller and casing. In order to provide long life we have provided duplex ss wear rings for both impeller and casing. We have extensive experience in supplying similar wear ring materials to other sites in Kahramaa.
A272							Answer: These shall comply with specification drawings and data sheets.
Q273				4.2.2.3 M	Speed Range		Variable Speed drives shall be limited by 50% of the rated speed. Please note that the pump speed will be varied to meet the required duties as stated in the data sheets and in some cases this may require operation at less than 50% of operating speed.
A273							Answer: These shall comply with specification drawings and data sheets.

Q274				4.2.2.4	Noise	<p>The maximum permissible noise level at 1.0m distance from the pump shall be 85 db(A). The contractor shall take the necessary measures to fulfill the environmental requirements outside the pump building. As the pumps offered are of high power single stage design we cannot confirm that noise level around the pumps will be less than the required 85 DB(A). Based on our experience of operating such pumps we would not recommend the fitting of Noise Attenuation for the pumps as this severely constricts the maintenance and operation of the pump set. As such we would recommend the contractor to ensure the Pumping Stations Buildings are suitably rated to minimize noise outside of the building.</p>
A274						<p>Answer: These shall comply with specification drawings and data sheets.</p>
Q275				4.2.2.5	Coating	<p>The internal coating system shall be tested in accordance with ISO 2178;; it should have a guarantee of at least 7 years under all operating conditions. We can confirm that we have included for internal coatings as required by the specifications. However as this is a pump application the coating manufacturer is unwilling to provide a full 7 year guarantee for the coatings. As such they have offered the following ;; "The coating will be guaranteed against poor application for a period of 7 years however it cannot be guaranteed against mechanical damage, (i.e. solid impact) or damage due to turbulence in the flow ". Torishima would be happy to inspect the pump casing at periodic intervals to determine the health of the coating and if any failure of the coating occurs due to poor application, then we would be able to repair this under warranty.</p>
A275						<p>Answer: These shall comply with specification drawings and data sheets.</p>

Q276				4.2.3.11.2	Shop / Factory Tests	<p>For each pump coupled with motor performance tests in accordance with ISO 9906 Grade 1 will be conducted.</p> <p>We can confirm that each pump will be tested with its own motors. Please note that we prefer to use our internal variable speed drive system to conduct the tests but if required we can utilize 1 contract variable speed drive of each size to conduct the tests.</p>
A276						<p>Answer: These shall comply with specification drawings and data sheets.</p>
Q277				4.2.3.11.3	Site Acceptance Tests	<p>Vendors shall provide the services of the pump manufacturers representative to supervise the installation, commissioning and start-up of the pumping equipment.</p> <p>We can confirm that we can provide support of our Supervisor from our HQ or our local Service Centre in UAE or Qatar. Please refer to our commercial offer for day rates.</p>
A277						<p>Answer: These shall comply with specification drawings and data sheets.</p>
Q278				4.2.3.11.3	Site Acceptance Tests	<p>The site test for individual and parallel pump operation shall include but not be limited to the following measured over the entire specified range: Shut Off Head Due to the large size of the pumps on this project we would not recommend operation at closed valve head and as such we cannot recommend testing the pumps at shut off on site and would recommend operation from the Minimum Flow stated on the pump curves. to Duty point.</p>
A278						<p>Answer: These shall comply with specification drawings and data sheets.</p>

Q279				4.2.3.13	Spares Parts and Special Tools		<p>The contractor shall include consumables and spare parts for the commissioning, and spare parts for the guarantee period. Please note that we have provided a price list for spares parts as per the BOQ for the project.</p> <p>We have reviewed these parts and we can confirm that all parts required for commissioning and the guarantee period would be covered by the spares in the BOQ and no additional parts would be required. Special Tools are included in our offer.</p>
A279							<p>Answer: These shall comply with specification drawings and data sheets.</p>
Q280				4.2.3.14	Guarantee and Warranty		<p>The warranty period for all pump sets shall be two years as defined in General Conditions of Contract. The Contractor shall be responsible for the correction of any defects to the pump sets during the Warranty Period and shall make all necessary repairs and replacements free of charge including labour charges.</p> <p>We can confirm the pump warranty will be 2 years from operation or 36 months from delivery whichever is sooner.</p>
A280							<p>Answer: These shall comply with specification drawings and data sheets.</p>

Q281				4.2.3.15	Retention of Pump Efficiency for Sustainable Performance	<p>Pumps shall offer sustainable performance over a longer period. Manufacturer shall specify efficiency after defect liability period (2 years), with tolerance limit at the time of the bidding & give warranty for the retention of efficiency after defect liability period (2 years).</p> <p>After completion of defect liability period but before issuing final taking over certificate, Site tests shall be performed as explained above, to ascertain the performance with agreed tolerance. In case of non-compliance to this required performance, the manufacturer/contractor shall take corrective actions as necessary to improve the performance of pumps at his cost. Otherwise Kahramaa may carry out such rectifications from other contractor.</p> <p>We commend the intention of the specification as we believe that the retention of pump efficiency is critical to maintain lowest power consumption over the long term.</p> <p>However in order to evaluate the efficiency loss over a 2 year period, long term studies should be carried out over a series of different sites to ascertain the results . As no specific studies have been completed in this area we can only provide very an estimate of pump efficiency loss rather than provide a guarantee, which can be warranted.</p> <p>In order to maintain maximum efficiency throughout the operating life of the pump the manufacturer must consider the following major factors;;</p> <ol style="list-style-type: none"> 1. Impeller Materials Condition (max. possible effect on eff -- 2%) 2. Wear Ring Clearance Increase (max. possible effect on eff -- 2%) 3. Casing Surface Roughness (max. possible effect on eff -- 4%) 	

							For this project conditions 1 and 2 above would be mainly related to the rate of wear on the components. For this project we have selected Duplex SS for both the impeller and the wear ring materials. The Corrosion resistance and hardness of Duplex SS ensure that the wear on both the impeller and wear rings areas should not be very little over the 1st 2 years of operation. For item 3 -- Casing Surface roughness we would expect this impact to be low, if the coating remains in good condition, and does not suffer any mechanical damage. Taking the above into account we would expect the max. efficiency drop after 2 years not to exceed the following. 1. Impeller Materials Condition (max. possible effect on eff -- 0.25 %) 2. Wear Ring Clearance Increase (max. possible effect on eff -- 0.75 %) 3. Casing Surface Roughness (max. possible effect on eff -- 1 %) As such we would not expect the efficiency to fall more than 2% below the original tested efficiency.
A281							Answer: These shall comply with specification drawings and data sheets.

TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 26 /08/2014	TOTAL PAGES: 4+70
To: All Bidders		Fax:
For the Attention of: General Manager		Our Ref.: TA/TW/TWM/14/FX-1399
Subject: GTC 626/2014 – CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 17

TENDER CLARIFICATION

1. Notice of Amendment

1.1 CD for collection

The Bidder is requested to collect a CD at 12pm on Wednesday 27th August 2014 containing additional information as listed below:

1.1.1 Appendix A1

The following sections are further amended:

The Following Sections have been modified to reflect responses given in Tender Clarifications:

- 1.1.2 Brief Scope of Work; section 10 added
- 1.1.3.4 Backfilling and Excavation; termite control added
- 1.1.3.7 Reservoirs; general modifications
- 1.1.3.9 Pipelines; general modifications
- 1.1.3.10 Testing of pipelines; general modifications
- 1.1.3.16 Main Pumping Station; crane modified
- 1.1.3.17 Auxiliary Pumping station; crane modified
- 1.1.3.19 Tanker Filling Pumping Station; crane modified
- 1.1.3.20 Utility Pumping Station; general modifications
- 1.1.3.21 Land Drainage Lift Station; new section
- 1.1.3.22 Chlorination System; crane modified
- 1.1.3.23 Electrical Supply; fuel tanks modified
- 1.1.3.28 Chlorination Building; crane modified
- 1.1.3.31 Drainage Lagoons; general modifications
- 1.1.3.34 SCADA System; general modifications
- 1.1.3.35 Telecoms; new section

| Page 1

Warning: This fax and any attachments may contain information which is confidential. They should not be reproduced, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by return fax or telephone. Confidentiality is not guaranteed if lost or misappropriated communication.

Tel: (974) 4484 5333 - Fax: (974) 44845391

44845391 : تلفون - (974) 44845333 : فاكس

P.O BOX 41, DOHA - QATAR.

ص.ب : 41 الدوحة - قطر



1.1.2 Appendix A 7.3

- 7.3.3 1.12 Motor Winding and Bearings
- 1.16 Motor enclosing, deleted
- 7.3.16 1.9 Input/output sensor
- 7.3.17 Sequence of operation for HVAC controls
- 7.3.18 Facility fuel oil piping
- 7.3.22 Hydronic Pumps
- 7.3.23 Refrigerant piping
- 7.3.24 1.5 General ductwork
- 7.3.28 Axial HVAC fans
- 7.3.34 1.9 Air Filtration
- 7.3.36 Schedule of manufacturers

1.1.3 Appendix A6

1	Index	Updated the table and page numbers
2	6.2.5	6.2.5 signal categories is amended to 6.2.4 A as it is a part of 6.2.4. Amended ' E ' Core identification
3	6.2.6	Section renumbered to 6.2.5. Amended core identification
4	6.2.7, 6.2.8, 6.2.9	Section renumbered as 6.2.6, 6.2.7 and 6.2.8
5	6.3.8	Corrections in the range and accuracy level. Deletion of superseded specification which was included by typo error.
6	6.6	Leak Detection system specification is included as new section.

1.1.4 Data Sheets:

Revised Datasheets:

- 021*-1 Overhead travelling Crane - Main Pumping Station
- 021*-2 Overhead travelling Crane - Chlorination Building
- 021*-3 Overhead travelling Crane - Maintenance/Workshop Building
- 022* Monorail Crane - Utility Pumping Station
- 040 *1 Overhead Travelling Crane - Auxiliary Pumping Station
- 040 *2 Overhead Travelling Crane - Tanker Filling Pumping
- 049 Converter Transformer of VSD

New Datasheets:

- 008 Pressure Transmitter
- 009 Radar Level Transmitter
- 032 Potable Water Pump

Warning: This fax and any attachments may contain information which is confidential. They should not be distributed, Disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by e-mail or fax or telephone. Confidentiality is not retained or lost by electronic communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : م.د -- (974) 44845333 : ٥٤٦
ج. ب : ٤١ الوجهة - قطر

| Page 2



1.1.5 Architectural Drawings

1.1.6 Replacement of original tender drawings:

The following drawings are included as replacement copies of the PDFs originally issued due to missing information on the original PDFs.

- MQ174-R1-DH- CI-6394
- MQ174-R5-DH-CI-3189

1. Further clarifications:

2.1 Revised response

Further to the response given in Tender Circular No 16, A146, the previous response shall be deleted and replace with the following:

Contractors Question: Please confirm that items in the BOQ with quantities are re-measurable and not lump sum. (i.e.; Bill 2 - P&M, Bill 3 - P&M, Bill 4 - P&M and etc.)

Kahramaa Answer:

1. Bill Parts 2, 3 and 4 are confirmed to be deleted, as referred in Circular No. 1.
2. Payment for all other items shall be in accordance with Appendix B, Item 1.1. The references in this section to a change of scope shall only apply when there is a modification of the intended scheme that significantly affects the layout or the shape and size of structures. This shall not apply to changes due to pipe clashes or other such construction related issues.

2.2 FM200 Fire protection

The Contractor shall disregard the requirements for Appendix A7.4, Section 7.4.13 26 1300 - Medium Voltage Switchgear, Clause 1.12 K. An FM 200 system is not required to be installed within the medium voltage switchgear. This change does not affect any other clean agent gas suppression systems specified elsewhere in the project.

2.3 Appendix I: Vendor List

M/s Krohne shall be added to the Magnetic flow meters instrumentation vendor list, as follows:

INSTRUMENTATION

1	MAGNETIC FLOWMETERS	
A	ABB	Switzerland
B	Siemens	Germany
C	Endress+Hauser	Germany
D	KROHNE-Netherlands flowmeter	Netherlands

Warning: This fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the named recipients of this fax, any attachments, and copies, please notify the sender by e-mail or fax or telephone. Confidentiality is not retained or lost by redistribution or disclosure.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ - (974)44845333 : ٤٤٨٤٥٣٣
ج. ب ٤١ - الدوحة - قطر



2. Reply to Tenderers Clarifications:

Please find attached a table containing replies to your clarifications.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,


ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW, GTC, File

Warning: This fax and any attachments may contain information which is confidential. They should not be reproduced or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not guaranteed if sent by mistake or communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : مرسى ٤٤٨٤٥٣٩١ : 44845333 : فاكس ٤٤٨٤٥٣٣٣
ج. ب : ٤١ البوحة - قطر

| Page 4



No	PRPS site	Query	Subject area	Document/ drawing no	Page/ Location	Clause/ Item	Query and Answer
Q1							<p>All PRPSs – Technical – Civil/Structural <u>MQ174-R2-DH-ST-1011 and MQ174-R2-DH-ST-1023 – D.12.D:</u> The Standard Notes D.12.D) say: "Construction joint in walls, slabs, beams shall not be further apart than 24m in any direction. The Reservoir detail key elevation of dwg MQ174-R2-DH-ST-1023 says: "Construction joint spacing shall comply with requirements of QCS 2010 Section 5, Part 12 Clause 12.2.2". This clause says under item 5: "Where the positions or type of joints are not indicated on the drawings, the spacing of construction joints or crack induced joints in water retaining structures shall not exceed 5m." We assume based on D.12.D), that Kahramaa will approve construction joint up to 24m as per contractor requirement. Please confirm.</p>
A1							<p>Answer : Construction joints spacing as proposed by the contractor (up to 24m) shall not be acceptable. Instead, refer to the drawings numbers ST-2002-B and ST-2007-B for the CJ locations to be followed. Furthermore, QCS 2010 cl 12.2.2 is applicable to joints in water retaining however, the notes on drawings ST-1010 is applicable to non-water retaining structures (i.e. buildings above the ground) with no basements. The water retaining structures included all elements in contact with soil or water (i.e. reservoirs, basement envelopes for main pumping station, basement elements for auxiliary pumping station, basement elements for TFS pumping station, tunnels,,etc..).</p>

Q2	PRPS 1	Technical	Electrical				Please provide the details for underground low voltage cable trenches.
A2							<p>Answer: The layout drawings indicate the approximate route of the cabling. The contractor shall propose containment fixing / mounting details within the shop drawing submission.</p>
Q3	All	Technical	Electrical				<p>There are mismatches of Earthing cables sizes on LV single line diagrams as compared to sizes of phase conductors, in addition there are no protective earthing cables for some motors fed from the MCCs, between generators and MDBs etc. Please clarify.</p>
A3							<p>Answer: No mismatches are identified. The contractor shall follow the Tender documents for Earthing Cables. Earthing cables shall be provided in all cases, in line with BS 7430 and BS 7671 (table 54.7)</p>
Q4							<p>Dwg. ref. MQ174-R5-DH-ST-1011 - Standard Note of Reinforcement - Item 20: As per this note 1 layer of A142 Galvanized Mesh Reinforcement is to be provided for all sidewalks, pavement and slabs. Since details of this slab are not apparent in the structural drawing, we request you to specify the location and width of the proposed side walk slab.</p>
A4							<p>Answer: For sizes and location of sidewalks, refer to the Landscape drawings (LE-2000 series) Furthermore, all sidewalks shall be PCC or concrete blocks on a well compacted road sub base. Concrete Slabs on grade as shown on the Landscape Architects and Architects drawings, will also be on well compacted road sub base and for their reinforcement detail, refer to sheet ST-1019</p>

Q5	All	Technical	Electrical	4-R1-DH-SE-3252 rev. A		<p>Tanker Filling Station: As per the schematic drawing for the Tanker Filling Station Building with drawing ref. MQ-174-R1-DH-SE-3252 rev. A MOV panel to outgoing cable size is not mentioned. Also from the MOV panel to the outgoing locations are not shown in the tender drawing. Please provide the Full form of MOV as it is missing in the Abbreviation. Please advise.</p>
A5						<p>Answer: Cable type and size for all MOVs shall be Cu/XLPE/SWA/PVC, 3cx4sqmm. MOV stands for Motorized Operated Valves.</p>
Q6	All	Technical	Electrical	4-R1-DH-SE-3251 rev. A		<p>Auxiliary Pump Station: As per the schematic drawing for the Auxiliary pump station with drawing ref. MQ-174-R1-DH-SE-3251 rev. A MCC Panel 1 incoming cable size is, mentioned is 3x (4x1Cx630 mm²). Please advice whether the cable size mentioned is correct or not.</p>
A6						<p>Answer: Mentioned cable size is correct. However, as per Note-2, It is Contractors responsibility to verify the Design in line with approved Vendor's equipment and cable laying conditions.</p>
Q7	All	Technical		223/316	8.16.18, C	<p>Support CRL validation via OCSP or SCVP on a scheduled basis and automatically deny access to any revoked credential in the system" kindly do let us know which are the system to be looked up to perform these functionalities.</p>
A7						<p>Answer: Refer to Appendix 8 Specifications</p>

Q8	All	Technical	ICA/SCADA	Appendix A Section 6	17/40	6.3.4 C	As per said clause Capacitive sensors are required for pressure transmitter. We understand that capacitive ceramic sensors are not suitable for higher pressure application. Customer is requested to confirm if Piezoresistive metallic sensor are also acceptable.
A8							Answer : Piezoresistive type will be acceptable only if the required range is not available from the vendor.
Q9	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-CI-3021/A			Please provide the details for the support beams as shown in drawing MQ174-R1-DH-CI-3021 Rev. A
A9							Answer: Referred beam is part of the multiple removable cover and shall be sized to suit the final covers provided.
Q10	PRPS 2	Technical	Electrical	BOQ no. 9	9/18/15	9.3.1.1	Multi Mode Fibre Optic Cable for 1000 meters. The cable length for the rings exceeds 1000 meters. Is it required to use a single Mode cable for the ring which exceeds 1000 meters or Multi mode cable can be used as per BOQ.
A10							Answer: There are no rings that exceed 1kM between switches therefore Multimode fiber is sufficient.
Q11	PRPS 5	Commercial	Item coverage	BOQ No 5	5/4/13	5.1.3.3	Provide SLD for L.V panels Ref R2-RS4-MDB-01
A11							Answer: Refer to drawing MQ174-R2-DH-SE-3203.

Q12	All	Technical	Architectural	Enabling works Appendix F			What do the grading plans represent noting that they do not match with the levels on Enabling Works drawings although areas overlap.
A12							<p>Answer: The grading plan represent the final levels of the site. The Enabling works contracts are completing the bulk excavation works. The GTC626 contractor shall complete excavation works and grading to achieve the final levels required.</p>
Q13	All	Technical	Electrical	MQ174-R4-DH-SE-3253	SLD for MOV panel		<p>The MOVs are fed via MCCbs of the MOV panel. Since the MOCBs are of at least 16A TP, the size of the MOV panel becomes huge. Bidder understands that MCBs or MP(?)CBs of suitable rating can be used instead of MCCBs for the MOVs. Kindly confirm.</p>
A13							<p>Answer: MCCBs shall be used.</p>
Q14	PRPS 2	Technical	Electrical	AppA7.4	106/263	section 8.4.3 item 1.13-B	<p>In drawing MQ174-R2-DH-SE-2311 typical protection scheme for 3000kVA transformers includes overall transformer differential (87T) relays. However, as per specifications GTC626_2014-AppA7.4_PRPS_MEPElectrical_Rev 1.pdf Page 106/263 section 8.4.3 item 1.13-B, 87T shall be provided for transformers rated 5MVA and larger. Please confirm if 87T is required for 11/3.3kV, 3MVA transformers.</p>
A14							<p>Answer: Differential protection is not required for transformers rated below 5MWA as per Specifications and KM practice.</p>

Q15	PRPS 2	Technical	Electrical	AppA7.4	105/263	section 8.4.3 bulletin 1.12-H	GTC626_2014-AppA7.4_PRPS_MEPM-Electrical_Rev 1.pdf Page 105/263 section 8.4.3 bulletin 1.12-H.6&7 state that voltage transformers shall only be included into the incomer and generator switchgear panels, and that adequate terminals for outgoing feeders voltage referencing shall be provided in the incomer panels where the voltage transformer is located. However, in SLDs MQ174-R2-DH-SE-2300 to 2311 voltage transformers are included in all incoming and outgoing panels. Please confirm if voltage transformers are required as per SLDs.
A15							<p>Answer: Voltage transformers are only necessary for incomers and generator switchgear panels.</p>
Q16	All	Technical	Civil/Structural	BQ No. 8	8/24/13	8.6.3	Drawing No. MQ174-R2-DH-LE-700A and detail 10 mentioned 50x250 precast flat top kerb, MQ174-R2-DH-Cl-2303-A 50x250 concrete pin kerb to the same. Please clarify.
A16							<p>Answer: The bidders shall refer to the relevant drawings. The kerbs are required to demarcate the roads and the buildings. Furthermore the detail of the concrete pin kerb is 50*150*300.</p>

Q17	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-CI-8000/A & MQ174-R1-DH-CI-3182/ A			Please confirm the concrete mix and strength of concrete for the 50mm thick protection membrane on top of the 75mm thick blinding. Drawing reference MQ174-R1-DH-CI-8000 Rev. A, shows the 50mm thick protective screed grade OPC 20 while in drawing reference MQ174-R1-DH-CI-8000 Rev. A shows the 50mm thick grade SRC25. Please clarify.
A17							Answer: Protective screed shall be OPC 20.
Q18	All	Technical	Mechanical	Tender Circular No.6 & App. A4 Mech. Spec.	Q/A 56 & 71/108	4.7.3 & 4.7.3.3	TC 06 - Q 56 was not responded. Mechanical specification states that the surge tanks are to be considered as surge protection in the Contractor's design and vessel shall be installed horizontally or vertically. Please revise the mechanical specification and confirm the following: a) Surge tanks shall not be used for surge protection in this contract. b) The vessels can be installed vertically as it was KM requirement on all previous tenders due to reduced air/water area in the vertical vessel type. c) If the vessel is of vertical type provide the maximum height of the vessel. d) Provide, for our pricing, the size of air compressors as per initial surge analysis carried out by Kahramaa.
A18							Answer:H40 a) Refer to Appendix A4, section 4.7.3. b) Vessels shall be horizontal type due to height restrictions. c) Refer to answer b) d) Refer to Tender Drawing CI - 6240 for the details of the compressors .

Q19	All	Technical	Mechanical	Circular No. 8	5	A18	Ref. to Circular No. 8 A18: We have noted you reply to use FBE for the lining of all steel pipes however, please note, that there is a size limitation to apply FBE lining for pipe of large diameters. Please confirm that for large pipes diameter (more than DN1800) an alternative liquid epoxy system suitable for potable water application can be accepted.
A19							Answer: Refer to the latest Mechanical specification Appendix A4 rev 2, clause 4.8.4.1. and Appendix A10, General Specifications of Main laying Materials For Water Works.
Q20	PRPS 1	Commercial	Quantities	BOQ No.9	9/18/15	9.3.2.1	Qty for CCTV cameras are 139 nr PTZ type and 40 Nr Fixed type which is not matching with the Qty take off from the drawings (22 nr PTZ and 235 nr fixed type), we think that the BOQ interchanged the Qty between the camera types. Please confirm which to be followed BOQ Qty or as shown on the drawings based on provided Legend.
A20							Answer: The number of cameras to be provided are as follows: Fixed - 152 nos and PTZ - 283 nos
Q21	PRPS 2	Commercial	Quantities	BOQ No.9	9/18/15	9.3.2.1	Qty for CCTV cameras are 216 nr PTZ type and 40 Nr Fixed type which is not matching with the Qty take off from the drawings (33 nr PTZ and 249 nr fixed type), we think that the BOQ interchanged the Qty between the camera types. Please confirm which one to be followed; BOQ Qty or as shown on the drawings based on the provided Legend.
A21							Answer: The number of cameras to be provided are as follows: Fixed - 167 nos and PTZ - 267 nos

Q22	PRPS 3	Commercial	Quantities	BOQ No.9	9/18/15	9.3.2.1	<p>Qty for CCTV cameras are 123 nr PTZ type and 40 Nr Fixed type which is not matching with the Qty take off from the drawings (27 nr PTZ and 242 nr fixed type), we think that the BOQ interchanged the Qty between the camera types.</p> <p>Please confirm which one to be followed; BOQ Qty or as shown on the drawings based on the provided Legend.</p>
A22							<p>Answer: The number of cameras to be provided are as follows: Fixed - 155 nos and PTZ - 262 nos</p>
Q23	PRPS 4	Commercial	Quantities	BOQ No.9	9/17/15	9.3.2.1	<p>Qty for CCTV cameras are 143 nr PTZ type and 40 Nr Fixed type which is not matching with the Qty take off from the drawings (35 nr PTZ and 245nr fixed type), we think that the BOQ interchanged the Qty between the camera types.</p> <p>Please confirm which one to be followed; BOQ Qty or as shown on the drawings based on the provided Legend.</p>
A23							<p>Answer: The number of cameras to be provided are as follows: Fixed - 166 nos and PTZ - 265 nos</p>
Q24	PRPS 5	Commercial	Quantities	BOQ No.9	9/18/15	9.3.2.1	<p>Qty for CCTV cameras are 100 nr PTZ type and 40 Nr Fixed type which is contracting with the Qty take off from the drawings (28 nr PTZ and 226 nr fixed type), we think that the BOQ interchanged the Qty between the camera types.</p> <p>Please confirm which one to be followed; BOQ Qty or as shown on the drawings based on the provided Legend.</p>
A24							<p>Answer: The number of cameras to be provided are as follows: Fixed - 166 nos and PTZ - 265 nos.</p>

Q25	All PRPS	Technical	Utility Pump Station	Bill No. 8 Item No. 8.3.4.2 to 8.3.4.4	Bills of Quantities		<p>Request you to kindly provide the details and drawings of following items measured in the Bills of Quantities :-</p> <p>1) 120 m³ capacity Fire Water Tank and Valve chambers including all related pipe works</p> <p>2) 30 m³ capacity Irrigation Water Tank and Valve chambers including all related pipe works</p> <p>3) 10 m³ capacity Potable Water Tank and Valve chambers including all related pipe works</p>
A25							<p>Answer: Refer to the drawings in the series CI-6440</p>
Q26	All	Commercial		GCoC		Article 4.16	Referring to GCoC, Art. 4.16, please confirm that the instructions as described in this clause are subject to variations as per GCoC.
A26							<p>Answer: This shall be assessed on a case by case basis.</p>
Q27	All	Technical	Electrical	Dwg. No.: MQ174-R1-DH-SE-3205	-	-	Low Voltage DB R1-MVG- ESMDB-01 is not covered in the Bill of quantities. Please clarify under which line item this needs to be included.
A27							<p>Answer: This shall be allowed for under Bill no 9 under 9.2.8 - Control Panels and Distribution Boards</p>
Q28	All	Technical	Electrical	i) Low voltage Schematic diagram Dwg. No.: MQ174-R1-DH-SE-3207	Chlorination Building DB Schedule Dwg. No.: MQ174-R1-DH-BE-359	-	The following DB as indicated in schematic is not available in DB schedules. Please arrange to provide the feeder details / cables for the same. i) R1-CHL-PWE-01
A28							<p>Answer: Refer to Dwg. No.: MQ174-R1-DH-SE-3255 which is the single line diagram for Chlorination Building.</p>

Q29	All	Technical	Electrical	i) Main pump station building Power schematic diagram Dwg. No.: MQ174-R1-DH-BE-1081 to 1083 ii) Appendix B - Section 2A_Bill of Quantities Bill No.5	-	-	The following LV DBs as indicated in schematic are not available in Bill of quantities. Please clarify under which line item this needs to be included. i) R1-MPS-EMDB-10 ii) R1-MPS-EMDB-11 iii) R1-MPS-EMDB-12 iv) R1-MPS-ESMDB-1 v) R1-MPS-ESMDB-2 vi) R1-MPS-ESMDB-3 vii) R1-MPS-ESMDB-4 viii) R1-MPS-EMCC-1 ix) R1-MPS-EMCC-2 x) 200/250/300kVAR capacitor banks
A29							Answer: All DBs are listed under item 9.2.8 and see item 9.2.2.9 for Capacitor Bank.
Q30	All	Contractual	Pipelines	Appendix A1 / MQ 174 -R1-DH-CI -3200 to 3209	7/60	1.1.3.9 (16)	Kindly refer to the mentioned clause and point no. 16 pertaining to land draining pipe scope. We refer to the drawing no. MQ 174 -R1-DH-CI - 3200 to 3209 Which indicates pipe dia as only 100mm and 300mm. However we find mention of 1000 dia pipe. Kindly clarify and confirm.
A30							Answer: Refer to land drainage drawings series CI-3400 submitted in circular number 12

Q31	All	Technical	Mechanical	Appendix A4 Drg No: MQ174-R1-DH-PI-1031-A, MQ174-R2-DH-PI-1031-A, MQ174-R3-DH-PI-1031-A, MQ174-R4-DH-PI-1031-A, MQ174-R5-DH-PI-1031-A	55/108	4.5.3.2	<p>As per the clause mentioned, the chlorine storage shall be arranged to enable multiple drums to be connected to the liquid chlorine manifold operating as two sets. When the Chlorine drum pressure falls below 1 bar the auto-change over shall be initiated. A mortised valve and pressure gauge switch shall be provided for each drum.</p> <p>Whereas, as per the drawing, the pressure guage switch is provided in common header pipeline, not in the individual drum pipeline.</p> <p>Request you to provide the working philosophy of drum/chlorine tonner in two sets of chlorine tonner (working manifold and stand by manifold).</p>
A31							<p>Answer:</p> <p>The arrangement provided in the P&I and mentioned in the clause 4.5.3.2 is an guidance for the vendor regarding the basic philosophy for operation of the chlorination system (natural draw down). Since the Chlorination system as a whole is a vendor package to be designed and supplied by a specialist vendor the decision to provide pressure gauge in the common header or the chlorine drum shall be subject to the vendor operation & control philosophy for the system. This shall all then be subject to Kahramaa review and approval.</p>

Q32							In Circular 14, Q&A 330 please confirm if Landscaping (i.e Hard & soft Landscaping) throughout the future Reservoir are not part of the Contract.
A32							Answer: Roads and footpaths shall be provided. Other landscaping around future reservoir areas shall not be required.
Q33	PRPS 1	Technical	Mechanical	1. DWG No: MQ 174 – R1 – DH – CI – 3160 –A 2. Specs	Page No 4		The drawing No. MQ 174 – R1 – DH – CI – 3160 –A shows the Storm Water System for all the reservoirs. Please clarify if we shall allow for the same for the complete package or only for the four reservoirs included in our scope.
A33							Answer: The storm network is to be constructed for all roads constructed, including those around the future reservoirs.
Q34	PRPS 3	Commercial	Item coverage		Scope of Work Section 1.1.3.9		Scope of Work Section 1.1.3.9 refers to land drainage uPVC perforated pipes 1000 to 300mm diameter. Please advise regarding location of these pipes and associated layouts/details. Only 100-300mm diameter reservoir underfloor piping were identified and are connected to stormwater drainage system.
A34							Answer: Bidder to refer to the land drainage drawings series CI-3400 included in Circular 12

Q35	PRPS 4	Commercial	Item coverage	Dwg. No: MQ174-R4-DH- LE-2000-A			Kindly advise Road works, Hard & Soft Landscaping around the future reservoirs (Reservoirs 6, 7 & 8) are included in the scope or not.
A35							Answer: Roadworks shall be provided around the future reservoir areas. Other soft and hard landscaping is not required under this contract.
Q36	PRPS 1	Commercial	item coverage	DRW CI-3062	12/18.		Scour , outlet & inlet chamber drawing reference mentioned for reservoir no.3 as 6523, where as the drawing refer to valve chamber type-4 kindly clarify?
A36							Answer: The note as mentioned on the drawing for the inlet, outlet and scouring shall read refer to drawing CI-6023 and not 6025. This drawing shall be correct for IFC.
Q37	PRPS 5	Commercial	item coverage	DRW CI-3051	1/12.		The chamber drawing refer to 6526 as twin line where as in the drawing mentioned as single ine and BOQ quantity mentioned for twinline. Kindly clarify?
A37							Answer: On the drawing number CI-3051 where a note states for chamber drawing refer to drawing number CI-6526, this shall read refer to CI-6532. There is no resultant change to the BOQ as the chamber for twin flow meters remains as shown on drawing CI-3059.

Q38	All	Technical	Civil/Structure	MQ174-R2-DH-CI-6030-A	Detail 2		From the Circular No7 Query, we understand that 75mm blinding concrete will be applied underneath the geo-membrane shown as dotted line around single sized "PEI" Gravel. However, this dotted line which should be geo-membrane is shown under the blinding concrete of base slab also. From our understanding, no bed blinding concrete should be required for the geo-membrane out of drainage channel. Please confirm.
A38							Answer: Refer to underfloor drainage revised drawings CI-6030, as issued in the CD attached to Tender Circular 12.
Q39	ALL	Technical	Architectural	MQ174-R1-DH-CI-1830-1831-1840A	Main Pump station		Please confirm if we have to consider the standard details (detail J-MQ174-R3DH-ST-1024) for waterproofing to main pump station. As we have follow the details in drawing MQ174-R1-DH-AR-1830-1831-A
A39							Answer: Detail J-MQ174-R3DH-ST-1024 shall be followed.
Q40	ALL	Technical	Architectural	MQ174-R3-DH-CI-6088 & 6085	Reservoir		Please provide specifications for hatches.
A40							Answer: Refer to Appendix A2, clause 2.23
Q41	All	Technical	Mechanical	Appendix I-7-023A	20, 22 & 31		According to the ASME specifications the test pressure should be 1.5 of the design pressure of the pressure vessel, however in the data sheets the design pressure is 20 Bars so the test pressure should be 30 bars (not 20 bars as mentioned in the datasheets item 31), which is very high compared to the operating pressure. We propose to use 16 bar design pressure and 24 bar test pressure, please confirm that this is acceptable.
A41							Answer: This is not acceptable, the test pressure of the surge vessels at the factory shall be 30 bar and shall be witness by KM engineer/third party as mentioned in the data sheet.

Q42	All	Technical	Electrical	Tender circular 11	Q165/A165		Please confirm that Ni-cd batteries are required for rack mounted UPS's and central battery system not lead acid.
A42							Answer: All batteries on the site shall be NiCad (nickel cadmium) with the exception of the rack-mounted UPS, which are sealed lead acid.
Q43	PRPS 5	Technical	Civil/Structural	MQ174-R5-DH-ST-4522 to MQ174-R5-DH-ST-4526			Kindly provide the Toe level for the piles.
A43							Answer: Pile design (including pile lengths and toe levels) shall be carried out by the contractor (as noted on the referenced drawings) using the required design forces as per note no. 5 on the same sheet.
Q44	PRPS 5	Technical	Civil/Structural	MQ174-R5-DH-ST-4514 to MQ174-R5-DH-ST-4515 REV A			Please provide size of pile caps PC1,PC2,PC3 shown on the referred drawings
A44							Answer: Pile caps details have been added to the updated sheets: MQ174-R5-DH-ST-4514-B.pdf MQ174-R5-DH-ST-4515-B.pdf

Q45	PRPS 5	Technical	Civil/Structural	MQ174-R5-DH-ST-4518 REV A & MQ174-R5-DH-ST- 4760 REV A		Please specify which of the two referred drawings to be use/follow in taking quantities for post Tensioned Beams
A45						<p>Answer: Post tensioned beams layouts and sizes as shown on both of the referred drawings are identical and should give the same quantities of concrete. In addition, the contractor shall refer to the latest revision of the mentioned drawings (i.e. current revisions MQ174-R5-DH-ST-4518-B & MQ174-R5-DH-ST-4760-B).</p>
Q46	PRPS 5	Technical	Civil/Structural	MQ174-R5-DH-ST-4512 to 4513 REV A & MQ174-R5-DH-ST-4740 REV A		Please specify which of the two referred drawings to be use/follow in taking quantities for walls, wall type wall-4, Wall-3, Wall-2
A46						<p>Answer: Walls layouts and sizes as shown on the referred three drawings are identical and should give the same quantities of concrete. In addition, the contractor should refer to the latest revision of the mentioned drawings (i.e. current revisions MQ174-R5-DH-ST-4512-B & MQ174-R5-DH-ST-4513-B & MQ174-R5-DH-ST-4740-B).</p>

Q47	PRPS 5	Technical	Civil/Structural	MQ174-R5-DH-ST-4514 REV A & MQ174-R5-DH-ST-4741 REV A			Please specify which of the two referred drawings to be use/follow in taking quantities for walls along gridline F.3 and gridline 3
A47							<p>Answer: Walls layouts and sizes as shown on the referred drawings are identical and should give the same quantities of concrete. In addition, the contractor should refer to the latest revision of the mentioned drawings (i.e. current revisions MQ174-R5-DH-ST-4514-B & MQ174-R5-DH-ST-4741-B).</p>
Q48	All	Technical	Civil/Structural	MQ174-R5-DH-ST-5211 REV A, MQ174-R1-DH-ST-6710-6711 REV A			Please confirm if anti-slip paint is to be applied on concrete flooring of surge vessels and emergency tanker filling station
A48							<p>Answer: All flooring in these locations shall be anti slip epoxy paint finish.</p>
Q49	All	Technical	Architectural	Bill no.8	Applicable Buildings		Please provide the internal finishes of cable channel/drain channel inside the building
A49							<p>Answer: These shall be painted with an Epoxy Paint finish.</p>

Q50	All	Technical	Architectural	MQ174-R5-DH-AR-2010-A to MQ174-R5-DH-AR-2028-A, MQ174-R1-DH-AR-2010-A to MQ174-R1-DH-AR-2026-A,	MQ174-R2-DH-AR-2010-A to MQ174-R2-DH-AR-2027-A, MQ174-R3-DH-AR-2010-A to MQ174-R3-DH-AR-2027-A	MQ174-R4-DH-AR-2010-A to MQ174-R4-DH-AR-2027-A	Please confirm if there are any ladders & steel platforms as part of the scope. If so, please provide the details. Also confirm if stainless steel guard screen shown in "AR-2011" of all the packages is part of scope.
A50							<p>Answer: All metal works including but not limited to ladders, fixing, platforms, handrails, grating shall be provided as part of contractor shop drawings. All metal work shall be part of Contractors Scope.</p>
Q51	All	Commercial	Specification	Pipes & Fittings	General		<p>Please note that local complies are not manufacturing polyethylene sleeves for pipes of diameter more than 1600mm, therefore we purpose to use flat sheets to cover the wrapped pipes of large diameters and close end by using adhesive tape. We assume this is acceptable to you. please confirm.</p>
A51							<p>Answer: This is not acceptable. The Contractor shall follow the specification for pipe wrapping.</p>

Q52	All	Technical	Civil/Structural	MQ174-R1-DH-AR-1500	Main Pumping Station		Refer drawing MQ174-R1-DH-AR-1500 at B-002,003,007,009. Please confirm if the crosshatches shown in the drawing is a cover plate. Kindly provide details, specification and type of material and finish for the same.
A52							Answer: All platforms and ladders inside the valve chambers shall be Anodized Aluminum.
Q53	All	Technical	Civil/Structural	MQ174-R1-DH-CI-3133/A and 3134/A	Fire Fighting		Dwgs MQ174-R1-DH-CI-3133/A and 3134/A show 2 types of Fire Hydrant Chambers. There are 8 fire-hydrants shown on layout plans 3120/A to 3122/A. Kindly clarify where each type is used.
A53							Answer: The drawings CI-3120 and 3122 are typical details. All the fire hydrants are above ground and therefore there are classed as type 1, refer to Drawings CI-3149
Q54	PRPS 1	Technical	MEPF	MQ174-R1-DH-BP-2610			At ground level the sump pump appears to be pumping drainage to roof level. Please confirm this is correct.
A54							Answer: The pumps is lifting flows from the invert of the cable tunnel to its roof.
Q55	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF-3510			Please confirm no fire extinguisher provision to loading/unloading bay.
A55							Answer: There are extinguishers inside the class II fire hose cabinet. The fire hose cabinet is located within the loading/unloading bay.

Q56	PRPS 1	Technical	MEPF	MQ174-R1-DH-BP-3582			We note discrepancies on pipe sizes on schematic and layout drawings. On system SMH-02 shows 2no of 250mm connections, on the layout drawings it's a 250mm then a 200mm connection. Please clarify.
A56							Answer: Refer to drawing reference MQ174-R1-DH-BP-3582.
Q57	PRPS 1	Technical	MEPF	MQ174-R1-DH-BM-2010			Kitchen and Toilet extract rate of 25 l/s. Kitchen air flow rate appears very low. Please confirm the design air change rate
A57							Answer: KITCHEN EXTRACT = 25 l/s ACH = 4.6 @ 3.0m Ceiling Height Flow per Area = 3.8 l/s*m² ASHRAE requirement for Small kitchen at 1.5 l/sm² to 3.5 l/s*m² TOILET EXTRACT = 25 l/s ACH = 11.5 @ 3.0m Ceiling Height ASHRAE requirement for Private Toilet is 12.5 l/s to 25 l/s
Q58	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF-1205			We note that no wet sprinklers are provided throughout the building, only fire hose reels are provided. Please provide.
A58							Answer: Wet sprinklers are provided in only those buildings that are required to be provided with sprinklers by QCD/NFPA requirements. If sprinklers are not provided, they are not required by QCD/NFPA

Q59	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF 1205			<p>QCD FSS 6.08 states that the FM-200 storage containers shall not be stored within the protected enclosure and should be easily accessible from the main entrance of the protected enclosure. They are located within the VFD room which do not comply with these requirements. The installation should comply with all the requirements of QCD FSS 6.08. Please advise.</p>
A59							<p>Answer:</p> <p>The storage containers are located inside the enclosure at a proposed location to separate it from the protected enclosure. Further coordination with the electrical/mechanical services and architect is required.</p> <p>The Contractor shall note that the location of FM200 Cylinders shown in tender drawings are indicative only and shall be finalized during preparation of shop drawing in consultation with Kahramaa and QCDD requirements.</p>
Q60	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF 1205			<p>QCD FSS 6.08 states that "Clean Agent storage containers shall not be stored within the protected enclosure. They shall be easily accessible from the main entrance of the protected enclosure." The current gas cylinder locations do not comply with these requirements. The installation should comply with all the requirements of QCD FSS 6.08. Please advise.</p>
A60							<p>Answer:</p> <p>The storage containers are located inside the enclosure at a proposed location to separate it from the protected enclosure. Further coordination with the electrical/mechanical services and architect is required.</p> <p>The Contractor shall note that the location of FM200 Cylinders shown in tender drawings are indicative only and shall be finalized during preparation of shop drawing in consultation with Kahramaa and QCDD requirements.</p>

Q61	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF-1205			QCD FSS 6.08 states that the control panel shall be located external to the protected enclosure and located near the main entrance of the protected enclosure. The FM-200 control panel for the VFD room to the right of MCC room is located in the MCC room which do not comply with these requirements. The installation should comply with QCD FSS 6.08. Please advise.
A61							Answer: The FM-200 control panel for VFD Room is located external of the protected enclosure. See dwg no. MQ174-R1-DH-BF-1209.
Q62	PRPS 1	Technical	MEPF	MQ174-R1-DH-BM-6010			Please provide schedule of air transfer grilles on toilet doors.
A62							Answer: Door grilles shall be allowed with the following dimensions: Male Toilet = 300 x 300 Female toilet = 200 x 200
Q63	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF-2510			Foam bottles not shown for the foam system protecting the generator room. Only a capped connection is shown. Please clarify.
A63							Answer: Foam bottles/bladder tanks are shown with the capacity. See dwg. nos. MQ174-R1-DH-BF-2511 and 2512.
Q64	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF-2510			Foam bottles not shown for the foam system protecting the generator room. Only a capped connection is shown. Please clarify.
A64							Answer: Foam bottles/bladder tanks are shown with the capacity. See dwg. nos. MQ174-R1-DH-BF-2511 and 2512.
Q65	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF-2510			Please confirm spacing between Fire Extinguishers as per QCDD and NFPA 10 requirements.
A65							Answer: Confirmed.

Q66	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF 2511			Control panel located within the room. QCD FSS 6.08 states that the control panel shall be located external to the protected enclosure and located near the main entrance of the protected enclosure. Please advise.
A66							Answer: This specifically pertains to clean agent systems.
Q67	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF 2511			We note that no Foam or FM-200 provision shown within electrical trenches. Please advise.
A67							Answer: FM-200 protection within the trenches are provided. See dwg no. MQ174-R1-DH-BF-2513 and 2514.
Q68	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF 2511			We note that no Foam or FM-200 gas discharge signage shown outside protected enclosure and above all exits of the protected enclosure. Please advise.
A68							Answer: Gas discharge signages / warning plates are provided above the exits. See drawing dwg no. MQ174-R1-DH-BF-2513 and 2514.
Q69	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF 2511			We note that no Foam or FM-200 audible and visual alarms shown outside protected enclosure. Please advise.
A69							Answer: FM-200 Audible and visual alarms outside protected enclosure are shown on drawing no. MQ174-R1-DH-BF-2513 and 2514. For Foam system, refer to dwg. no. MQ174-R1-DH-BF-2511 and 2512.

Q70	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF-2511			Please clarify FM-200 audible alarms shown inside protected enclosures.
A70							Answer: FM-200 audible alarm is located within the protected enclosure as shown on drawing no. MQ174-R1-DH-BF-2513 and 2514. Pre-discharge (audible & visual) alarm shall also be provided inside the protected room.
Q71	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF-2511			Please clarify FM-200 Abort Switch shown within protected enclosures.
A71							Answer: FM-200 abort switch is located within the protected enclosure as shown on drawing no. MQ174-R1-DH-BF-2513 and 2514.
Q72	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF-2511			We note that no FM-200 Manual release provided external to the enclosure. Please advise.
A72							Answer: FM-200 manual release is provided external of the protected enclosure. See dwg. no. MQ174-R1-DH-BF-2513 and 2514.
Q73	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF-2511			Foam or FM-200 control panels to be located outside the protected enclosure and near to the entrance and to include manual release. Please confirm.
A73							Answer: Location of FM200 and Foam control panel are shown outside the protected room. However this will be relocated inside the respective protected room within the IFC drawings, to avoid damage on the components of control panels which are very sensitive.

Q74	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF-2512			We note that no FM200 storage containers shall be easy accessible from the main entrance of the protected enclosure. Please advise.
A74							Answer: The storage containers are located inside the enclosure at a proposed location to separate it from the protected enclosure. The location of FM200 Cylinders shown in tender drawings are indicative only and shall be finalized during preparation of shop drawing in consultation with Kahramaa and QCDD requirements.
Q75	PRPS 1	Technical	MEPF	MQ174-R1-DH-BP-2510			There does not appear to be a sump pump to lift the drainage to ground level. Please advise.
A75							Answer: A sump pump should be allowed for with a capacity of 0.063LPS and VS 9.75 M (32 FT.) TDH
Q76	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF-2511			We note that no foam tank shown on the drawing. Only a capped inlet is shown. A foam tank is to be provided. Please clarify.
A76							Answer: Foam bottles/bladder tanks are shown with the capacity. See dwg. nos. MQ174-R1-DH-BF-2511 and 2512.
Q77	PRPS 1	Technical	MEPF	MQ174-R1-DH-BF-4011			Please provide the number of fire extinguishers requirements.
A77							Answer: 4 nos. CO2 and 4 nos. DCP
Q78							Please confirm if you are expecting the joints in the wall to follow this spacing also?
A78							Answer: Assuming the query is related to the construction joints layout for the reservoirs, the answer shall be: Yes, joints in walls shall follow the location adopted for the base. The same is indicated on drawing ST-2002-A and ST-2007-A

Q79	All	Technical	Electrical	MQ174-R1-DH-SE-2251		The cable size and length for the 3.3KV of the transformer to the converter does not show in the medium voltage skeleton schematic diagram. Please clarify
A79						Answer: Refer to Note-2. Cable type and size shall be advised by VFD's manufacturer. Length can be measured from layout drawings
Q80	All	Technical	Electrical	MQ174-R1-DH-SE-3202		The RS1-MDB-01 & RS2-EMEMDB-01 is not in the bill 5 for supply and installation. Please confirm,
A80						Answer: This is included in the revised BOQ issued in Tender Circular No 13, Bill no 9 under 9.2.8 - Control Panels and Distribution Boards
Q81	All	Technical	Electrical			In water quality monitoring building. The socket Outlet 1 phase, 32amp and wall mounted single flour. (F2) are feed to the street panel, Is this counted to the street lighting BOQ? Please confirm.
A81						Answer: All circuits in the Water Quality Monitoring Buildings are supplied from the ESMDB in the nearest Substation. For example, on PRPS2, WQM4 is supplied from R2-RS1-ESMDB-01 in Remote Substation 1.
Q82	All	Technical	Civil/Structural	Circular-11, answer-3		Is it required to use epoxy coated steel for roof Slab of reservoir and also in the foundation of buildings and base slab, Please clarify?
A82						Answer: Epoxy coated bars shall be used for all elements of the reservoirs including the roof and base slabs.

Q83	PRPS 1	Technical	Civil/Structural	Civil&Mechical drawing	CI-6023&CI-6024		kindly provide us with details for ladder on mass concrete support and handrail mentioned in section A and D
A83							<p>Answer: The fixings for the ladders to the concrete shall be given in the contractors shop drawings for Kahramaa review and Approval. These shall be fixed with grade 316 stainless steel bolts. Any ladders and metal within the reservoirs shall be stainless steel.</p>
Q84	PRPS 1	Technical	Civil/Structural	Structure drawing	ST-4522		Referring to building Main pumping station, basement level, drawing ST-4522, in the typical section elevation of the pile; Kindly provide us with the reinforcement of the pile caps.
A84							<p>Answer: Refer to drawings MQ174-R1-DH-ST-4707-B.</p>
Q85	PRPS 1	Technical	Civil/Structural	Structure drawing	ST-3500, ST-3501, ST-3502, ST-3503 and ST-3505		kindly provide us with reinforcements' details as they are missing for this drawings.
A85							<p>Answer: Refer to the revised drawings issued in Tender Circular No 12: MQ174-R1-DH-ST-3500-B MQ174-R1-DH-ST-3501-B MQ174-R1-DH-ST-3502-B MQ174-R1-DH-ST-3503-B MQ174-R1-DH-ST-3504-A MQ174-R1-DH-ST-3505-B</p>
Q86	PRPS 1	Technical	Civil/Structural	Civil&Mechical drawing			Contractor can use Steel couplers for horizontal and vertical Rebar joints instead of splices. Please confirm.
A86							<p>Answer: Steel couplers could be used instead of the lap splices for both horizontal and vertical bars.</p>

Q87	All	Technical	Civil/Structural		External work	Main Access Roads (BOQ item no 8.6.2)	Please clarify whether the road Ref. C-02 (Right, Left and center) of drw nr CI - 2102 is the relevant road reference to BOQ items no 8.6.2. If not is it the road given in the drw nr HW – 1000?
A87							Answer: Bidders shall refer to the BOQ items 8.6.1 and 8.6.2 for internal road and main access road description
Q88	All	Technical	ICA/SCADA	Appendix-F , Drawing no: MQ174-R1-DH-SC-0002 - Typical Details 1 of 2	-	-	Understand from the referred drawing that all camera poles are fixed type . Tilting arrangement for lowering camera is not required. Please confirm that bidder understanding is correct.
A88							Answer: The cameras on the Poles are PTZ type and the tilting arrangement is given on the drawings as 65 deg.
Q89	All	Contractual	App. A1 Scope	Scope of Works and Specifications Rev 1	Page No 26 of 60	Clause No 1.2.1 Mile stone 1 Bypass line	Referred clause states that Within twelve (12) months of the Effective Date of Contract, the Contractor shall complete the bypass pipeline between the incoming Corridor Main and the Transmission Main including installation of valves and construction of valve chamber to allow water to be passed into service. To achieve this Milestone the completed work shall include final testing, disinfecting, flushing and final commissioning. Bidder understands that above commissioning refers only to mechanical commissioning of valves and Temporary power supply for commissioning of this valves shall be provided by contractor. Further permanent power supply to this valves shall be constructed in subsequent milestones along the main electrical & instrumentation system completion. Please confirm.
A89							Answer: This is acceptable. The objective is to get this bypass operational in a fixed position. Instrumentation, power and controls for the associated valves shall be covered under later milestones.

Q90	All	Technical	Civil/Structural				Please advise if hydrophilic water stop is required for all lagoons.
A90							Answer: Hydrophilic water stop is required for all incoming pipes to the lagoon as noted in the drawing.
Q91	All	Technical	Civil/Structural				Please provided the specification of no fines concrete
A91							Answer: This concrete mix shall be made up of only coarse aggregate, cement and water. Coarse aggregate sizes: single sized coarse aggregate, of size passing through 20 mm retained on 10 mm. The aggregate/cement ratio: 6 : 1 The water/cement ratio: 0.45 Density at dry condition: 1600 to 1900 kg/m ³ Cube strength: 20 MPa (at 28 days) Mechanical compaction or vibratory methods are not required
Q92	All	Technical	Electrical	APPENDIX A5 REV	15/41	5.3/5.3.4.2.1	MV VFD: The design ambient temperature is still 46 deg C and not updated in line with Answer A22 of Circular No. 8 which states that the design temperature shall be 50 deg C. Please re-confirm the design temperature and update the specs accordingly.
A92							Answer: The Design Ambient Temperature shall be 50 deg C.

Q93	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1 & Instrument BOQ (Bill No.7)	Main Pump		There are 4 no.s Vibration sensors and 4 no.s Temperature sensors considered for each pumps (12 No.s) in the I/O List. But as per the P&ID, these signals are directly connected to the Condition Monitoring PLC. In this case these I/O's will not be applicable for Process PLC's. Please confirm.
A93							Answer: The vibration and temperature sensor signals/indication shall be duplicated in the Central Control (CC) system as well.
Q94	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1 & Instrument BOQ (Bill No.7)	Surge Vessels		<p>The following Instruments are appearing in the I/O List, but not included in the Instrument BOQ (Bill No.7). Infact, all the instruments for surge vessel are not included in the instrument BOQ (Bill No.7). Please clarify.</p> <ul style="list-style-type: none"> 1. R2-81-PIT-01 to 25 (Pressure Transmitters - 25 No.s) 2. R2-81-LIT-01 to 25 (Level Transmitters - 25 No.s) 3. R2-81-TIT-01 to 25 (Temperature Transmitters - 25 No.s) 4. R2-81-LSHH-01 to 25 (Level Switch High High - 25 No.s) 5. R2-81-LSLL-01 to 25 (Level Switch Low Low - 25 No.s) <p>There are 25 no.s fo MOV's (R2-81-MOV-01 to 25) included in the I/O list. However, the two level controlling MOV's (tag no.s not shown in the P&ID) are not included in the I/O List. Please clarify. we assumed that there are 25 surge vessels in PRPS-2. Main Contractor to confirm. Please provide the surge vessel count for other PRPS's.</p>
A94							Answer: <p>1) to 5). All the instruments related to surge vessels have to be considered under bill item for the surge vessel as vendor package. 6) Two level controlling MOVs have to be included in the I/O list. The number of surge vessels for various PRPS sites are included in the data sheets (Tender Circular No. 9) for the surge vessels and the tender drawings.</p>

Q95	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1 & Instrument BOQ (Bill No.7)	Inlet Flow Control	For Pressure Transmitters R2-41-PIT-01 to 06 (six no.s Pressure Transmitters), Six Digital inputs included in the I/O list instead of Six Analog inputs. Furthermore, these six no.s of Pressure Transmitters are not included in the Instrument BOQ. Please clarify.
A95						<p>Answer: Consider 6 Analogue inputs instead of 6 digital inputs. Consider 1 analogue output as deleted. These pressure transmitters are included in the amended BOQ issued under Tender Circular No. 13</p>
Q96	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1 & Instrument BOQ (Bill No.7)	Air Compressor	There are Three Pressure Transmitters included for Air Compressors. This is matching with the typical Air Compressor P&ID. However, we understood that there are 8 no.s of Air compressors as per the Mechanical BOQ (Bill No.9 item 9.1.10). In this case, there shall be more Pressure Transmitters. Please clarify.
A96						<p>Answer: Please refer to the amended BOQ included in Tender Circular No. 13.</p>

Q97	All	Technical	Electrical	CL Nos. 11 and 12	Q165/A165, Q21/A21		CL No. 11 A165 stated that all batteries to be NiCad whereas CL No. 12 A21 states that the UPS batteries to be sealed lead acid. Please clarify?
A97							<p>Answer:</p> <p>All batteries on the site shall be NiCad (nickel cadmium) with the exception of the rack-mounted UPS, which are sealed lead acid.</p>
Q98	All	Technical	ICA/SCADA	I/O List PRPS2 Rev1 & Instrument BOQ (Bill No.7)	Chlorination Plant		<p>1. The following Pressure Switches are appearing in the I/O List, but not included in the Instrument BOQ (Bill No.7). We assume the same will be supplied by the package vendor. Main Contractor to confirm. R2-51-PIS-01 to 10 (10 no.s)</p> <p>2. The following Flow Switches are not included in the I/O List as well as in the Instrument BOQ (Bill No.7). We assume the same will be supplied by the package vendor. Main Contractor to confirm. R2-51-FSL-01 to 08 (8 no.s)</p> <p>3. Level Guage R2-51-LG-01 is not included in the Instrument BOQ (Bill No.7). We assume the same will be supplied by the package vendor. Main Contractor to confirm.</p> <p>4. The data sheet & Specification for 7 no.s of Chlorine Gas Sensors (Tag R2-51-AIT-01 to 07) are not provided in the Tender documents. Please provide the data sheet & Specification unless the same will be supplied by the package vendor. Main Contractor to confirm.</p>
A98							<p>Answer:</p> <p>1. The Bidder shall refer to the updated BOQ issued in Tender Circular no 13.</p> <p>2.All the related instrumentation and sensors are to be supplied as part of Chlorine Plant Vendor package.</p> <p>3.All the related instrumentation and sensors are to be supplied as part of Chlorine Plant Vendor package.</p> <p>4. Chlorine Gas Sensor is to be supplied as part of Chlorine Plant Vendor package. As such it shall be to vendor package supplier/manufacturer's standard.</p>

Q99	PRPS2	Technical	Lagoons	DWG R2-DH-CI-3154,3155,3158,3159, 3161 etc.	DWGs	<p>Further to your response item TC 11, A37, Page 11 of 49, we understand that after commissioning, the water in the lagoon (lagoon No.1), shall be emptied through a combination of soak away, evaporation and tankering.</p> <p>a) Please clarify if the contractor is responsible for the emptying of the said lagoon.</p> <p>b) If in case the contractor is to empty the said lagoon, please clarify how many tankers are required or how many days required to do such activity.</p> <p>c) Please clarify where the above items i.e. tankers, manpower, etc. are billed, since it is not found in the BOQ, in other for the contractor to price accordingly.</p>
A99						<p>Answer:</p> <p>The lagoons shall be Hydro tested to check any leakage resulting from the test and shall be left empty at TOC. Assessment of the number of tankers required shall be the Bidders responsibility. This shall be priced under the item in the BOQ for the lagoons.</p>
Q100	All	Technical	Civil/Structural	Tender circular 11	A3	<p>Referring to the new requirement of epoxy coated rebars, please confirm that we shall use the coated rebars for all concrete elements including roof slab of the reservoirs, all chambers including valve chambers, lagoons, bottom slabs and bund walls of surge vessel farm and tank storage, all building foundation and ground slabs, all single foundation such as boundary wall, light poles, etc..</p>
A100						<p>Answer:</p> <p>Epoxy coated bars shall be used for all reservoirs elements including base slab, roof slabs, walls and attached chambers.</p> <p>Epoxy coated bars shall be used for external elements ONLY of underground structures that are in contact of water/or soil.</p> <p>Uncoated bars shall be used for internal elements of underground structures and all above ground elements of building.</p>

Q101	All	Technical	Civil/Structural	Tender Circular 12	A136		As per your response A136 it is our understanding that no precast panels are required anymore for the cladding of Reservoirs. The logo and other structured finish of the external wall shall be manufactured during the casting of the external walls in-situ. Please confirm or clarify.
A101							Answer: Further to this, the walls for the reservoirs shall be clad with Zinc Coated Steel panels. The reference to the logo being cast in shall be used for the external boundary walls to the site.
Q102	All	Technical	Civil/Structural	Tender Circular 12	MQ174-Rx-DH-ST-1011, rev. B	Standard Notes, E.7	E. Reinforcement: the modification in the rebar requirements as per note E.7 and E.21 requires an overlapping length of straight bars, epoxy coated of $70 \times 1.5 = 105$ DIA. This is an overlapping length for rebar dia 32mm which covers the majority of the rebars supplied to the project of 3.36 meter. This is a very high amount of overlapping which is approximately 50,000 tons of rebars per package. We kindly recommend to review this requirement and to clarify.
A102							Answer: Contractor to follow the lap and anchorage lengths as shown on the drawing (notes E7 and E21). Extra anchorage and lap lengths are required to compensate the reduction the bond strength of the coated bars compare to the uncoated bars.
Q103	All	Technical	Civil/Structural	MQ174-R2-DH-CI-6030			Reference to the amended drawing in TC#12 for the under floor drainage where it shows that the geomembrane is replaced with waterproofing membrane. Kindly clarify the type of the waterproofing membrane used for the under floor drainage.
A103							Answer: The waterproofing membrane used for the underfloor drainage shall be the same material as the main one used underneath the base slab (i.e. fully bonded system) and shall be welded to the main membrane as shown on detail 2 sheet ST-1023-BR

Q104	All	Technical	Architectural	Scope of works and specifications Rev 2 Tender Circular # 13	7 of 62 Answer # 1698		As per the attachments, Reservoir external precast concrete panels are replaced by painted aluminum sheeting. In order to proceed the aluminum cladding works, please clarify the following items, 1. Revised drawings which shows the Aluminum cladding 2. Thickness and specification of cladding material 3. Fixing details of cladding material to the concrete 4. Type of paint and material specification.
A104							Answer: To supersede all previous answers related to this subject. The Exposed External concrete faces above finished paved areas of the reservoirs shall be finished with Hot Dipped Zinc coated Steel cladding, as shown in detail AR-2015, a copy of which may be found in the attached CD.
Q105	All	Technical	Civil/Structural	MQ174-R1-DH-CI-6030A & Scope of Works	Reservoir under floor drainage		Please provide specification and preferred vendors for 100 dia ESVC perforated pipe shown in the details and scope of works.
A105							Answer: Perforated vitrified clay pipes for underfloor drainage shall comply with BS 65: 1991. The scope of work is given on the drawing CI-6030 as per QCS 2010 section 8 part 3.2. There is no preferred vendor list for the ESVC pipe.
Q106	All	Technical	Civil/Structural	Specification	41/185	2.1.3.11	Please confirm if all necessary supports, chairs and spacers for reinforcement are also epoxy coated for Reservoirs and other substructure element.
A106							Answer: Supports, chairs and spacers for reinforcement shall either be epoxy coated or plastic as reviewed and approved by Kahramaa.

Q107	All	Technical	Civil/Structural	Tender Circular 13	54/61	2760	Columns shall be cast in full height in a series of approximately equal layers of no more than 500mm after compacting the previous layers. For the construction joints layout, drawings DH-ST-2002-B and DH-ST-2007-B are referred. However, 2002-A and 2007-A are available with us. Kindly issue revision B of the said drawings.
A107							Answer: Refer to DH-ST-2002-A and DH-ST-2007-A, as issued in Tender Circular No 12. These drawings have not been revised to revision B.
Q108	All	Technical	Civil/Structural	Tender Circular 13	58/61	2860	The same concrete mix (waterproofing concrete) shall be used for all elements of the reservoirs including the baffle and compartment walls. Compartment walls shall have water bars and waterproofing tape with the general technical requirements as given on the specifications (similar to the perimeter walls). We understand from the answer that all internal walls (baffle and compartment) shall have internal water bars at construction joints. Kindly confirm whether our is correct for the construction joints.
A108							Answer: Baffle walls do not need to be water tight and do not require Water stop on construction joints since they are not retaining water (i.e. water is on both sides of walls). Water stops shall be installed in compartments and perimeter walls.
Q109	PRPS 4	Commercial	Item coverage	Dwg. No: MQ174-R1-DH-CI-3271-A			Section A in drawing mentioned as Safety Handrail. Kindly provide the material of this handrail.
A109							Answer: Handrails are to be provided in Anodized Aluminum.

Q110	All	Technical	Civil/Structural	Appendix F	MQ174-R1 to R5-HW-HW-1000 series		Please confirm that BOQ 8.6.2 "Main access road to PRPS site and external parking areas" refers to drawing MQ174-R1 to R5-DH-HW-1000 series (Package A to E).
A110							Answer: These details may be found on the set of drawings with the sub reference HW and shall cover all elements external to the site. 8.6.1 shall cover all internal roads including the main site car park.
Q111	All	Technical	Civil/Structural	Bill No.8	8/26/4R	8.3.4.2 to 8.3.4.4	Refer to the item Utility storage tanks and valve chambers. Drawings for Utility Pump Station do not show any details of Utility storage tanks. Please provide us more details and drawings.
A111							Answer: Refer to drawings under series CI-6440 to CI-6444
Q112	All	Technical	Mechanical	Circular No 09, Mechanical Data Sheets			Please provide us the missing Flow Control Valve Mechanical Data Sheet for valves diameter of 800mm for Pump Stations PRPS1,2,3,4&5, 1200mm for PRPS1,2,3,4&5, 1600mm PRPS1,2&3.
A112							Answer: 800mm flow control valves are no longer required. Please refer to revised P&IDs found in the CD attached to Tender Circular No. 13. Please refer to Data sheets I-7-029, 030 and 041 for all the other sizes.
Q113	All	Technical	Civil/Structural		Lifting Equipment		In the revised data sheet, one of the data which is critical for quote is missing. In the Main Pumping station the Longitudinal distance(Ref APPENDIX I –7 -021A/B/C/D/E-1 Point no 20 in data sheet) is missing and the same is also not available in Drawing. Please clarify.
A113							Answer: The longitudinal distance is available in the tender drawings for the pricing purpose.

Q114	All	Technical	SCADA	IO Summary			EPC requests KAHARAMAA to provide the IO summary based on each ring which should include the pipeworks PLC IOs and MEP SCADA IOs.
A114							<p>Answer: Refer to PLC diagrams and Layout drawings. The field instruments are shown on the layout drawings, the I/O list shows the signal types. The number of I/O required will mean an increase in Service Modules in the PLCs which is to be met by Distributed I/O for expansion, the calculations shall be based on this premise</p>
Q115	All	Technical	Mechanical	Appendix I-7, A.1 , Appendix I-7, A.2 , Appendix I-7, B.1 , Appendix I-7, B.2 , Appendix I-7, B.3 , Appendix I-7, D.1 , Appendix I-7, D.2 , Appendix I-7, E.1 , Appendix I-7, E.2 , Appendix I-7, E.3 , Appendix I-7, C.1 , Appendix I-7, C.2	Pumps		<p>Pump Vendors have taken higher value of NPSHa than given in Client datasheet for all the Horizontal Centrifugal Pumps.</p> <p>For Example, In case of SS-1A, as per Datasheet, NPSHa is 8.8 m while vendor calculated NPSHa is 10.8 m which seems to be in order considering fluid temperature of 35 Deg C.</p> <p>As per vendor, with 8.8 m NPSHa & 1.5 m difference for selecting NPSHr as per tender requirement, there is problem in availability / selection of pump from their product range.</p> <p>In view of above, please allow us to consider calculated NPSHa as per Hydraulic Section Drawing & other drawings given in the tender. Otherwise we are facing difficulty in selecting pump.</p>
A115							<p>Answer: The tenderer to comply with the project specification and data sheet requirements.</p>

Q116	All	Technical	Mechanical	<p style="text-align: center;">Civil & mechanical Drawing,</p> <p>MQ174-R1-DH-CI-6240-A, MQ174-R2-DH-CI-6240-A, MQ174-R4-DH-CI-6240-A, MQ174-R3-DH-CI-6240-A, MQ174-R5-DH-CI-6240-A</p> <p style="text-align: center;">APPENDIX-B</p> <p>(BOQ - PRPS 1 - Bill 5 & Bill No-9- M&E- Supply, BOQ - PRPS 2 - Bill 5 & Bill No-9- M&E- Supply,, BOQ - PRPS 3 - Bill 5 & Bill No-9 - M&E- Supply, BOQ - PRPS 4 -Bill 5 & Bill No-9 - M&E- Supply, BOQ - PRPS 5-Bill 5 & Bill No-9 - M&E- Supply)</p>	Air compressor system	<p>The mentioned clause stating the compressor should be 10.62 min@ 10 bar pressure-75 KW , oil free screw Compressors, air cooled. However the reputed vendor does not have the said Pressure model i.e., 10 bar in that product range with air cool system.</p> <p>Vendor are having the higher KW rating model to meet the said pressure requirement .</p> <p>Please confirm the acceptance of the higher KW rating of air compressor to meet the tender requirement instead of 75 KW given in the tender.</p>	
A116						<p>Answer:</p> <p>A higher kW rating of air compressor from any vendor to meet the tender requirement is acceptable subject to the tenderer is taking the responsibility for any additional power/ electrical equipment/ ancillaries requirements without cost impact to Kahramaa.</p>	

Q117	All	Commercial	Item coverage	Tender Circular-13 Appendix B - Bills of Quantities	Bill no. 5 and Bill no. 7	Bill no. 5 and Bill no. 7	In the bill no.5, Auxiliary Pumps, TFS pumps and utility pumps are specified with complete instrumentation, sensors. Bidder wishes to clarify that all the instruments required as per P&IDs of the respective pumps are already covered in Bill no.7 (except for the main pumps, which need to be considered as part of pump supply as per clarification provided by Kahramaa). In the view of above customer is requested to delete the instrumentation, sensors from Bill no. 5 as this is already covered in Bill no. 7
A117							Answer: Sensors related to the pumps such as temperature and vibration which has not been included in the Bill 7 shall be part of the pump package.
Q118	All	Commercial	Item coverage	Tender Circular-13 Appendix B - Bills of Quantities	Bill no. 5 and Bill no. 7	Bill no. 5 and Bill no. 7	In the Bill no. 8, we have observed that under point no. 8.6.6, leak detection system is also covered. We have also observed that fiber optic cable related to leak detection system is covered under point no. 9.3.1.8 of Bill no.9. Bidder wishes to clarify that as the leak detection system consists of fiber optic cable and related control room hardware/softwares, hence the complete system should be included in Bill no.9 only as this item is an automation system. In the view of above bidder requests customer to delete leak detection system from Bill no. 8.
A118							Answer: Bidder shall price for the item as the BOQ attached in circular 13. furthermore the leak detection system fiber optic shall only be in bill number 9.3.1.8
Q119	All	Commercial	Item coverage	Tender Circular-13 Appendix B - Bills of Quantities	Bill no. 5 and Bill no. 7	Bill no. 5 and Bill no. 7	As part of Bill no.8 , point no. 8.6.13 Security System is specified. Bidder requests customer to inform which item need to be considered as part of said line item, as the security systems like CCTV, Access Control System are already covered in Bill no.-9
A119							Answer: Bill number 8.6.13 relates to civil works for the CCTV system and bill number 9 refers to supply and installation.

Q120	All	Commercial	Item coverage	Tender Circular- 13 Appendix B - Bills of Quantities	Bill no. 5 and Bill no. 7	Bill no. 5 and Bill no. 7	In the Bill no. 5, we have observed that under point no. 5.7.1, Water quality monitoring is specified as part of the chlorination system. Bidder wishes to clarify that all the Water Quality analyzers are already covered in Bill no. 7, hence point no. 5.7.1 should not include any of the water quality monitoring instrument. In the view of above bidder requests customer to delete Water quality monitoring from point no. 5.7.1
A120							Answer: All the instrumentation related to water quality monitoring are included in bill no 7 under 7.1 and 7.2.2. Instrumentation related to chlorination system is part of the package.
Q121	PRPS 2	Technical	Mechanical				<p><u>Butterfly Valves</u></p> <p>1. Package B, Page No. 6/1/90R, Item ref. 6.1.5 DN 600 PN 16 Motorized Butterfly valve, (4 Nos.).</p> <p>2. Package B, Page No. 6/27/90R, Item ref. 6.7.5, 6.7.14 and 6.7.23 DN 1600 DI BV valve with spindle (4 Nos.). DN 1200mm BV with extension spindle (4 Nos.). DN 800mm BV with extension spindle (4 Nos.).</p> <p>Package B, Page No. 6/29/90R, Item ref. 6.7.27 Motorized Actuator for Butterfly Valves (12 Nos.)</p> <p>Kindly clarify whether the above said requirements 1 and 2 for butterfly valves are with direct mount actuator or with actuator and headstock.</p>
A121							<p>Answer: Requirement 1 is for butterfly valves with direct mounted actuators.as shown in the tender drawing referenced in the bill item. Requirement 2 are the butterfly valves with actuators and head stocks. Bill Item 6.7.27 covers the motorized actuators requirement for the mentioned valves. This is also as shown in the tender drawings referenced in the bill item.</p>

Q122	PRPS 2	Technical	Mechanical				Flow Control Valve 1. Package B, Page No. 6/47/90R, Item ref. 6.21.4 & 6.21.12 DN 1600mm Flow Control Valve (2 Nos.) DN 1200mm Flow Control Valve (1 No.) 2. Package B, Page No. 6/48/90R, Item ref. 6.21.14 Motorized Actuator for Flow Control Valves (3 Nos.) Kindly clarify whether the requirement is for Flow control valve with direct mount actuator or with actuator and headstock.
A122							Answer: The Bidder shall refer to the tender drawing referred for the bill item which show that these flow control valves are with extension spindle and have actuators with headstocks. Bill Item 6.21.14 covers the motorized actuators requirements.
Q123	All	Technical	ICA/SCADA	Bill no. 7	Reservoirs	7.1	Magnetic Flow Meters are appearing in each Reservoir P&ID's, but the same are not included in the Instrument BOQ (Bill No.7). Please clarify.
A123							Answer: Flow meters are included in Bill No 6.
Q124	All	Technical	ICA/SCADA	Bill no. 7	Inlet & Bypass	7.2.2	Magnetic Flow Meters are appearing in each line in the P&ID, but the same are not included in the Instrument BOQ (Bill No.7). Please clarify.
A124							Answer: Flow meters are included in Bill No 6.
Q125	All	Technical	ICA/SCADA	Bill no. 7	Recirculation Pumps	7.3.3	Two numbers of Magnetic Flow Meters are appearing in the P&ID, but the same are not included in the Instrument BOQ (Bill No.7). Please clarify.
A125							Answer: Flow meters are included in Bill No 6.

Q126	All	Technical	ICA/SCADA	Bill no. 7	TFS Pumping Station	7.4	One Magnetic Flow Meter is shown on the Filling arm detail (Typical) on the P&ID. Earlier, 10 no.s of Flow meters were included in the BOQ. However the same has been removed now from the latest Instrument BOQ. We assume the same will be included in by some package vendor scope. Please confirm. Also please note that the Level Switches shown for the filling arm interlock, is not included in the BOQ. Please clarify.
A126							Answer: Flow meters are included in Bill No 6.
Q127	All	Technical	ICA/SCADA	Bill no. 7	Chlorination Plant	7.7	All the instruments (Pressure Gauges, Chlorine Analyzers & Weight Scale) have been deleted from the Chlorination Plant BOQ except for PRPS-1. We assume that the same will be included in the package vendor scope. Please confirm. We assume that the PRPS-1 instruments are shown in the Chlorination Plant BOQ, by mistake. Please confirm.
A127							Answer: All instrumentation associated with Chlorination shall be included in the associated vendor package.
Q128	All	Technical	ICA/SCADA		Tender Circular 13		UPS is mentioned in SI No: 9.2.13, under bill no:9 as well as in SI No. 9.3.2.1 in bill no:9. UPS are required for CCTV , IT Equipment, Access Controls, Network Components and PLC etc. It is not clear from the UPS Quantity are to be split up in the BOQ. Please clarify
A128							Answer: Item 9.2.13 shall be deleted.
Q129	All	Technical	ICA/SCADA		Tender Circular 13		Please note UPS is required for telecommunication package also under BOQ SI No. 9.2.11. However the UPS is not shown on the BOQ. Please provide the details.
A129							Answer: UPS is included in Bill No. 9 under 9.3.2
Q130	All	Technical	Electrical	Circular Letter No.11		A123	We believe that no company exists that manufactures 240mm ² and 400mm ² copper stranded lead sheathed cable. Can we use pvc sheathed cable, green and yellow instead?
A130							Answer: No, the contractor shall source, or have made, the requirements of the project.

Q131	All	Technical	Electrical	Circular Letter No.11		A118	Can we please have confirmation that the downleads are 400mm ² and the earth grid conductors are 240mm ² .
A131							Answer: All downleads and the earth grid conductors are 400mm².
Q132	All	Technical	Electrical	Circular Letter No.11		A165	State that all batteries are to be NiCad. Does this apply to all batteries on site irrespective of their use?
A132							Answer: All batteries on the site shall be NiCad (nickel cadmium) with the exception of the rack-mounted UPS, which are sealed lead acid.
Q133	All	Technical	Electrical	Circular Letter No.13		A936	The answer is ambiguous. The question was regarding bare copper tape and the answer states that the cable shall be lead sheathed throughout. Is the copper tape bare as stated on the drawings or lead covered?
A133							Answer: The copper tape shall not be bare, it shall be lead sheathed.
Q134	All	Technical	Electrical	Drawing No. BE-1260			Please confirm that the earth pits for the HV switchgear and transformers are interconnected by 240mm ² cable and that they are also connected to the underground earthing grid.
A134							Answer: Confirmed, however, the earth grid conductors are 400mm².
Q135	All	Technical	Electrical	MQ174-RX-DH-SC-8200			For the leak detection system, the fibre sensing cable is shown as two reservoirs for each sensing cable. This doesn't make sense especially as five reservoirs are being installed initially. Can we provide an independent fibre sensing cable and system for each reservoir?
A135							Answer: An independent fibre sensing cable and system may be installed for each reservoir.

Q136	All	Technical	ICA/SCADA	App A6.6	Leak detection system	6.6.2 B	In order to comply with the leakage detection method based on temperature measurement, we propose using fibre optic outdoor hybrid cable Helucom A-DSQ(ZN)B2Y 82561. It is a multimode cable, 50/125um, glass yarn armoured, operating range -25 degC to +60 degC, max. transverse pressure 200 N/cm, tensile strength 2300 N, certified to DIN VDE 0888 (IEC 60794-1-2 equivalent). The cable has two copper cores used for heating purposes. Without the cable heating, it will not be possible to detect leakage faults. Please confirm your acceptance?
A136							Answer: This shall be acceptable.
Q137	All	Technical	ICA/SCADA	App A6.6	Leak detection system	6.6.2 C	Data acquisition unit must match the cable, therefore we propose AP Sensing N4386B. Minimum spatial resolution is 0.7m, with temperature sensitivity of 0.06 degC in 8 channel configuration. System will include a separate PC computer with GIS based user interface where all user-defined zoning and alarming will be implemented. Please confirm your acceptance?
A137							Answer: This is acceptable in principle, as is having a separate workstation, however the data gathered must be share with other systems , therefore the Application must have an OPC interface for sharing data. This shall be subject to a full Kaharamaa review and approval of submitted system data.
Q138	All	Technical	ICA/SCADA	App A6.6	Leak detection system	6.6.2 A	The leak detection system we are proposing is able to detect a fault with a spatial resolution of 0.7m, based on a minimum temperature change of 0.06 degC. The system is able to provide a complete temperature profile of each sensing cable every 30 seconds. Please confirm your acceptance?
A138							Answer: This shall be acceptable.

Q139	PRPS 4	Technical	Mechanical	Circular Letter No.9	Inlet flow control valve	6.6.2 A	Data sheets refer to DN 1200 mm valve for max flow of 1386.5 l/s and min flow of 285.14 l/s and pressure differential 11.81.m vs 0.66 m. As per approved manufacturer's sizing information DN 1200 mm valve cannot control the given flows and the valve will be always fully open. The same applies for other reservoirs. Please clarify the data sheets or revise the flows vs valve sizing.
A139							Answer: The bidder shall comply with the specification and data sheet requirements.
Q140	PRPS 2	Technical	Mechanical	Circular Letter No.9	Drain down pumps		TWL is 28.55 m and Min WL is 18.2 m. Central line of drain down pumps is 13.77 m. We understand the NPSHa is calculated for Min WL in the reservoir. Therefore the NPSHa in data sheet of 9m cannot be achieved. The same apply for other reservoirs. Please clarify.
A140							Answer: Please note that NPSH (available) is calculated based on the water static head at bottom water level, absolute pressure on liquid free surface, liquid vapour pressure and the suction pipe line losses. Comply with the data sheets.
Q141	PRPS 4	Technical	Mechanical	Circular Letter No.9	Scour pumps		Min WL is 14.09 m. Central line of scour pumps is 8.11 m. The NPSHa in data sheet of 8m cannot be achieved. The same apply for other reservoirs. Please clarify.
A141							Answer: Please note that NPSH (available) is calculated based on the water static head at bottom water level, absolute pressure on liquid free surface, liquid vapor pressure and the suction pipe line losses. Comply with the data sheets.

Q142	PRPS 4	Technical	DWG& Quantities	Circular Letter No.4	A37&38		Kahramaa response "This shall be provided to the successful bidder". The items requested by the Contractor are required for pricing. Please confirm the items or accept that the items will be considered as VO.
A142							Answer: This information shall be provided to the contractor following award. No variation shall be accepted for this element later.
Q143	PRPS 2	Technical	Pumps	Circular Letter No.12	Q67		The data sheets and specifications cannot be followed as responded by Kahramaa. Please confirm that the flow velocities in data sheets higher than specified will be accepted by Kahramaa and will not cause vibration and noise in operation.
A143							Answer: The maximum flow velocity for the suction and discharge nozzle shall be 4 m/s and 5 m/s, which shall not be exceeded . Higher velocities are not acceptable. The final design of these shall be subject to the selection of the final pump manufacturer.
Q144	PRPS 3	Technical	Pumps	Circular letter No. 12	Q68		The data sheets and specifications cannot be followed as responded by Kahramaa. Please confirm that the flow velocities in data sheets higher than specified will be accepted by Kahramaa and will not cause vibration and noise in operation.
A144							Answer: The maximum flow velocity for the suction and discharge nozzle shall be 4 m/s and 5 m/s, which shall not be exceeded . Higher velocities are not acceptable. The final design of these shall be subject to the selection of the final pump manufacturer.
Q145	All	Technical	CIVIL / STRUCTURAL	Circular No.13-Bill No. 8 Bill of Quantities		Item ref. 8.6.6	Reservoir underfloor drainage collecting system and Leak detection system ... -- Please provide details about Leak detection system as no clear drawings are available in this regard.
A145							Answer: the Contractor shall refer to drawings CI-6030 series issued in Tender Circular 12.

Q146	All	Technical	CIVIL / STRUCTURAL	Circular No.13-Bill No. 8 Bill of Quantities		Item ref. 8.6.11	Please provide details about Electrical and Instrumentation Cable duct as drawings not available to find out the depth, length, sizing etc.
A146							<p>Answer: The cables are direct buried from Kiosks to the instruments, the cable type is armored, the field instrument spur cables terminate in Junction boxes in the field location, the type and sized of which is to be determined by contractor. From the Junction box to the Kiosks are multicore trunk cables. The contractor shall allow 4 x 100mm Dia ducts for the entry into each Kiosk</p>
Q147	All	Technical	CIVIL / STRUCTURAL	Circular No.13-Bill No. 8 Bill of Quantities		Item ref. 8.6.11	Please provide exact details about the Land drainage system as where and what sections to be considered.
A147							<p>Answer: the Contractor shall refer to drawings CI-3400 series issued in Tender Circular 12.</p>
Q148	All	Technical	Civil/Structural	MQ174-R3-DH-ST-1023- & 1024-B	Construction Joint for Base Slab and Compartment/Dividing Walls		<p>Please confirm that reinforcement will be continuous at the Construction Joint in base slabs similar to Detail 1 as shown for roof slab construction joint. Please provide detail for construction joint at compartment dividing wall.</p> <p>Please confirm that all other elements (baffle wall, dividing/compartment wall, roof slab) will follow the construction joint spacing of base slabs.</p>
A148							<p>Answer: Reinforcement is continuous through construction joints at all elements (roof, base and wall). Construction joint details at compartment walls are added to sheet ST-1024; detail C2. All reservoir elements (baffle walls, compartment walls and roof) shall follow the construction joint spacing of the base slab.</p>

Q149	All	Technical	MECHANICAL	Circular No.13 and the Revised Bill of Quantities issued	Item ref. 6.1.5	Package B Page no. 6/1/90R	DN 600 PN 16 Motorized Butterfly Valve (4 nos.) - Please clarify if this valve is with direct mount actuator or with actuator and headstock
A149							Answer: All the motorized valves within the pumping stations have direct mounted actuators. The subject motorized Butterfly Valves are inside Main Pumping Station and the contractor should review the tender drawings referred for the Bill item.
Q150	All	Technical	MECHANICAL	Circular No.13 and the Revised Bill of Quantities issued	Item ref. 6.7.5, 6.7.14 and 6.7.23	Package B Page no. 6/27/90R	DN 1600 DI Butterfly Valve with spindle (4 nos.) - Please clarify if this valve is with direct mount actuator or with actuator and headstock
A150							Answer: The tender drawing referenced for the bill item shows that these motorized valves are with extension spindle and have actuator with headstock. Bill Item 6.7.27 cover the motorized actuators requirement.
Q151	All	Technical	MECHANICAL	Circular No.13 and the Revised Bill of Quantities issued	Item ref. 6.7.5, 6.7.14 and 6.7.23	Package B Page no. 6/27/90R	DN 1200 DI Butterfly Valve with extension of spindle (4 nos.) - Please clarify if this valve is with direct mount actuator or with actuator and headstock
A151							Answer: The tender drawing referenced for the bill item shows that these motorized valves are with extension spindle and have actuator with headstock. Bill Item 6.7.27 cover the motorized actuators requirement.

Q152	All	Technical	MECHANICAL	Circular No.13 and the Revised Bill of Quantities issued	Item ref. 6.7.5, 6.7.14 and 6.7.23	Package B Page no. 6/27/90R	DN 800 DI Butterfly Valve with spindle (4 nos.) - Please clarify if this valve is with direct mount actuator or with actuator and headstock
A152							Answer: The tender drawing referenced for the bill item shows that these motorized valves are with extension spindle and have actuator with headstock. Bill Item 6.7.27 cover the motorized actuators requirement.
Q153	All	Technical	MECHANICAL	Circular No.13 and the Revised Bill of Quantities issued	Item ref. 6.7.27	Package B Page no. 6/29/90R	Motorized Actuator for Butterfly valve (12 nos) - Please clarify if this valve is with direct mount actuator or with actuator and headstock
A153							Answer: Bill Item 6.7.27 cover the motorized actuators requirement for Bill items 6.7.5, 6.7.14 and 6.7.23
Q154	All	Technical	MECHANICAL	Circular No.13 and the Revised Bill of Quantities issued-Package B	Item ref. 6.21.4 & Item 6.21.12	Package B Page no. 6/47/90R	DN 1600 DN Flow Control Valve (2 nos.) - Please clarify if this valve is with direct mount actuator or with actuator and headstock.
A154							Answer: The tender drawing referred for the bill item show that that these motorized valves are with extension spindle and have actuator with headstock. Bill Item 6.21.14 cover the motorized actuators requirement.

Q155	All	Technical	MECHANICAL	Circular No.13 and the Revised Bill of Quantities issued-Package B	Item ref. 6.21.4 & Item 6.21.12	Package B Page no. 6/47/90R	DN 1200 DN Flow Control Valve (1 nos.) - Please clarify if this valve is with direct mount actuator or with actuator and headstock.
A155							Answer: The tender drawing referred for the bill item show that that these motorized valves are with extension spindle and have actuator with headstock. Bill Item 6.21.14 cover the motorized actuators requirement.
Q156	All	Technical	MECHANICAL	Circular No.13 and the Revised Bill of Quantities issued-Package B	Item ref. 6.21.4 & Item 6.21.14	Package B Page no. 6/48/90R	Motorized Actuator for Flow Control Valve (3 nos) - Please clarify if this requirement for Flow control valve with direct mount actuator or with actuator and headstock.
A156							Answer: Bill Item 6.21.14 cover the motorized actuators requirement for Bill items 6.21.4 and 6.21.14
Q157	All	Technical	MECHANICAL	Circular No.13 and the Revised Bill of Quantities issued-Package B	Item ref. 4.8.1.1 - Scope of work	Appendix A4 mechanical Specification Rev 2 Page 75/107 4.8 Steel Pipe work	The specification covers for DN 80 to DN 2400 - Please clarify if this specification is also applicable to size DN 50 included in the BOQ.
A157							Answer: This is applicable.

Q158	PRPS 1	Commercial	Landscaping	MQ174-R1-DH-LE-2005 Rev B and MQ174-R1-DH-AR-0070 Rev A		3 Car Shade structure is shown between the lawns in MQ174-R1-DH-LE-2005 Rev B but these are not indicated in the detailed drawing for the 3 Car Shade structure MQ174-R1-DH-AR-0070 Rev A. Please confirm if required or not.
A158						Answer: The 3 Car Shade Structure shown in front of the Main pumping Station will be the same as the 3 Car Shade (9 meters total width) shown on dwg no AR-0071.
Q159	All	Technical	Civil/Mechanical	MQ174-R1-DH-CI-8005/A	Typical Pipe Bedding Details	The drawing contains details of Granular bed and surround, Concrete Cradle and Concrete surround. It is not identified in the layout drawings where these are applicable. Kindly clarify the locations the details are applicable. Also, please provide the dimensions of cradle and specifications for the fibre board and temporary drain pipe.
A159						Answer: The drawing CI-8005 is typical detail to be used for storm and foul pipelines. Refer to revised drawing.
Q160	PRPS 1	Technical	Civil/Mechanical	MQ174-R1-DH-CI-1205/A	Road/Utilities Reservation Sections	Section L shows bulk water pipes excavation to be 3M x 1.5M only where as DN1600 and DN1200 Corridor incoming mains run along the road. Please clarify the dimensions of the reservation area for the bulk water pipes.
A160						Answer: The reservation for the bulk water pipes is not considered to affect the contractors pricing of the works. The drawings for the utilities reservation corridors will be revised during the Issue For Construction.

Q161	PRPS 1	Technical	Civil/Structural	Specification	2.1.3.1 CONCRETE		Please advise if WPC is required in Class of Concrete H (Manholes, inspection chambers, valve chambers to include potable, irrigation, fire fighting and main process pipeline chambers.)
A161							Answer: WPC is required for class H concrete.
Q162	All	Technical	Mechanical	GTC626_2014-AppA4_PRPS_Mech_rev2.pdf	32/107	4.3.3.1	Discrepancy between data sheet and specification for inner coating of butterfly valves: The specification requires an inner coating of EPDM rubber minimum thickness 3 mm, whereas the data sheets mentions fusion bonded epoxy coating of 300 microns. Please clarify.
A162							Answer: The inner coating shall be fusion bonded epoxy of 300 microns.

Q163	All	Technical	Electrical	Appendix A7.4 - MEPF Specifications revision 2	7.4.13 26 1300 - Medium Voltage Switchgear and 7.4.15 26 2413 - Low Voltage Switchgear	(MV) 1.12 11 KV INCOMING SWITCHGEAR, D. Circuit Breaker Section, F. Control Power Supply and (LV) 1.19 CIRCUIT BREAKERS, B	<p>From both documents it is required to provide:</p> <ul style="list-style-type: none"> 1) 48VDC (new 30VDC as per TC13/2631) for control voltage MV switchgear; 2) 240VAC for loading spring of MV circuit breakers; 3) 110VDC for loading spring of LV ACBs. <p>Relevant specification for DC/UPS supply is 7.4.26 26 3301 - DC Battery Systems and Uninterruptable Power Supplies, but in different Tender Clarification (TC11; Q/A 117 and Q/A 132), contractor is requested to disregard the specification for DC Battery Systems and UPS as per Appendix 7.4 and to follow specification in Appendix 8. However Appendix 8 is meant for Automation UPS Power Supply, not for DC Power Supply as required for MV and LV Control Voltage. Kindly confirm Appendix 7.4 , clause 7.4.26 is still applicable for MV and LV DC control voltage power supply.</p>
A163							<p>Answer: Clause 7.4.26 is only valid for MV/LV switchgear control systems. For Communication systems UPS please refer to Section 8 as noted.</p>
Q164	All	Technical	Electrical	Appendix A7.4 - MEPF Specifications revision 2	7.4.13 26 1300 - Medium Voltage Switchgear and 7.4.15 26 2413 - Low Voltage Switchgear	(MV) 1.12 11 KV INCOMING SWITCHGEAR, D. Circuit Breaker Section, F. Control Power Supply and (LV) 1.19 CIRCUIT BREAKERS, B	<p>As per Tender Clarification TC 05; Q/A 19 contractor shall propose control voltage power supply for MCCs, but as per Tender Clarification TC 04; Q/A 66 and 67 is requesting MV and LV switchgears as per control voltage power supply as per specification 7.4.13 26 1300 - Medium Voltage Switchgear, 1.12 11 KV INCOMING SWITCHGEAR, D. Circuit Breaker Section, F. Control Power Supply, which is not applicable for LV switchgears and MCCs.</p> <p>Kindly confirm TC 05; Q/A 19 is still valid and control voltage power supply of MCCs is till to propose by the vendor.</p>
A164							<p>Answer: Control voltage shall be 30VDC.</p>

Q165	All	Technical	Electrical	Appendix A7.4 - MEPF Specifications revision 2	7.4.13 26 1300 - Medium Voltage Switchgear and 7.4.15 26 2413 - Low Voltage Switchgear	(MV)1.12 11 KV INCOMING SWITCHGEAR, D. Circuit Breaker Section, F. Control Power Supply and (LV) 1.19 CIRCUIT BREAKERS, B	Tender Clarification TC 04; Q/A 66 and 67 is requesting MV and LV switchgears control voltage power supply as per specification 7.4.13 26 1300 - Medium Voltage Switchgear, 1.12 11 KV INCOMING SWITCHGEAR, D. Circuit Breaker Section, F. Control Power Supply. However specification 7.4.15 26 2413 - Low Voltage Switchgear, 1.19 CIRCUIT BREAKERS, B is requesting 110VDC power supply for spring charge loading, where referred specification as per TC 04; Q/A 66+67 is requesting 240VAC for the same. Kindly confirm 110VDC is still valid and control voltage power supply of LV ACBs.
A165							Answer: Control voltage shall be 30VDC.
Q166	All	Technical	Electrical	Appendix A7.4 - MEPF Specifications revision 2	7.4.13 26 1300 - Medium Voltage Switchgear	1.12 11 KV INCOMING SWITCHGEAR, D. Circuit Breaker Section, F. Control Power Supply	Specification 7.4.13 26 1300 - Medium Voltage Switchgear, 1.12 11 KV INCOMING SWITCHGEAR, D. Circuit Breaker Section, F. Control Power Supply is requesting 48VDC for control voltage power supply. However for long distances 48VDC (new 30VDC as per TC13/2631) is not feasible considering centralized DC system and long distances to remote stations containing MV switchgears Kindly confirm 110VDC centralized battery systems, with DC/DC converters to 48VDC at remote MV switchgear. Alternatively 110VDC shall be applicable for control voltage of MV switchgears (instead of 48VDC or 30VDC).
A166							Answer: Control voltage shall be 30VDC. The contractor shall propose separate batteries and chargers to reduce the cabling distances.
Q167	All	Technical	Electrical	Appendix A7.4 - MEPF Specifications revision 2	7.4.26 26 3301 - DC Battery Systems and Uninterruptable Power Supplies		Contractor shall provide Single Line Diagram for the DC and UPS power supply. It is understood that contractor is also to propose the structure and voltage levels for the different applications. MV and LV switchgears control voltage power supply is expected to be centralized DC 110V (possibly with 110V/48V-30V DC/DC converter) as necessary for Control Voltage.
A167							Answer: Control voltage shall be 30VDC. The contractor shall propose separate batteries and chargers to reduce the cabling distances.

Q168	All	Technical	Electrical	Appendix A7.4 - MEPF Specifications revision 2	7.4.26 26 3301 - DC Battery Systems and Uninterruptable Power Supplies	Considering centralized DC power supply for control voltage of MV and LV switchgears, please confirm location of battery room, the battery chargers and inverter in MVG MV/Generator Building Substation as per drawing MQ174-R1-DH-SE-7101 (also R2, R3, R4, R5), because this drawing does not show any room or space for it. Submission of relevant arrangement drawings are kindly requested to verify impact on the system.
A168						Answer: The Contractor shall provide the equipment in the spaces available.
Q169	All	Technical	MEPF			Bedding & Surround for Carbon Steel & DI Pipeline Kindly specify the bedding and surround for Carbon Steel & DI Pipelines. Also clarify whether single size aggregate 14mm thickness or Crushed sand will be used for bedding and surround.
A169						Answer: Refer to Appendix A section 2 clause 2.16. 14mm size aggregate shall be compliant with table 1 and table 2 of IGN-4-08-01 as specified
Q170	All	Technical				We found a substantial quantity difference between the BOQ and our Measure, (ie BOQ - Bill 6.5.1, 6.5.3, 6.6.1 and etc.). It is our understanding that all the pipes will remeasure as per the actual Project requirement. Please confirm.
A170						Answer: Refer to Appendix B, Notes on Pricing, Clause 1.1 for rules on remeasurement.
Q171	All	Contractual				Q32 – Payment terms, check Appendix B, clause 2.
A171						Answer: Payment Terms are referenced in the Notes on Pricing Appendix B.

Q172	All	Contractual		General Conditions of Contract			<p>Employer Termination for Convenience</p> <p>a. We request Article 19.11 be amended in line with FIDIC (EPC) 1999, 19.6 to include (i) repatriation costs, (ii) the return of Temporary Works and Contractor's Equipment and (iii) any other cost or liability that was reasonably incurred by the Contractor in the expectation of completing the Works;</p> <p>b. We request to include a provision for all the bonds to be returned 14 days before the date of termination and before possession of the Site is handed over to the employer should the Kahramaa Terminate for Convenience;</p>
A172							<p>Answer:</p> <p>Article 19 shall be applied and no amendment shall be made to the GCC.</p>
Q173	All	Contractual		General Conditions of Contract			<p>Disputes</p> <p>a. Any determination by Kahramaa should be to a standard in line with the requirements of FIDIC (EPC) 1999, 3.5 which requires Kahramaa to consult with the Contractor to reach agreement or make a fair determination (in good faith) in accordance with the Contract, taking due regard of all relevant circumstances;</p>
A173							<p>Answer:</p> <p>The Contractor is referred to Article 29 of the GCC.</p>

Q174	All	Contractual		General Conditions of Contract			<p>Delays</p> <p>a. We note that the Contract Price is to include all anticipated costs for (i) all delays and Temporary Works arising to comply with Kahramaa's safety requirements. Can you please issue a copy of these?</p> <p>b. We note that the Contract Price is to include all anticipated costs for (ii) delays or abortive work caused by weather conditions. Can you please advise as to how many days should be allowed for;</p> <p>c. We note that the Contract Price is to include all anticipated costs for (iii) delay or disruption caused by Kahramaa's urgent operational requirements. Can you please advise as to what these may be?</p>
A174							<p>Answer:</p> <p>a. A set of the main Kahramaa specific safety requirements are included in Appendix J. These shall not be treated as exclusive, and the bidder shall allow for any other safety requirements that may be notified to comply with international standards of Health Safety and Welfare.</p> <p>b. This shall be at the contractors risk.</p> <p>c. This Covers operational requirements that occur at the time of the works and could included scenarios such as emergency repairs, scheduled maintenance and new connections.</p>

Q175	All	Contractual		General Conditions of Contract		Variations and Extensions of Time a. We request that Article 14.10 be amended from 14 days to 30 days; b. Can Kahramaa confirm that the Notice for Extension of Time is Article 14.18; c. We request that Article 14.19 be amended from 14 days to 30 days and only upon completion of the delay event, does the Contractor have the to submit a full set of detailed particulars; d. Can Kahramaa confirm that the Notice Variations is Article 14.24;
A175						Answer: a. The GCC shall not be amended b. The Contractor shall refer to the GCC in it's entirety, not separate clauses. c. The GCC shall not be amended d. The Contractor shall refer to the GCC in it's entirety, not separate clauses.
Q176	PRPS 1	Technical	Mechanical	Bill No. 5	5.6.1	The BOQ for Compressor has been revised in BOQ rev. 2. Kindly provide us the revised drawing for Bulk fuel tanks and fuel system incorporating the changes. Also please confirm 5 nos. of air compressor with 3 nos. air receivers, as per the revised BOQ has to be followed.
A176						Answer: The amendments to the drawings will be issued during Issue for Construction. The contractor shall price the item as per the BOQ bill number 5.7.1. confirmed for the number of air compressor and air receiver for PRPS1

Q177	PRPS 2	Technical	Mechanical	Bill No. 5		5.6.1	The BOQ for Compressor has been revised in BOQ rev. 2. Kindly provide us the revised drawing for Bulk fuel tanks and fuel system incorporating the changes. Also please confirm 8 nos. of air compressor with 5 nos. air receivers, as per the revised BOQ has to be followed.
A177							Answer: The amendments to the drawings will be issued during Issue for Construction. The contractor shall price the item as per the BOQ bill number 5.7.1. confirmed for the number of air compressor and air receiver for PRPS2
A178	PRPS 3	Technical	Mechanical	Bill No. 5		5.6.1	The BOQ for Compressor has been revised in BOQ rev. 2. Kindly provide us the revised drawing for Bulk fuel tanks and fuel system incorporating the changes. Also please confirm 6 nos. of air compressor with 4 nos. air receivers, as per the revised BOQ has to be followed.
A178							Answer: The amendments to the drawings will be issued during Issue for Construction. The contractor shall price the item as per the BOQ bill number 5.7.1. confirmed for the number of air compressor and air receiver for PRPS3
Q179	PRPS 4	Technical	Mechanical	Bill No. 5		5.6.1	The BOQ for Compressor has been revised in BOQ rev. 2. Kindly provide us the revised drawing for Bulk fuel tanks and fuel system incorporating the changes. Also please confirm 8 nos. of air compressor with 5 nos. air receivers, as per the revised BOQ has to be followed.
A179							Answer: The amendments to the drawings will be issued during Issue for Construction. The contractor shall price the item as per the BOQ bill number 5.7.1. confirmed for the number of air compressor and air receiver for PRPS4

Q180	PRPS 5	Technical	Mechanical	Bill No. 5		5.6.1	The BOQ for Compressor has been revised in BOQ rev. 2. Kindly provide us the revised drawing for Bulk fuel tanks and fuel system incorporating the changes. Also please confirm 5 nos. of air compressor with 3 nos. air receivers, as per the revised BOQ has to be followed.
A180							Answer: The amendment to the drawings will be issued during Issue for Construction. The contractor shall price the item as per the BOQ bill number 5.6.1. confirmed for the number of air compressor and air receiver for PRPS5
Q181							A PVL supplier for Carbon Steel pipes has identified an issue with the current Mechanical Specification for the Mega Reservoir projects. At present the pipes are to be manufactured to API standards as per the specification, rather than AWWA. The company stated in the appended letter that API is an Oil and Gas standard not applicable to Water pipeline projects. Please can KM confirm that AWWA manufacturing standards for Carbon Steel pipes will be accepted instead of API? At present we advise we will not submit a quotation due to this specification compliance issue until confirmation is received from KM that AWWA is acceptable. If further information/justification is required by Kahramaa in order for them to make this decision, please advise by return.
A181							Answer: Pipes shall conform to API 5L Grade B, unless specifically mentioned otherwise. Pipe manufactured to ASTM A 106 Grade B shall be considered an acceptable substitute for API 5L Grade B. any deviation of the specs Appendix A section 4 clause 4.8.3.2 will not be accepted
Q182	Package E	Commercial	Emergency Tanker Filling Station	BOQ rev. 2		item 8.7.17...	Since item for construction of Emergency Tanker Filling Station is not available in the BOQ of Package E, we request you to check and do the necessary amendment.
A182							Answer: This is included in Bill No 9, Item no. 9.1.12

Q183	All	Technical	mechanical	General	App. A4-7/108	4.2.2.1	In the original tender documents, pump nozzle sizes were shown in the drawings and pump selection was made accordingly . However, in the recent circulars it is stated that pump needs to be selected based on specification and data sheets. For the duty condition and speed mentioned it may not be possible to offer pumps with nozzle sizes restricting velocities to desired level. Please confirm this deviation is acceptable.
A183							Answer: The Tenderer shall comply with the latest information and shall provide pumps suitable for the duty within the required nozzle ranges previously given in the circulars.
Q184	All	Technical	Mechanical	General	App. A4-8/108	4.2.2.2C	The NPSHA values have been furnished by KM in the data sheets and as per specification there should be a margin of 1.5 m between NPSHA and NPSHR. While this can be possible at design duty point , there is a possibility that in case 2-3 pumps run in parallel at worst condition in 2036 (as shown in the system), there may not be any margin as the pumps will run in off-design condition. Please confirm acceptance this condition.
A184							Answer: The Contractor shall provide pumps compliant with all requirements given.
Q185	All	Technical	Mechanical	General	App. A4-9/108	4.2.2.2D	For such high flow pumps, grease lubricated bearings can be substituted by a better option of Oil bath type bearings for more reliability. Please confirm this option is acceptable.
A185							Answer: The Bidder shall comply with the specification for grease lubricated bearings.

Q186	All	Technical	Mechanical	General	App. A4-9/108	4.2.2.2D	Both casing and impeller wear rings are of Duplex SS as per specification. Since Duplex SS cannot be heated or hardened, it is not possible to maintain a hardness difference of 50 BHN between these two pumps components. Please confirm your acceptance to this.
A186							Answer: The Contractor shall comply with the specifications
Q187	All	Technical	Mechanical	General	App. A4-13/108	4.2.2.8	The X and Y axis vibration sensors will be provided as indicated in the specifications. Since the pumps are double suction type with balance axial thrust no axial movement of the rotor is present. Hence Z axis sensors are redundant and will not be provided. Please confirm your acceptance.
A187							Answer: The Contractor shall comply with the specifications
Q188	All	Technical	Mechanical	General	App. A4-12/108	4.2.2.4	Noise Level of B5 dBA will be guaranteed at duty point only. It cannot be guaranteed over the entire operating range as running a pump of such capacity continuously in off design condition will result in noise. Please accept this condition.
A188							Answer: The Contractor shall comply with the specifications
Q189	All	Commercial	Quantities	Bill nos. 2, 3, 4	App. B-BOQ	Circular 13	It was earlier clarified that bill nos. 2, 3 and 4 are redundant and should be ignored. However, they have again been included in the Appendix B - BOQ sent with Circular 13. Please confirm if these need to be filled in and can be ignored.
A189							Answer: It is further confirmed that bill nos 2, 3 and 4 are redundant and need not be considered.

Q190	All	Technical	Mechanical	Blank Data Sheet	General Information		In the general information section of the Bank Data sheets for Electro-Mechanical Items it is asked to inform the name of the Local agent. We believe that the local agent asked by your good office is for the after sales service requirements. We also believe that the after sales service can be provided by the Vendor directly or through their agents in the nearby countries also.
A190							Answer: The contractor shall respond to the data sheets.
Q191	PRPS 2	Technical	Electrical	MEPF - Rev 2	122	1.14	11 KV, 4 MVA Generator set with 1500 rpm is not in approved vendor manufacturing range. Can we go with 1000 rpm? Please confirm.
A191							Answer: The Bidder shall comply with the specification. However the contractor may propose alternatives, which shall be subject to Kahramaa review and approval.
Q192	PRPS 4	Technical	Electrical	MEPF - Rev 2	122	1.14	11 KV, 4 MVA Generator set with 1500 rpm is not in approved vendor manufacturing range. Can we go with 1000 rpm? Please confirm.
A192							Answer: The Bidder shall comply with the specification. However the contractor may propose alternatives, which shall be subject to Kahramaa review and approval.
Q193	All	Technical	Civil/Structural	MQ174-R5-DH-C1-3250 to 3268 & Boq 8.6.14			Please clarify if PRPS-5, Bill item 8.6.14 (Land Drainage System), Drawings for Overflow and Flood Relief Channel.
A193							Answer: Land drainage is a separate item and overflow and flood relief channel is part of storm water system.

Q194	All	Technical	Civil/Structural	MQ174-R5-DH-C1-3180 to 3194 & Boq 8.6.9		Please Clarify if PRPS-5 bill item 8.6.9 (Waste Water collection System) reference drawing for Oil Interceptor.
A194						Answer: This was amended in the revised BoQ issued in Tender Circular No 13.
Q195	All	Technical	Civil/Structural	8.6.33		PRPS-1 to 5 Bill item 8.6.3.3 (Planting Palm Trees Along Boundary Wall). Please Provide layout plan and details.
A195						Answer: These trees are now removed. The Bidder shall allow for Palm trees as shown on the landscaping plans, along the front boundary wall of the property and along the main road from the Entrance Gate to the Main Pump House.
Q196	All	Technical	Civil/Structural			Please clarify where is the relevant BOQ for the mass backfilling required as a result of the excavation done in the enabling works. Furthermore, the relevant BOQ for site grading inside the reservoirs.
A196						Answer: Filling to structures are part of the construction of particular structure. An item for final site grading was included in the revised BOQ issued in Tender Circular No 13.
Q197	All	Technical	Civil/Structural	MQ174-R5DH-C1-6430		Lagoon drawing details do not show any boreholes. Please confirm that boreholes are not required in the lagoon construction
A197						Answer: Boreholes are not required in the lagoon construction.

Q198				All PRPSs			1 m wide interlocking tiles is reflected on 1-side of Flood Relief Channel (FRC) which is not included on Hardscape area. Please confirm that rates will be incorporated to Storm Water and not to Hardscape.
A198							<p>Answer: The interlocking paving shall be used between the structures and the road kerbs and therefore are part of hard landscaping bill number 8-6-3-1. Bidder to also refer to drawing LE-2000 series.</p>
Q199							Please clarify to which pipe network we can use the "Typical Pipe Bedding Details" shown on dwg. MQ174-R1-DH-CI-8005. When is the three types of section applicable (Granular bed and surround, Concrete cradle and Concrete surround)?
A199							<p>Answer: The drawing CI-8005 is a typical detail to be used for storm and foul pipelines.</p>

Q200	All	Technical	Electrical	TC#13	App A6	6.6	<p>Please elaborate the specifications of the leak detection system. The problem with the proposed leak detection system will only reveal itself once you arrive to finding the leak, which will track in the structure and will therefore be difficult to find (and therefore expensive) particularly as the reservoir gets older. The other issue is that the system will only work once, once the cable is saturated it must be dried to work once put back into service again.</p>
A200							<p>Answer: The proposed fiber optic leak detection system can pin point with precision any leaks within the base slab and can precisely direct the operator to the leakage point via a transmission as coordinates to the main SCADA. The TDS system is more accurate in localising the leak and subsequently the cracks if any. Additional to leak detection system is the conventional underfloor leakage detection system placed in the same trench as the fibre optic cable and locate+H7373d at each construction joint , encased with no fines concrete and gravitating to the inspection chamber for visual inspection, as shown on the drawing CI-6030. However with the conventional system this cannot record the precise location of the leakage, but instead it will direct to the construction joint along the transversal line of the reservoir as shown on the drawing, requiring the operator to check the full strip of the base along that route. The cable requirement to be dried after first use is not an issue and bidders shall price in accordance with project specification.</p>

Q201	All	Commercial	Item coverage				TC# 12 - Appendix A2 - Civil Structural specification Rev. 2 Clause 2.1.2.5 - Sub clause J mentioned as All reinforcement to be used below ground or in water retaining structures shall be epoxy coated in accordance with ASTM A934 /A934M-13. However One of the Major reinforcement Supplier in Qatar informed as they can only supply epoxy coated rebar coated with ASTM A775/A775M only. Kindly advise whether the contractor can use ASTM A775 instead of ASTM A934.
A201							Answer: The Bidder shall comply with the specification given.
Q202	All	Commercial	Item coverage				TC# 12 - Question & Answer 147 mentioned as Waterproofing membrane (bonded type) is required for all underground structures (base and walls). Kindly advise whether the bonded waterproofing system is required for Chambers & Manholes.
A202							Answer: This is required for all underground structures including manholes and chambers.
Q203	All	Commercial	Item coverage				Kindly advise the 14mm single sized aggregate for pipe bedding in water logged areas shall be of Gabbro or Limestone.
A203							Answer: The Contractor shall comply with the specifications given in Appendix A2. Any further information shall be agreed through review and approval with Kahramaa.

TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 28/08/2014	TOTAL PAGES: 4+1+CD
To: All Bidders		Fax:
For the Attention of: General Manager		Our Ref.: TA/TW/TWM/14/FX-١٤١٤
Subject: GTC 626/2014 – CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 18

TENDER CLARIFICATION

1. Notice of Amendment

1.1 CD for collection

The Bidder is requested to collect a CD from Kahramaa Tower 1, at 12.00 noon on Sunday, 31st of August 2014, containing additional information as listed below:

- 1.1.1 Appendix A2 Civil and Structural Specifications- Updated sections are highlighted in yellow for easy reference.
- 1.1.2 Appendix A3 - Architectural Specifications – Section 3.12 added: Stone façade specifications.
Also associated data is given:
 - Loose Furniture - A table of loose furniture to be provided is included.
 - Laboratory equipment specifications are included.
- 1.1.3 Appendix A4 - Section 4.14 Added: Welding, inspection and testing of Steel pipes.
- 1.1.4 Appendix A7.1 Updated sections are highlighted in yellow
Also associated data is given:
 - MEP sump pump equipment schedule for PRPS1 (In response to query).

This fax and any attachments may contain information which is confidential. They should not be distributed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or telephone. Confidentiality is not retained or lost by mistaken communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

٤٤٨٤٥٣٩١ : ٩٧٤ - ٤٤٨٤٥٣٣٣ : ٥٦ -
ص.ب : ٤١ الدوحة - قطر



1.1.5 Appendix B – Bills of Quantities revision 3

1.1.6 Appendix F Drawings

The following drawings may be found in the attached CD:

- Civil and Structural Drawings for storm water, lagoons, Flood relief channel and lift station, PRPS2 grading and pipes lines, PRPS4 site layout alterations and associated engineering, oil interceptor layouts, non-process chambers, updated foul sewer and under floor drainage. Drawing lists may be found in the CD.
- Electrical and Fire Alarm Drawings – Modified drawings and supplementary note.
- Fire Life and Safety Drawings – Additional Drawings, previously unissued.
- Structural Drawings - Modified drawings
- Automation and Control: RPS SCADA – The bidder is advised that this section has been modified to represent the change from Profibus to Hart. This has been provided for PRPS2 only and shall be treated as an example of the change that shall be applied to all sites. The Bidder shall allow for this change in his price for all sites.

1.1.7 Appendix I -Data sheets

Correction to Tender Circular 17:

- App I -07-008 was incorrectly referenced as being included in the CD attached to Tender Circular 17. This should read App I-07-012 Ultrasonic Level Transmitter, which was included therein.

Additional sheets included in this circular:

Revised Data Sheet:

Appl-07-036 Medium Voltage Switchgear

New Data Sheet

Appl-07-019 - 2 Drain and Land Drainage Pumps

Appl-07-033*-1 Irrigation Water Pump

Appl-07-033*-2 Irrigation water hydropneumatic tank

Modified Instrumentation List. The following changes have been made therein:

- Reservoirs ClO₂ and Residual Chlorine Analyzers – Range amended
- Inlet Bypass ClO₂ and Residual Chlorine, Conductivity and Turbidity Analyzers – Range amended
- Flood and Drain Pumps - Instrument list added
- Land Drainage Pumps - Instrument list added

2. Further clarifications:

2.1 Ladders and Platforms

For Clarity, the bidder shall adhere to the following for pricing of ladders and platforms:

1. All metal works inside the reservoir comprising of handrail ladder, platforms and supports, safety chains, bolts and washers shall be stainless steel grade 316L.
2. The reservoir hatches shall be motorized with effective monitoring and control systems, such that an alarm shall be triggered in the control room should the covers be opened without authorization. In addition, the option for opening these covers by manual lock and master key shall be provided. These shall be made of anodized aluminium for class A pedestrian loading.
3. Reservoir air vents shall all be GRP fabricated.
4. All internal metal works in other structures (with the exception of the reservoir, foul sewer, storm water manhole and metalwork associated with the chlorination processes,) comprising of handrail, ladder, platforms and supports, safety chains, grating covers and chequered plates, shall be anodized aluminium, marine grade 6082 T6 and shall be subject to Kahramaa review and approval.
5. All internal metal works for foul sewer and storm water manholes comprising of ladders, supports and handrails shall be GRP material and in accordance with QCS2010 section 8, Part 7.
6. Where applicable, these notes shall take precedence on all civil, architectural, structural and mechanical drawings, specifications, scope of work and all previous circulars. The contractor shall price all metal works on this basis.

2.2 Electromagnetic locks

The Bidder shall allow for the ironmongery associated with all electric release and security access controls as shown in the automation drawings and specifications, to facilitate this security access and control. The updated drawings to show this shall be presented in the Issue for Construction drawings set.

2.3 Reservoir Cladding

Further to all previous drawings, specifications and responses to tender circulars, the reservoir cladding shall be hot dipped zinc coated steel profile cladding, as shown on drawings reference AR-2015.

Warning: this fax and any attachments may contain information which is confidential. They should not be distributed, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax any attachments, and copies, please notify the sender by e-mail or fax or telephone. Confidentiality is not ensured by this transmission mechanism.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 - ٤٤٨٤٥٣٩١ : ٥٣ - (974) 44845333
ص.ب : 41 الدوحة - قطر



3. Reply to Tenderers Clarifications:

The table containing the replies to bidders clarifications can be found in the CD, referred above.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,


ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW,GTC, File

P.O.

| Page 4

Please note this fax and any attachments may contain information which is confidential. They should not be reproduced or copied to anyone without the approval of the sender. If you are not one of the named recipients of this fax, any attachments, and copies, please notify the sender by e-mail or fax or telephone. Confidentiality is not guaranteed in fax or telephone communication.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 - م.س : (974) 44845333
من.ب : 41 الدوحة - قطر



TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: ٨ / ٠٩ / ٢٠١٤	TOTAL PAGES: ١+١٠
To: All Bidders	Fax:	
For the Attention of: General Manager	Our Ref.:	TA/TW/TWM/14/FX-1460
Subject: GTC 626/2014 – CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 19

TENDER CLARIFICATION

1. Tender Closing Date:

Please note that there will be no more extension of time. The remaining closing date shall be on Thursday, 18th of September 2014, at 12.00 noon.

2. Reply to Tenderers Clarifications

Please find attached a table, containing replies to your clarifications.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,


ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW,GTC, File



Note: This fax and any attachments may contain information which is confidential. They should not be reproduced, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by e-mail or fax or otherwise. Confidentiality is not guaranteed by mistake or omission.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

٤٤٨٤٥٣٩١ : ٩٧٤ - ٤٤٨٤٥٣٣٣ : ٩٧٤
ج. ب. ٤١ الدوحة - قطر

| Page 1



No	PRPS site	Query	Subject area	Document/drawing no	Page/Location	Clause/ Item	Query and Answer
Q1	All	Technical	Mechanical	Appendix I-4		Item 2 Carbon Steel Pipes & Fittings	<p>We are not getting offers for CS pipes due to supplier not responding and/or have declined to quote.</p> <p>1. ACIPCO – not quoting because they do not meet the API Specifications only AWWA C200 and they require to remove the API specs in order for them to qualify .</p> <p>2. Mannesman Demag AG – is non-existent we found Salzgitter AG. Please clarify if this is the one that you approved.</p> <p>3. Seah Steel – not quoting because they already partook with other contractor.</p> <p>4. Hyundai RB – not responding, no agent in the middle east.</p> <p>5. Hyojong Industries – phones are not working.</p> <p>6. Pentair Water Solution – responded but offer not complying to Kahramaa specification.</p> <p>7. Tyco Water Steel Pipeline System – their web site is leading us to Pentair.</p> <p>Please provide local agent for the unresponsive overseas vendor and new vendors to those who decline to quote.</p>
A1							<p>Answer:</p> <p>It is the bidders responsibility to liaise with the vendors.</p> <p>API specifications are required for this project due to the specific requirement for reinforcement at the branches and tees for the manifolds in the main pump house. This is necessary to keep the material stresses within the limits. The Manifold piping in these pumping stations is effectively large special fittings or a series of fittings connected together. Dependence on AWWA C200 alone is inadequate for designing such headers or manifolds because it does not address these issues, hence the design is based upon API 5L pipe specifications.</p>

Q2	PRPS 1	Technical	Electrical	Tender Circular No. 16		Q112	Drawings for Security Lighting pole is not available, Only The column Height has been answered. Please provide the detail drawing along with the no. of Light fixtures to be mounted.
A2							Answer: Drawings will not be provided.
Q3	All	Technical	Civil/Structural	Circular 16	3	QA 07	Refer to the circular response Question answer number 07 states, overall ratio of test results for the durability criteria as per the formula provided in thes Tender circular is " minimum 4". We doubt an error. Please confirm whether it is minimum or maximum 4?
A3							Answer: The concrete as placed and cured in the actual structure is required to comply with the Specification clauses for Concrete Mix Design, Trial Mixes and Durability Tests by achieving a score less than or equal to 4.0 when evaluated in accordance with the formula for WPC described in the Durability Tests clauses. The Employer's Representative reserves the right to take cores to confirm compliance. In the event of non-compliance, the Contractor shall carry out remedial measures as described elsewhere in the Contract.

Q4	All	Technical	Civil/Structural	Circular 17 / Appendix A1 Rev-3	Page 25 of 63	1.1.34	Clause 1.1.34 of Appendix A1 Rev-3 shows the GRP lining in all Lagoons. Please advise the thickness of GRP linings in Lagoons.
A4							<p>Answer: The internal face of the lagoon and FRC channel shall be pre-fabricated GRP liners at least 6mm thick accordance with QCS 2010 Clause 8.4.4.1. The lining materials shall be obtained from approved experienced manufacturers who can provide evidence of a long history of successfully supplying the proposed material on similar projects. A list of projects supplied, with names and addresses of referees shall be provided.</p>
Q5	All	Technical	Civil/Structural	Tender Circular No. 17		Answer no. 101	Further to your response A101 of Tender Circular No. 17 please provide us the complete specifications of the Reservoir Cladding, steel purlins mentioned in the drawing including but not limited to sheet thickness, zinc coating specifications and Approved vendor.
A5							<p>Answer: Refer to drg AR-2015. The contractor shall submit his proposals for Kahramaa review and approval. This shall be 0.6mm thickness.</p>
Q6	All	Technical	Civil/Structural	Circular 17 / Appendix A1 Rev-3	Page 25 of 63	1.1.34	Clause 1.1.34 of Appendix A1 Rev-3 please provide duration of hydrostatic testing.
A6							<p>Answer: Refer to QCS Section 5 Part 19 Clause 19.3.1.1 and 19.3.1.10. The minimum stabilisation period and testing period shall be 28 days and all testing shall be completed at day 29.</p>

Q7						TC 17, A 201 states that the bidder shall comply with the specifications ASTM A934/ASTM A934M-13 (epoxy coating to be applied after bending of steel). However, the sole manufacturer of reinforcement bars in Qatar "Qatar Steel" is manufacturing epoxy coated rebar according to ASTM A775/A775 M only. Please advise or confirm steel rebars for the Mega reservoirs (epoxy coating to be applied prior to bending of steel) to be imported from outside Qatar.
A7						Epoxy coated rebar's shall be applied after bending of steel and shall satisfy project specification of ASTM A77/A775M as per note 21 of the structural drawings ST-1011.
Q8						Based on our take-off for rebar in the reservoirs, we have found that the rebar ratio is quite high and in the range of 425 kg/m3. Please confirm.
A8						Answer: The Bidder shall price the design given.
Q9						Please confirm whether spray applied waterproofing membrane is acceptable as bonded system for vertical surfaces (walls) and horizontally on roof slabs.
A9						Answer: Spray water proofing membrane is not acceptable.
Q10						Please confirm whether the reservoir built up roofing membrane shall be 5 mm SBS membrane , as shown in specification section 075552, clause 1.2 A page 164/471 or bonded/unbonded membrane similar to raft and walls , as given in the structural specifications or adhesive bonded membrane, as shown on structural drawing ST-1024.
A10						Answer: The bidder shall follow the detail in structural drawings ST-102, 4ST-1023 and specification clause 2.7.3.3.

Q11						<p>The following architectural drawings show "1000 gauge polyethylene sheet vapour barrier on 50 mm thick sand bedding on 100 mm thick gravel bed" under foundations whereas these layers are not shown in the structural drawings. Please clarify whether they are required or not.</p> <ul style="list-style-type: none"> a. AR-1831 (Main Pump Station) b. AR-1340 (Main Guard House) c. AR-2540 (Air Compressor Bldg) d. AR-3330 (MV Generator Bldg) e. AR-3600 (Water Testing Facility Bldg.) f. AR-4045 (Auxiliary Pump Station) g. AR-4591 (Maintenance/Cleaners/Workshop bldg.) h. AR-5100 (Chlorination Bldg.) i. AR-5515 (Utility Pump Station) j. AR-6100 (Kiosk) k. AR-7330 (TFS Guard House) l. AR-7515 (Tanker Filling Station) m. AR-8320 (Remote Generator Bldg.) n. AR-8600 (Remote Substation) o. AR-9100 (Water Quality Monitoring Bldg.)
A11						<p>Answer: Ground bearing slabs (excluding basements and those below ground level,) to be constructed on vapour barrier on sand and gravel bedding as the Architectural drawings. For other situations refer to the Structural drawings.</p>

Q12	All	Technical	Civil/Structural	circular no.17	Q86 & Q102		As we understand that the steel couplers should be used instead of the lap splices for both horizontal and vertical bar connection from your answer A86, but A102 states contractor to follow the lap and anchorage lengths as shown on the drawing (note E7 and E21) for the steel bar, please confirm which method we should adopt for steel bar connection.
A12							<p>Answer:</p> <p>Couplers may be used by Contractor in areas of high congestion and elsewhere as preferred to suit construction methods, subject to submittal of shop drawings and Kahramaa review and approval.</p>
Q13	All	Technical	Civil/Structural	Appendix A2	33 of 186, 34 of 186	2.1.3.4, H4d	Temperature measurements shall be made by means of thermocouples positioned in a line perpendicular to the concrete faces. The thermocouples shall be fixed: at the concrete faces; at the centre of the section; and at equal intervals of approximately 300mm. It is not clear in how many rows these thermocouples to be placed. So please provide the drawing showing the details of number of thermocouples to be placed in horizontal and vertical directions.
A13							<p>Answer:</p> <p>The Contractor must determine the location of thermocouples to satisfy the requirements of clause 2.1.3.4 H 4 a, b and c in relation to his planned pouring sequence. The thermocouples are to be positioned as stated in H 4 d</p>

Q14	PRPS 4	Technical	Civil/Structural	Appendix B Bill No.8	8/25/20/R	8.7.18	Please provide the number of thrust blocks & sectional drawings for quantity takeoff
A14							<p>Answer: Refer to schedule table in drawing CI-0002 and the referred drawings. The referred drawings are included in circular 18</p>
Q15	PRPS 1	Technical	Civil/Structural	BOQ ref. 8.1.2	SOW 32/64	1.1.39	As per Circular 17, Scope of work P. No. 32/64 Clause 1.1.39 calls for 4.8 km of boundary wall, where as in BOQ the quantity given is 4.6 km. Please clarify.
A15							<p>Answer: The bidders shall satisfy themselves of this length using the CAD version of the drawings issued.. The correct length of the boundary wall is 4.94Km.</p>
Q16	PRPS 1	Technical	Civil/Structural	Scope of Work	SOW 26/64	1.1.34	As per Circular 17, Scope of work P. No. 26/64 Clause 1.1.34 please provide the specification & thickness of GRP liner required for Drainage Lagoon.
A16							<p>Answer: The internal face of the lagoon and FRC channel shall be pre-fabricated GRP liners at least 6mm thick accordance with QCS 2010 Clause 8.4.4.1. The lining materials shall be obtained from approved experienced manufacturers who can provide evidence of a long history of successfully supplying the proposed material on similar projects. A list of projects supplied, with names and addresses of referees shall be provided</p>

Q17	PRPS 1	Technical	Civil/Structural	Scope of Work	SOW 26/64	1.1.34	As per Circular 17, Scope of work P. No. 26/64 Clause 1.1.34 please provide the detailed drawings for Drainage Lagoon & Land Drain Lifting Station.
A17							<p>Answer: Refer to drawings CI-6430 to CI-6435 and CI-6450 for drainage lagoons and land drain lift station. The drawings shall be found in circular 18.</p>
Q18	All	Technical	Mechanical	Circular 17		A 41	As per Circular 17, the test pressure for surge vessels should be 30 bar and design pressure should be 20 bar. But the pressure rating of fittings upstream and downstream of surge vessels is 16 bar which will not match the surge vessel flange rating.
A18							<p>Answer: The hydrostatic test pressure for the vessel steel tank shall be 30 bar regardless of the surge pressure in the network and this shall be done at the factory and witnessed by KM engineer/third party as stated in circular 17. All nozzles of the surge vessels shall be rated PN25 and connection flange to the process piping shall be drilled to suit.</p>

Q19	All	Technical	Civil/Structural	Circular 17		A 41	As per Circular 17 the test pressure for surge vessels should be 30 bar and design pressure should be 20 bar. Kindly confirm that provided foundation drawing given for surge vessels is for design pressure of 20 bar.
A19							Answer: Refer to drawings ST-5200 attached in circular 18.
Q20	PRPS 4	Commercial	Circular 17		Page 62	Stations	Please note that Bill No. 9 Item No. 9.1.12 is for the "Installation of the mechanical Works" pertaining to the Tanker Filling Station, whereas Bill No. 8 is for Civil Works deemed in the Tanker Filling Stations. Also note that expect Package E all other packages there is separate item for the Civil works and it is measured in Bill No. 8, therefore you are requested to check and do the needful.
A20							Answer: Bidders can include the cost of civil works under bill number 9.1.14.1 for package E.
Q21							Please provide us the gear box vendor list.
A21							All materials associated with Valves shall include submittals demonstrating full compliance with Kahramaa standards, including (but not limited to) those for gearboxes such as proposed materials and torque. The Contractor shall then supply an associated compliance statement for Kahramaa approval.

TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: ١٤ / ٠٩ / ٢٠١٤	TOTAL PAGES: 2+3
To: All Bidders	Fax:	
For the Attention of: General Manager	Our Ref.:	TA/TW/TWM/14/FX/1495
Subject: GTC 626/2014 – CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		

CIRCULAR No. 20

TENDER CLARIFICATION

1. Extension of Tender Closing Date:

The Bidder is advised that due to the strategic nature of this project, there shall be no further extensions of time for the Tender Closing Date.

2. Notice of Amendment

2.1 Letter of Award

The Contractor is advised that the Effective Date of the Contract shall be no later than fourteen (14) days from the date on which Kahramaa receives the Contractor's formal confirmation of unconditional acceptance, in Writing, to Kahramaa's Provisional Letter of Award, which shall be responded to Kahramaa within 2 days of receipt.

2.2 Appendix B: Item 1.321.32 Application of Currency Pricing Formula.

i) The Bidder is advised that item e) of this section shall be reworded from:

"e) The Currency Adjustment Formula (applicable for Bill No. 1 only); to

"e) The Currency Adjustment Formula (applicable to all Bills Parts where currency options are given)". This currency adjustment formula shall apply to Bill Parts where the option for pricing in different currencies is given. In the BOQ issued in Tender Circular No 17, this equates to Bill parts No 1, 5, 6 and 7.

ii) The bidder is advised that item f) of this section shall be reworded from:

"f) The currency exchange rate at the date of the adjustment shall be the currency rate, published by the Financial Times, UK @ 11.00 am UK time." to

"f) The currency exchange rate at the date of the adjustment shall be the closing mid-point rate, published by the Financial Times."

2.3 Appendix B: Bank Guarantee for Advance Payment

This form has been updated. A revised version may be found at the back of this circular, before the table of clarifications. This form shall be used in place of the one provided with the original tender documents.

| Page 1

Information in this fax and any attachments may contain information which is confidential. They should not be retained, disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by e-mail or fax or telephone. Confidentiality is not waived if such information becomes public knowledge.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR

44845391 : ٤٤٨٤٥٣٩١ : ٥٦ - (974) 44845333 : ٤٤٨٤٥٣٣ : ٥٦

ج. ب. ٤١ - الدوحة - قطر



2.4 Appendix I: Vendor List.

The Bidder is advised that the Vendor lists for VFDs and Motors are amended as follows:

1	VFDs	
A	ABB	Switzerland
B	SIEMENS	Germany
C	SCHNEIDER electric	France
D	TOSHIBA	Japan
E	ALLEN BRADLEY	USA
F	Ansaldo	Italy
G	GE Power Conversion	France/Germany/USA

3	MOTOR - PUMPS	
A	ABB	Switzerland
B	SIEMENS	Germany
C	TOSHIBA	Japan
D	FUJI	Japan
E	GE Power Conversion	France

3. Reply to Tenderers Clarifications:

Please find attached a table containing replies to your clarifications.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,

ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW,GTC, File

| Page 2

Warning: This fax and any attachments may contain information which is confidential. They should not be disclosed or copied to anyone without the approval of the sender. If you are not one of the named recipients of this fax, any attachments, and copies, please notify the sender by email or fax as soon as possible, Confidentiality is not breached or lost by making such communication.

Tel: (974) 4484 5386 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : ٤٤٨٤٥٣٩١ - (974) 44845333 : ٤٤٨٤٥٣٣٣
ج.م.س : ٤١ - ٤٤٨٤٥٣٣٣



ADVANCE PAYMENT GUARANTEE

TO:
M/S. QATAR GENERAL ELECTRICITY & WATER CORPORATION (KAHRAMAA)
P. O. BOX 41
DOHA
STATE OF QATAR.

WE _____ BANK OF P.O. BOX _____ DOHA, QATAR, WITH
REFERENCE TO CONTRACT GTC _____ / _____. ISSUED BY QATAR GENERAL
ELECTRICITY & WATER CORPORATION ("KAHRAMAA") IN DOHA, QATAR, TO M/S
_____, HAVING ITS MAIN OFFICE IN _____ P.O. BOX
_____, CALLED HEREINAFTER THE CONTRACTOR, HEREBY IRREVOCABLY
AND UNCONDITIONALLY UNDERTAKE TO PAY TO KAHRAMAA AN AMOUNT OF QR.
(QATAR RYALS _____)
IN CONSIDERATION OF THE ADVANCE PAYMENT PAYABLE BY KAHRAMAA TO THE
CONTRACTOR, NOTWITHSTANDING ANY CONTESTATION OR OBJECTION BY THE
CONTRACTOR.

THIS LETTER OF GUARANTEE IS SOLELY RELATED TO CONTRACT NO.
GTC _____ / _____ AND THE BANK BINDS ITSELF, ITS SUCCESSORS, ASSIGNS BY
THESE PRESENTS.

ON THE CONTRACTOR FAILURE TO FULFILL ANY OF THE CONDITIONS OF
CONTRACT, AS DETERMINED BY YOU IN YOUR ABSOLUTE JUDGMENT, WE
UNDERTAKE TO PAY YOU UPON YOUR WRITTEN DEMAND, NOT WITHSTANDING
ANY OBJECTIONS WHATSOEVER BY THE CONTRACTOR, SUCH AMOUNT OR
AMOUNTS AS YOU SHALL REQUIRE NOT EXCEEDING IN AGGREGATE THE ABOVE
MENTIONED AMOUNT OF QATARI RYALS _____ BY TRANSFER TO
AN ACCOUNT IN YOUR NAME AT SUCH BANK IN QATAR AS YOU SHALL STIPULATE
OR IN SUCH OTHER MANNER AS SHALL BE ACCEPTABLE TO YOU.

THE GUARANTOR ACCEPTS AND WARRANTS THAT THE AMOUNT OF THE ABOVE
GUARANTEE DOES NOT EXCEED TEN PER CENT OF THE TOTAL OF THE PAID UP
CAPITAL AND RESERVES OF THE GUARANTOR.

ANY PAYMENT MADE HEREUNDER SHALL BE MADE FREE AND CLEAR OF AND
WITHOUT DEDUCTION FOR OR ON ACCOUNT OF ANY PRESENT OR FUTURE
TAXES, LEVIES, IMPOSTS, DUTIES, CHARGES, FEES, DEDUCTIONS OR
WITHHOLDINGS OF ANY NATURE WHATSOEVER AND BY WHOMSOEVER
IMPOSED.

THE VALUE OF THIS GUARANTEE SHALL BE PROGRESSIVELY REDUCED BY THE
AMOUNT DEDUCTED BY THE KAHRAMAA FROM THE CONTRACTOR AS
CONTAINED IN THE CERTIFICATES AND PAYMENTS AGAINST THE SAID ADVANCE
PAYMENT.

THIS GUARANTEE SHALL BE EFFECTIVE FROM _____ AND SHALL
REMAIN VALID UNTIL KAHRAMAA RECEIVES FULL PAYMENT OF THE ADVANCE
PAYMENT AMOUNT FROM THE CONTRACTOR OR UNTIL _____,
WHICHEVER IS EARLIER.

THE GUARANTOR ACCEPTS THE OBLIGATION TO EXTEND THE VALIDITY OF THIS
GUARANTEE WHENEVER SO REQUESTED BY KAHRAMAA WITHOUT REGARD TO
ANY OBJECTIONS WHATSOEVER FROM THE CONTRACTOR.

YOURS FAITHFULLY
(BANK)

AUTHORIZED SIGNATURE

No	PRPS site	Query	Subject area	Document/drawing no	Page/Location	Clause/ Item	Query and Answer
Q1	All	Technical	Civil/Structural	TC - 18, MQ174-R6-DH- CI-8551-A	Typical Lagoon Structural Details	Piling for Drainage Lagoon	<p>We have noted that a new drawing (CI-8551-A) has been issued stating the typical structural details for Drainage Lagoons in PRPS 1 and PRPS 5.</p> <p>Kindly clarify whether the Structural Details (Pile Foundation) provided has to be followed for the lagoons in PRPS 2, PRPS 3 and PRPS 4 also.</p> <p>If yes, please provide the relevant drawings for PRPS 2, PRPS 3 and PRPS 4.</p>
A1							<p>Answer: Piling is not required for PRPS2, PRPS 3, PRPS4.</p>
Q2	All		Mechanical	Appendix I	25 of 47	CS Pipes & fittings	<p>Approved Manufacturers for Carbon steel Pipes & fittings: Out of 8 Manufacturers given in the list, 4 Manufacturers are not complying with Tender Specification and Diameter ranges. 2 Manufacturers not meeting the Coating requirements. 1 regretted.</p> <p>Kindly provide additional vendor list or advise us to go with others.</p>
A2							<p>Answer: No additional Vendor list shall be issued.</p>

Q3	All	Technical	ICA/SCADA	Tender Circular-18	Folder name : "GTC626_2 014-AppF pK B 07 automation and control (profibus to Hart)"	Control level schematic, Field level schematic, SCADA rack details drawing	<p>Bidder observed that Control level schematic, Field level schematic, SCADA rack details drawing are provided by Kahramaa for PRPS-2 only.</p> <p>Bidder requests Kahramaa to provide the similar revised drawing for other PRPS packages also. Otherwise bidder requests Kahramaa to confirm that the changes similar to PRPS-2 are applicable for other PRPS packages also.</p>
A3							<p>Answer:</p> <p>Drawings shall not be provided for the other sites during the tender period. These shall be given during the Issue For Construction. The changes given for PRPS 2 are applicable for other sites, however the Bidder shall also refer to the I/O list for confirmation of the applications.</p>
Q4	All	Technical	ICA/SCADA	Tender Circular-18 : PRPS 2 Ring 1 Process SCADA-Field Level	Page no. 6 of 12, 7 of 12 and 8 of 12	Local HMI	<p>Bidder observed that as per the referred drawing three nos. local HMI are shown first one connected to PLC-MPS-2A/1, second one no. connected to D I/O-MPS-2A/1-A and third connected to D I/O-MPS-2A/1-B in the field level schematic drawing. Bidder assumes that only 1 no. common HMI is required for the PLC system and there is no requirement of 3 nos. Local HMIs for the same PLC. Please confirm that bidder's assumption is correct and Local HMI is not required with each IO Rack.</p>
A4							<p>Answer:</p> <p>Local HMI/Touch Panels are not required for D I/O.</p>

Q5	All	Technical	ICA/SCADA	Tender Circular 12 , Prebid Query reply no A21	Page no. 6	UPS and battery Backup	<p>As per Tender Circular 12 pre-bid query reply no. A21, 2X extended battery to provide 2 hour autonomy at load of 2 kW is required.</p> <p>Bidder observed in SCADA rack details drawings that in some PLC racks, two nos. of UPS are required with total two nos. of batteries, whereas in some of the PLC racks one no. UPS is required with two nos. of batteries.</p> <p>Based on above bidder understand that irrespective of no. of UPS in PLC racks, two nos. of batteries are required in each PLC rack and each battery will provide 2 hours autonomy for 2KW load.</p> <p>Please confirm that bidder's understanding is correct.</p>
A5							<p>Answer:</p> <p>Irrespective of the no. of UPS in PLC racks, two number batteries are required in each PLC rack and each battery will provide 2 hours autonomy for a 2KW load.</p>
Q6	PRPS 4	Technical	Foul Sewage	MQ174-R4-DH-CI-3001, Rev A	DWGs		<p>Foul sewage, layout plans:</p> <p>Invert level in MH 10/5 is 12.062 and it is lower than level 12.259 in downstream MH10. Please clarify the reason for lowering the level in MH 10/5 or amend the drawing.</p>
A6							<p>Answer:</p> <p>This is an error in the arrow for the flow direction. The arrow is shown in the wrong direction and shall be amended so that this discharges to the Septic tank at an invert of 11.220, as shown on the drawing CI-3002.</p>

Q7	PRPS 4	Technical	Foul Sewage	Tender Circular 12, Tender Circular 18 and MQ174-R4-DH-CI-4000 - 4002	DWG		Long profiles for foul sewage were given in TC 12. However, the layout has been amended. Please provide new drawings, CI-4000 to 4002, for longitudinal section of Foul Sewage as per note 12 on DWG DH-CI-3001, they cannot be found in TC 18.
A7							Answer: Foul profiles for PRPS 4 will be submitted in the set of drawings Issued For Construction.
Q8	PRPS 4	Technical	Foul Sewage	MQ174-R4-DH-CI-3006	DWG		Foul sewage, layout plans: Invert level in MH 1/2 is 17.774 and it is higher than level 12.16.742 in upstream MH1/1. Please clarify the reason for rising the level in downstream MH 1/2.
A8							Answer: This is an error in the drawings. MH1/2 invert level shall be read as 16.566m.
Q9	PRPS 4	Technical	Fire fighting system	MQ174-R4-DH-CI-3137&3275	DWG		Pipe DI 200 mm dia between FF-22 and FF-24 dwg 3137 isn't shown on longitudinal section FRC1 (CI-3275). However, Invert Level of pipeline is approximately 14.50, in the middle of FRC and can be damaged when there is flow in the channel. Please confirm if this obstacle is accepted by Kahramaa.
A9							Answer: Irrigation, potable water supply for the site and foul sewer pipes penetrating the FRC channel shall be encased in concrete. This detail shall be provided on the Issue For Construction Drawings.

Q10	PRPS 4	Technical	Storm water	MQ174-R4-DH-CI-3161	DWGs		IL's on 300 mm dia pipeline from upstream D16-CB07 to downstream D16-CB05 are as follows 13.51, 13.351, 13.51, 13.351, 13.351. Please confirm the sloping is correct or amend the drawing.
A10							Answer: The following shall be read as follows: D16-CB06 is 13.618, D16-CB07 is 13.518, D16-CB08 is 13.351, D16-CD09 is 13.185 and D16-CB10 is 13.018m
Q11	PRPS 4	Technical	Storm water	MQ174-R4-DH-CI-3161	DWGs		Storm water layout plans: Invert level in MH 07 is 11.688 and it is lower than level 12.013 in downstream D16-CB05. Please clarify the reason for lowering the level in MH 07 or amend the drawing.
A11							Answer: MH07 is 11.687m and D16-CB05 is 11.412.
Q12	All	Technical	All Pumps - Velocities	TC 16, Data Sheets, Drawings & Specification vs Q/A 38/A38, Q59/A59, Q60/A60 etc	Data sheets		Kahramaa confirmed "the maximum flow velocities for the suction and discharge nozzle of 4 m/s and 5 m/s shall not be exceeded". However the data sheets do not show the required diameters for such design requirement. Please amend the data sheets, indicate required design provided diameters/nozzles on suction and delivery side of the pumps and provide new data sheets in the next TC. The Contractors will then request from the pump supplier to fill these items in the data sheets and confirm compliance with Kahramaa design and specification.
A12							Answer: No further amendments to the datasheets will be given. The Bidder shall comply with the specifications given.

Q13	All	Technical	Mechanical-Surge	TC 17 Q/A - Q18/A18	Appendix A4, Section 4.7.3		Kahramaa confirmed under A18/a that the surge tank if required can be provided for surge protection. Please confirm the following: a) The surge tank is part of initial surge analysis carried out by Kahramaa and details will be provided to the successful bidder b) Provide indicative dimensions of the surge tank only for Contractor's pricing c) As the surge tank cannot be located at the reservoir/pumping station site please indicate for us the proposed locations of surge tanks for each site for our pricing.
A13							<p>Answer:</p> <p>The Surge tanks shown on the drawings issued have been taken from the initial surge analysis completed, however it shall be the contractors responsibility to confirm these during his final surge analysis of the pumps and plant provided.</p> <p>The indicative dimensions are given on the associated drawings.</p> <p>The location of the surge tanks as shown on the drawings will not be changed. Only the volumes shall be amended.</p>
Q14	PRPS 1	Technical	Civil/Structural	MQ-174-R1-DH-CI-8551 -A		Notes no.9	Typical lagoon section shows that concrete piles to be constructed below RC lining and Contractor to design pile diameter and length. It is difficult to do design in a short span of time, please provide the details in order to do a competitive pricing
A14							<p>Answer:</p> <p>The Bidder shall price on the note given in the drawing 8551. It is Bidder responsibility to design and construct the piling as required in the Scope of Work.</p>

Q15	PRPS 5	Technical	Civil/Structural	MQ-174-R5-DH-CI-8551 -A		Notes no.9	Typical lagoon section shows that concrete piles to constructed below RC lining and Contractor to design pile diameter and length. It is difficult to do design in a short span of time, please provide the details in order to do a competitive pricing
A15							Answer: The Bidder shall price on the note given in the drawing 8551. It is Bidder responsibility to design and construct the piling as required in the Scope of Work.
Q16	PRPS 1	Technical	Civil/Structural	MQ-174-R1-DH-CI-8660-A			Drawing shows typical thrust block detail with concrete pile foundation. Please provide detailed BOQ for the same.
A16							Answer: These are already included in Bill No 8, item 8.6.17.
Q17	PRPS 5	Technical	Civil/Structural	MQ-174-R5-DH-CI-8660-A			Drawing shows typical thrust block detail with concrete pile foundation. Please provide detailed BOQ for the same.
A17							Answer: These are already included in Bill No 8, item 8.6.17.
Q18	All	Technical	Civil/Structural	Appendix A Section 2	22/187, 23/187	J	Item J page 22 asks for epoxy coated steel to be in accordance with ASTM A934 while page 23 asks for ASTM A755. Please confirm which ASTM should we follow bearing in mind the we could not find any supplier in Qatar offering epoxy steel to ASTM A934
A18							Answer: Epoxy Coated steel shall be fusion bonded in accordance with ASTM A934.

Q19	PRPS 4	Commercial	Clarification	Q & A 182	Page 62	Tanker Filling	Please note that the Bill No. 9 Item 9.1.12 is for installation of Mechanical Works. Bill No. 8 is for Civil Works and there is no item in this section for the Civil Works required for construction of Tanker filling station. Also note that for all other packages there is separate item in the Bill No. 8 for the construction of Tanker filling station. Please check and do necessary amendment in the BOQ.
A19							Answer: The Bidder shall allow for this under Bill No 9, item 9.1.14.
Q20	All	Technical	g. MQ174-R-DH-32	Overflow & Flood Relief Channel	GRP Lining		Since 6 mm thick GRP Lining is shown in the bottom of Channel we assume that all internal surface (wall & Base) of the Channels are to be off GRP Lining. Please confirm.
A20							Answer: Walls and base are to be GRP lined.
Q21	All	Technical	g. MQ174-R-DH-31	Storm-water Catch Basins	Internal Finish		The internal surface of Storm water Catch-basins/Manholes are with Coal Tar Epoxy coating whereas GRP lining is proposed for Channels & Lagoons. Please check and confirm.
A21							Answer: This is confirmed.
Q22	PRPS 5	Technical		Bow	8/26/25 R2	8.7.19.45	As referred in dwg. MQ174-R5-DH-CI-6533 is not available, please issue the same.
A22							Answer: Amend reference to MQ174-R5-DH-CI-6532.
Q23	PRPS 5	Technical		Dwg. MQ174-R5-DH-cl- 6028			As referred in Note No. 18 dwg. MQ174-R5-DH-CI-3165 is not available, please issue the same.
A23							Answer: The Bidder is referred to the original Tender CD, where this drawings may be located.

Q24	PRPS 4	Technical	Civil/Structural	Circular 18; MQ174-R4-DH- CI-8020 Rev. A	Typical trench details for process pipes	From the cross section, it is clear that all the inlet ring main, corridor suction main and incoming main pipes to be layed at 4.974 m above the undisturbed trench bottom. And the circulation, scour and drain down pipes are at different levels accordingly. We think it is not necessary to fill this 4.974 m with granular surround for bedding. Please clarify. Also clarify the top of the pipelines to be filled with granular surround same as bedding or with selected material from excavation. Please provide the revised drawing.
A24						<p>Answer:</p> <p>The Contractor shall comply with the specifications given, in particular the minimum compaction required as shown on the notes, furthermore the contractor shall note the levels of excavations completed by the Enabling Works Contractors.</p>
Q25	PRPS s 2,3,4 & 5	Technical	Civil/Structural	Circular 2	C124- MQ174-A- DH-D-00	In previous circulars it is said that excavation for process pipes is under the scope of GTC 626 contractor. In Circular 18, Q 123 it is clear that only additional excavation below the reservoir foundation level to be done by 626 contractor. But from the referenced dwg. in Circular 12 no hatching portion represents the excavation for process pipes. Shall we consider the whole excavation for process pipes under our scope. Please confirm.
A25						<p>Answer:</p> <p>The Bidder has been provided with drawings for the ongoing Enabling Earthworks contracts at PRPS2, 3, 4 and5. The Contractor shall be responsible for all remaining excavation on the site to complete the works.</p>

Q26	PRPS 4	Technical	Civil/structural	MQ174-R4-DH-CI-1200 Rev. B		Road Layout	From the referenced dwg. rev. A the length of temporary access road is 2650 m and the purpose of this road towards southeast corner is to access the space allocation for primary substation. But from the revised dwg. Rev. B the space allocation for primary substation has been changed near to tanker filling station and the road limit remained the same without any change. Is there any possibility to reduce the road length till tanker filling station only and if so, please provide the revised drawing.
A26							Answer: A revised drawings shall not be provided. The length of this access road shall be priced as shown on the drawing.
Q27	All	technical	Civil/structural	Appendix F, MQ174-R4-DH-CI-8600, 8601, 8602 Rev. A		Typical Thrust Blocks details	From the referenced dwgs, it is shown that a single pipe of different dia is layed on each thrust block. Our understanding is that only for each thrust a single pipe to be layed and not a combined thrust block cast for all nine pipes which are passing parallel to each other. Please confirm.
A27							Answer: The Bidder shall price the drawings given, which refer to a single block for each pipe.
Q28	All	Commercial	Civil/structural	Appendix B, Notes on pricing	21 of 27	2.2.1, Item 12	From the previous circulars it is clear that internal coatings are not required inside the reservoir and the concrete shall be fair finish. But from the reference table, 3 % shall be paid for internal coatings. As it has been deleted from the scope, please clarify for which item this 3 % transfers and will be paid accordingly.
A28							Answer: This 3% shall be allocated to testing cleaning and sterilizing.

Q29	All	Technical	Mechanical	Circular No 18	Pg No:51-52, Q-124,A-124	Capacity of chlorinator For PRPS-4	<p>As per Circular No.18 ,Transmission line chlorinator capacity of PRPS 4 has been revised to 24 kg/hr from earlier of 16.5kg/hr Chlorinator for Pump SS 4A transmission line. Our query is whether the same 24kg/hr Chlorinator will also be used for Pump SS 4B transmission line. Or we need to supply separate 4.6kg/hr Chlorinator for SS4B Pump, which was there earlier.</p> <p>Please confirm.</p>
A29							<p>Answer:</p> <p>Please note that 24 kg / hr is the total capacity for the transmission lines. Consider 19.4 kg/hr for SS4A and 4.6 kg/hr for SS 4B Chlorinators. Note that Answer 159 under TC 18 is still valid for multiple chlorinators.</p>
Q30	All	Technical	Mechanical	Circular No 18	Pg No:51-52, Q-124,A-124	Capacity of chlorinator For PRPS-2	<p>As per Circular No.18 ,Transmission line chlorinator capacity of PRPS2 has been revised to 24 kg/hr from earlier of 16.5kg/hr Chlorinator for Pump SS 2A transmission line. Our query is whether the same 24kg/hr Chlorinator will also be used for Pump SS 2B transmission line. Or we need to supply separate 4.6kg/hr Chlorinator for SS2B Pump, which was there earlier.</p> <p>Please confirm.</p>
A30							<p>Answer:</p> <p>Please note that 24 kg / hr is the total capacity for the transmission lines. Consider 19.4 kg/hr for SS2A and 4.6 kg/hr for SS 2B Chlorinators. Note that Answer 159 under TC 18 is still valid for multiple chlorinators. Regarding PRPS 1, 3 and 5, please amend the dosing for the requirement of transmission mains as provided below. 1) SS1A - 6.8 kg/hr and SS1B - 16.5 Kg/hr, 2) SS3A - 6.8 kg/hr and SS3B - 16.5 kg/hr 3) SS5A - 12.1 kg/hr and SS5B - 9 kg/hr.</p>

Q31	PRPS 4	Technical	Storm water	ALL	DWG _s		The longitudinal sections for storm water system pipelines are requested for pricing and checking of constructability. Please provide in next Tender Circular.
A31							Answer: This will be provided on the Issue For Construction Drawings.
Q32	PRPS 4	Technical	Storm water	MQ174-R4-DH-CI-3161	DWG _s		Please provide the details of oil interceptor located at the approx. 60 deg HB between D12-CB07 and MH07 for pricing.
A32							Answer: Refer to drawing CI-3321
Q33	PRPS 4	Technical	Storm water	MQ174-R4-DH-CI-3161	DWG _s		There is no slope between D12-CB01 and D12-CB02, IL's are the same. Please clarify the reason for 0 slope or amend the drawing.
A33							Answer: This shall read D12-CB01 Invert Level is 13.103 and D12-CB02 Invert Level is 13.020m

Q34	PRPS 4	Technical	Storm water	MQ174-R4-DH-CI-9106 &3170	DWGs		DWG 9106 shows storm water pipe at CH 0+389.65 but this pipe is not shown on dwg 3170. Please clarify or amend the drawing.
A34							<p>Answer: The arrow of 300mm storm pipe work shall be read in reverse on drawing CI-3170. There is no crossing of the storm pipe work at chainage CI-9106. The storm water pipe at ch 0+389.65 shown in DWG 9106 shall be deleted.</p>
Q35	PRPS 4	Technical	Storm water	MQ174-R4-DH-CI-3169	DWGs		In D05-MH17 is connection between two upstream pipelines DN 1800 and DN 2000mm diameters. After connection, the size of downstream pipe is DN 2000 mm. Please confirm this is acceptable by Kahramaa as larger pipeline downstream will affect the pricing.
A35							<p>Answer: The Bidder shall price on the basis that between MH17 and MH 18 the pipeline is 2200mm for length of 32m.</p>
Q36	PRPS 4	Technical	Roads	ALL	DWGs		This is reference to all road drawings, for example DWG CI-3274. Instead of indicating the total thickness above the culvert please provide typical cross section for roads with all layers (base, bedding, BNS, asphalt...) and dimensions or provide the reference to PWA manuals.
A36							<p>Answer: Bidders shall read the road pavement drawings shown on CI-2303.</p>

Q37	PRPS 4	Technical	Main Pumping Station	MQ174-R4-DH-CI-6200/3046	DWGs		Arrangement of recirculation DN 1400 mm pipe off of DN 2400 mm suction pipe on Drawings 6200 and 3046 does not match. Furthermore, a) Drawing 6200 shows connection to auxiliary pumping station to the left, but actually as per new layout and drawing 3046 the auxiliary PS is on the right side. Please clarify or amend the drawings and related details. b) Detail "A" on drawing 6200 to be revised to suit if arrangement on drawing 3046 is correct.
A37							Answer: CI-3046 is correct, orientation of the auxillary's line shall be mirrored. This will amended on the IFC.
Q38	PRPS 4	Technical	ETF PS	MQ174-R4-DH-CI-6381	DWGs		CI-6381 - Section "B": There is no straight distance required for trouble free PCV operation due to short distance between the valve and bend. Please confirm the arrangement, as per Kahramaa design, is acceptable for Kahramaa and will not cause any problem in control valve operation or provide the straight distance and amend the drawings for pricing.
A38							Answer: The item number 36 as shown on the drawing CI-6380 can be shifted in between the MGV and the duck foot. The design will not be changed and bidders pricing will not be affected.
Q39	PRPS 4	Technical	ETF PS	MQ174-R4-DH-CI-6382	DWGs		CI-6382 - Section "E". This arrangement requires removal of NRV in order to remove downstream MGV. Please confirm it is acceptable by KM and the contractor does not need to amend the arrangement in the shop drawings.
A39							Answer: The line is a 250mm bypass only, and the design shall not be changed.

Q40	PRPS 4	Technical	Pipeline sections	MQ174-R4-DH- CI-9100 to 9117	DWGs		<p>Please confirm the WOT is not required along the following longitudinal sections where low section/syphon is shown:</p> <ul style="list-style-type: none">a. CI-9100: DN1600 Corridor Incoming Main,b. CI-9103: Inlet Ring Main,c. CI-9106: Corridor Suction Main,d. CI-9110: DN1400 Transmission pipe to auxiliary PS,e. CI-9110: DN 800 Scour pipe,f. CI-9116: DN 800 Drain Down Return,g. CI-9117: DN1200 Recirculation pipe.
A40							<p>Answer: Bidders shall price the design given.</p>
Q41	PRPS 4	Technical	Fire fighting system	MQ174-R4-DH- CI-3130	DWGs		<p>The layouts for TFS and fuel bulk storage are shown as "NOT USED". Please confirm no fire protection system is required for these items and it is acceptable by Kahramaa.</p>
A41							<p>Answer: As referenced in Appendix A1, revision 2, the updated Scope of Works issued with Tender Circular 17, all diesel fuel storage tanks shall be protected by a foam fire protection system, to suit NFPA requirements.</p>
Q42	All	Technical	Electrical	MQ174-RX- DH-SC-8200 and MQ174- RX-DH-CI- 6030 'B'			<p>Drawing SC-8200 shows 11no. Longitudinal fibre optic cable runs for leak detection along the floor drainage channels matching the construction joints. Please confirm that drawing CI-6030 'B' requires 24no. Longitudinal fibre optic cable runs to match the revised construction joints?</p>
A42							<p>Answer: The fiber optic cables are embedded inside the underfloor channel and bidders shall follow the design given, as shown on the drawing CI-6030 which shows 24 number.</p>

Q43	PRPS 2	Technical	Electrical	App.I7-015B.3		Sl.No. 21	Minimum motor rating required is given as 2,400 kW. This is being ignored by the approved pump manufacturers and ratings of 1,800kW, 1,900kW, 1,925kW, 1,950kW and 2,000kW are being offered. None have offered 2,400 kW. Is the 2,400 kW requirement obligatory?
A43							Answer: The 2400kw rating stated on the SLD is for guidance purpose only. The final kw rating shall be based on the selected vendor for the pump.
Q44	PRPS 2	Technical	Electrical	App.I7-015B.4		Sl.No. 22	The minimum motor rating required is given as 2,400 kW. In Bill No. 5 item 5.2.2.1 and in Bill No. 10 item 10.1.2.1 the VFD rating is given as 2,200 kW. Can we assume that the motor rating is 2,400 kW at 40°C and derated to 2,200 kW at 50°C, hence the VFD rating is 2,200kW at 50°C. Please confirm?
A44							Answer: The specification shall be complied with. The minimum 2400kw rating may be modified if the proposed motor meets with project specification abs shall be subject to Kahramaa review and approval.

Q45	All	Technical	Mechanical	App.A4	7 of 108	Clause 4.2.2.1	<p>None of the approved manufacturers can offer suitable pumps for the main pumps on any package, to satisfy the velocity conditions imposed and meet the minimum efficiency of 85%. A few can offer to meet both criteria of velocity and efficiency on some pumps but none can offer to satisfy all the main pumps for any given package. To overcome this problem can you allow the minimum efficiency to be lowered to 82% or raise the discharge velocity to 5.5m/s. As Kahramaa has the right to chose any vendor from the approved list, does this mean that Kahramaa can chose a vendor whose pumps do not comply with specification?</p>
A45							<p>Answer: The specifications shall not be modified.</p>
Q46	All	Technical	Mechanical	Circular Letter No.18		Q/A 313	<p>Drawings CI-6335 and CI-6336 show six crane supports for the gantry crane. Presume a similar arrangement will be provided for the tanker filling stations. Please confirm that the structural design for these supports will be provided to the successful bidder?</p>
A46							<p>Answer: The bidders shall read correctly the scope of work and the note 3 of the drawing CI-6335 and CI-6336 stating the design of the overhead crane and supporting structure is contractor responsibility.</p>
Q47	All	Technical	Electrical	Bill No. 9		Item Ref. 9.2.12	<p>Can you please delete the description for 9.2.12.20 & 21 as these buildings have no lightning protection and add 'Bulk Fuel Store' and 'Single Bulk Fuel Store' in their place as these have lightning protection.</p>
A47							<p>Answer: This description shall not be modified. Should the Bidder not consider works necessary they should price it accordingly. As the Notes on pricing, the Bidder shall allow within his price all works required to complete the Scope of works as referenced, and as shown in the drawings.</p>

Q48	PRPS 1	Technical	Civil/Structural	MQ-174-R1-DH-CI-8551 -A		Notes no.13	Typical lagoon section shows that HDPE lining to be provided below the RC lining, please provide specification for the same.
A48							<p>Answer:</p> <p>Plastic sheeting for tanking shall consist of a bitumen/rubber compound laminated to 1000 gauge polythene sheet. HDPE lining is not required.</p>
Q49	All	Technical	Electrical	Circular Letter No.18		Q/A 393	We require further clarification on motorizing the access covers. Please confirm that the meaning of 'access covers over 1m2' are covers with a clear opening exceeding 1m2 and not the actual cover dimensions? The nearest available power location are the power outlets around the parapet walls (drg. SE-7301) - please confirm that these can be used? We are unable to find any detailed drawing of the 3m x 3m covers similar to those for the 1m x 1m covers (drg. CI-6033) - please provide details of these covers preferably indicating how they are being motorized. Can we assume that the battery back-up means that the motors are low voltage dc and are concealed under the covers inside the reservoir. As these covers require authorization, can we assume that there is no local control and the only control and monitoring is at the Main Pumping Station Control Room? As the details will be provided as IFC drawings, can these be provided prior to tender submission?
A49							<p>Answer:</p> <p>The Clear opening is required to be 1m² for the covers specified to be over 1m², however the Contractor shall note that all covers sized at 1m by 1m on the reservoirs shall be revised to 1.2m by 1.2m. The access covers opening range are available on the market, and the contractors proposals for these shall be subject to Kahramaa review and Approval.</p> <p>The power provided around the reservoirs can be used. No further drawings will be issued prior to tender submission.</p>

Q50	All	Technical	ICA/SCADA	App.A8 Rev.02	20 of 244	8.1.9	<p>The specification asks for a DCS, PLC, Batch and Safety System Combination. Such a hybrid system is only possible if the system is designed as a split-type system, for example Siemens PCS7 on the DCS Part and Step7 on the PLC part. Remote PLC's will be programmed as classical PLC's in Step7 with special functions for DCS communication.</p> <p>The DCS itself will cover just the Master PLC's and servers/clients. We know of no other solution that will meet the specification provided. Please confirm our understanding is correct?</p> <p>Please note that being a split system will give rise to problems regarding the programming and maintenance. Because the existence of separate CPU's in each PLC rack, the programming of those PLC's cannot be done from the DCS System; rather, it must be done independently and moreover it must be done one PLC at time.</p> <p>After this is done, the Master PLC programmes can be updated from the DCS System. This means that if we have a number of identical PLC's in the field, we need to do the programming of each of them separately, rather than using DCS tools that enable us to build one application and assign it to a number of identical PLC's.</p> <p>Please confirm our understanding is correct?</p>

A50							<p>Answer:</p> <p>a) Bidder shall refer to the specifications and the drawings. The requirement is for a combination of Pipework PLCs and vendor supplied PLCs, there is no guarantee that the same PLC vendor supplier will be used for each system, therefore it is likely that two or more engineering toolsets will be required.</p> <p>DCS and Master PLCs for configuration and generating graphics and the Packaged supplied PLC shall be provided with their own engineering software and toolset. There are a number of Suppliers such as those referenced in the Vendor list, who make DCS systems that generate graphics and also provide Integrated Engineering Development Software.</p> <p>b) There will be a need to work in parallel on several PLCs and DCS controllers, i.e. Gen-Set PLCs and Chlorination Vendor PLCs etc, so independent programming will be required. The advantages of multiple identical engineering tools are recognized, however it is for the contractor to determine interfaces so that they are easily managed, executed and commissioned in sections and thereafter integrated into a common DCS layer as required by the project.</p> <p>Refer to clause 8.1.6 of the automation specification for clarity.</p>
-----	--	--	--	--	--	--	--

Q51	PRPS 5	Technical	Civil/Structural	MQ-174-R5-DH-CI-8551 -A		Notes no.13	Typical lagoon section shows that HDPE lining to be provided below the RC lining, please provide specification for the same.
A51							Answer: Plastic sheeting for tanking shall consist of a bitumen/rubber compound laminated to 1000 gauge polythene sheet. HDPE lining is not required.
Q52	All	Technical	Civil/Structural	MQ174-R1/R2/R3/R4/R5/DH/CI-8020			The mentioned drawing doesn't match with the diameters and depths included in the BOQ. Please provide trench details for process pipes according to the BOQ provided in TC 18.
A52							Answer: The referenced drawing are for typical trench detail, bidders shall assess the application of the typical details to the detailed drawings and shall allow for this in their price.
Q53	All	Technical	Mechanical	Appendix B Bill No. 5	5/8/14 R3 5/9/14 R3	5.3.1, 5.4.1; 5.6.1	Please confirm PT100 Sensors and DI Monitoring system for pumps is required or not.
A53							Answer: Instrumentation within the pumps shall be included within the Pump manufacturers package in accordance with the specifications and the P&IDs.

Q54	All			Concrete Specification			We request your technical clarification with regards the No fines concrete specification, in particular the density and strength requirements. It is virtually impossible to meet both requirements, as we would need to raise the density to achieve the strength but this would reduce the porosity of the mix which is the main criteria of using this material. We are looking at achieving the requirement by using micro silica which will have significant time and cost implication. We enclose a graph showing the relationship between density and strength of No-fines concrete, as you can see to get even 15 N/mm ² we would have to exceed the maximum density of 2000 kg/m ³ . Request your concurrence with our views and confirmation that we are required to price for no fines concrete using Micro Silica.
A54							Answer: The Bidder shall price in accordance with the design and specifications and shall provide method statement for the mixture proposed to comply with the project requirements.
Q55	All	Technical	Clarification No. 18	Overflow & Flood Relief Channel	Channel Cover		Please issue the specification of "Hot Dip Galvanized Steel Grating Cover".
A55							Answer: Refer to the note added on Circular No 18 which changes this to anodized aluminium, marine grade 6082 T6 and shall be subject to Kahramaa review and approval.
Q56	All	Technical	Mechanical	Appendix B Bill No. 5	5/8/14 R3 5/9/14 R3	5.3.1, 5.4.1; 5.6.1	Please confirm the pump shaft material should be standard stainless steel or Duplex Stainless Steel for submersible pumps.
A56							Answer: This shall be provided in accordance with the specification given in Appendix A4.

Q57	All	Technical	Electrical	App.A5 Rev.2	page 7 of 41	5.2.4.13.2	For MV motors the vibration monitoring is stated as being proximity transducer for shaft vibration measurement whereas App.A6 Rev.2 Clause 6.3.7 page 24 of 34 states that there shall be piezo-electric accelerometers for vibration. Please confirm that the proximity transducers are for MV motors only and pumps and other motors have piezo-electric accelerometers?
A57							Answer: This is confirmed.
Q58	All	Technical	Electrical	App.A5 Rev.2	page 4 of 41	5.2.4.2	Can we please have clarification on pump motor ratings. The requirement to establish the motor rating for MV motors is given as "a minimum of 1.15 shaft power at 110% of duty point considering all derating requirements". The Kahramaa Specification for Main Distribution and Transmission Pumps states "The motor shall be designed with over-rating of 15% higher than the maximum power required at 110% of duty point PLUS the temperature de-rating factor for motor from 40°C to 50°C". Currently, none of the pump manufacturers on the vendor list are applying these derating factors and all the motors offered are undersized.
A58							Answer: The bidders shall follow the project specifications.

Q59	All	Technical	Electrical	App.F	Circular Letter No.17 & 18	Q/A 134	CL No. 18 - Supplementary Note to Support Electrical Drawings. 3. Earthing and Lightning Protection. Interconnection between earth pits is 240mm ² lead sheathed copper conductor. CL No. 17 Q/A 134 states that earth grid conductors are 400mm ² lead sheathed copper conductors. Are 'earth grid conductors' the same as 'interconnection between earth pits'. Please clarify?
A59							Answer: Interconnection between earth pits shall be lead sheathed copper conductor.
Q60	All	Technical	Mechanical	Appendix B Bill No. 5	5/8/14 R3 5/9/14 R3	5.3.1, 5.4.1; 5.6.1	Please confirm Cooling jacket is required or not (generally it is not required for the submersible pumps as it is fully submerged in water).
A60							Answer: Bill No. 5.3.1 and 5.4.1 refer to the pumps at auxiliary pumping station and Tanker filling pumping station where the pumps are dry submersible pumps. These specific pumps require cooling jackets. The details of this are specified under Appendix A4.2.3. Bill No. 5.6.1 refers to land drainage pumps which are submersible pumps installed in the wet well. Cooling jackets are not required for this as the motor shall be continuously submerged.

							Laboratory Case works clarifications: 1. Specification shows three types of case works like metal, wood, plastic-laminate case works. Please specify type of case work you required in this project. 2. Specification shows C-Frame with suspended cabinets. Please confirm 3. Suspended cabinets are metal body and wooden doors/drawer fronts. Please confirm 4. Tender drawings are not showing any type of suspend/base cabinets. We need more elevation drawings with cabinets requirement. 5. Worktops material type not mentioned in specification. Shall we consider 25 mm thick epoxy tops?. 6. Specification shows Sinks, peg board, gas/water fixtures, locks, label holders etc.. but tender drawings are not shows these details. Please send us some more detailed drawings. 7. Also send us tender BOQ.
Q61	All	Technical	Architectural	Appendix A3 Architectural Specification Rev 1 3.10.1 SECTION 12 35 53 - LABORATOR Y CASEWORK		Laboratory Caserwork	

A61							<p>Answer:</p> <ol style="list-style-type: none"> 1. The Cabinets are made from steel produced from galvanized metal sheets and painted with special anti-acid epoxy paint, kiln dried at 200°C. The front piece, door or drawer cover, are double walled to allow the screw of the handle to be invisible. Top of countertop to be 900 from the FFL with 200 clear space between the FFL and the cabinet bottom. 2. C-Frame with suspended cabinets comprises a worktop and cantilever steel frame welded by square steel tube. A certain space is preserved between the ground and the cabinet bottom for cleaning. 3. Refer to answer on no.1. 4. Please refer to Tender dwg no. AR-3760 for laboratory cabinet elevation/section. 5. Worktops is 19mm thk solid epoxy resin with 100mm high applied backsplash (corian or equal approved). 6. Sink is under mounted stainless 316; stainless steel lock and handles to the cabinets; peg boards in Lab 2 to be added above the sink and for Lab 1 - provide 2 nos. located in between the 3 windows, size will be from the top of back splash to top of window height. Label holders for each cabinet is required. 7. Tender BOQ has been provided on several occasions and the latest may be found in Tender Circular No 18.
Q62		Technical	Architectural	GTC626_201 4-AppA3 - Loose Furniture schedule		Loose Furniture	Please provide us specifications and approve vendors list for Loose furniture in order for us to price competitively.
A62							<p>Answer:</p> <p>No approved Vendors shall be provided. The Furniture shall be New, grade A quality.</p>

Q63	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-CI-8600-A MQ174-R1-DH-CI-8601-A MQ174-R1-DH-CI-8602-A	Piling	Piling works: Please Clarify. 1. Working platform Level [expect Thrust Blocks] 2. Reinforcement details to Thrust Blocks 3. Cut off level of the pile 4. If any test to pile required; provide type of test with quantity. 5. Please provide BOQ.
A63						Answer: The Bidder shall price using the note using the reinforcement densities proved for the thrust block, as shown on the drawings 8600, 8601 and 8602. This shall be priced under item 8.7.17.2. Detail of the reinforcement for the thrust blocks shall be provided in the Issue For Construction Drawings.
Q64	PRPS 1	Technical	Civil/Structural	MQ174-R1-DH-CI-8551-A	Piling	1-Please confirm if this drawing is applicable for Lagoons 1,2 & 3. 2-If yes, please provide detailed drawings and layout for Piling in Lagoon 1, 2 & 3
A64						Answer: This is applicable for lagoons 1 and 2 at PRPS1. This is not required for the standby lagoon at PRPS1.
Q65	PRPS 1	Technical	Electrical/ Mechanical	Tender Circular No. 16	Q112	Bulk Fuel Storage, Single Bulk Fuel Storage, Surge Vessel Facility buildings are not shown in Bill No.9. Whereas drawings shown DB's, light fittings, Internal wiring accessories, Lightning Protection and Earthing System. Please confirm where these prices to be added in the Bill.
A65						Answer: There is no buildings for Bulk Fuel Tanks and Surge Vessel. Please include the prices under item 9.1.11 for Surge Vessel and under 9.2.6 for Bulk Fuel Tanks.

Q66	PRPS 1	Technical	Electrical/ Mechanical	Tender Circular No. 16	41	Q&A 112	Please provide the drawing of 16Mtrs Security lighting pole and confirm the number of fixtures to be connected.
A66							Answer: Please refer to drawing MQ174-R1-DH-SE-7204 for a typical column detail. The number of luminaires is as per the MQ174-R1-DH-SE-410* series drawings.
Q67	PRPS 1	Technical	Electrical/ Mechanical	Tender Circular No. 14 and 16	67 & 41	A215,A216,A217 & A110	The following drawings are not found. Please provide. MQ174-R1-DH-SE-3200 MQ174-R1-DH-SE-4200 MQ174-R1-DH-SE-7300
A67							Answer: This is intended to refer to the drawing series, not the specific drawing numbers. i.e 32**, 42**, 73**.
Q68	All	Technical	Mechanical	Tender Circular 18	94/142	Q255 & A255	Lifting stations size and lifting pumps capacities and BOQ location
A68							Answer: Refer to 9.1.5.1 in the BOQ. For the Specification, use three submersible pumps of capacity 9.72 l/s @16.4m head are to be installed in the sump and operated as 2 duty and 1 standby. The pumps shall be electrically driven vertical submersible type.
Q69	All	Technical	Mechanical	Tender Circular 18	43/142	Q103 & A103	Chlorination sampling lines sizing, quantities and BOQ location
A69							Answer: Refer to P&ID. These shall be priced under the Chlorination equipment.

Q70	All	Technical	Mechanical	Tender Circular 18	GTC626_2014-AppA7 - MEP schedules	Sump pumps schedule has no designation on the BOQ
A70						Answer: These shall be priced in with the relevant structures to which they are attached.
Q71	PRPS 4	Commercial	Item Coverage	Dwg. MQ174-R4-DH-CI-2100, Rev. B		One number Surge Plant shown in the mentioned drawing (Key Plan - Road Layout) received through TB # 18, whereas in BOQ page 8/25/1483 mentions two Surge plants (Item 8.5.4 - Surge Plant 01 & 8.5.5 Surge Plant-02). Kindly advise.
A71						Answer: The bidder shall refer to the process pipe drawing reference 3040 series. The Bidder shall note that the surge plant is in a single location, with separate delivery systems.
Q72	All	Commercial	Item Coverage			Kindly advise whether the contractor can propose equivalent supplier for the Electrically operated Reservoir roof access cover.
A72						Answer: The Contractor may propose equivalent supplier
Q73	All	Commercial	Quantities	TC 17	Q&A 32	It is mentioned as "Roads and footpath shall be provided around the future reservoir", however, in the same Circular 17, Q&A 35 is mentioned as "Roads shall be provided around future reservoir." Kindly advise whether both the roads and footpath shall be provided around the future reservoirs.
A73						Answer: Only internal road around the future reservoir as shown on the road drawings shall be constructed. Other Hard or soft landscaping in these areas are not part of the SOW.

Q74	All	Commercial	Item Coverage	TC 17		Q&A 4	<p>It is mentioned as "Concrete slabs on Grade as shown on the landscaping architects & Architects drawings (LE-2000 series). We could not find the same details in the Landscaping drawing. Kindly advise.</p>
A74							<p>Answer: For Hardscaping dwg series LE-2000, there is no concrete slabs on grade but three different sizes of concrete block paving and PCC blocks laid in herringbone pattern are shown. Please refer to the legends for the Hardscaping materials.</p>
Q75	PRPS 4	Commercial		Dwg. MQ174-R4-DH-CI-8020, Rev. B			<p>Refer to the process pipe work between the Reservoirs; Granular Bed & Surround for the Inlet Ring Main (approximate IL from FGL 5.4 m) shown up to the bottom trench level of scour mains (app. 9.3 m deep from FGL) in a combined trench. In this case we should have additional excavation for the Inlet Ring main up to the level of scour mains. Kindly advise whether the same details should follow.</p>
A75							<p>Answer: The Contractor shall comply with the specifications given, in particular the minimum compaction required as shown on the notes, furthermore the contractor shall note the levels of excavations completed by the Enabling Works Contractors.</p>
Q76	PRPS 4	Commercial		Dwg. MQ174-R4-DH-CI-8020, Rev. B			<p>Kindly confirm the Granular Bed & Surround as shown in drawing to be considered in the road bottom area which are coming between the reservoirs.</p>
A76							<p>Answer: Road pavement shall follow drawings CI-2302 and CI 2303, therefore the typical trench detail for the pipe process does not fall under the road pavement make up.</p>

Q77	PRPS 4	Commercial		Dwg. MQ174-R4-DH-CI-8020, Rev. B		Process pipelined road crossing shown in drawing is not included in BOQ. Kindly advise.
A77						Answer: All process pipeline are included in the BOQ. Bidders shall price the works required to complete the design shown on the drawings.
Q78	PRPS 4	Commercial		Dwg. MQ174-R4-DH-CI-8020, Rev. B		Drawing indicates 2x100 mm dia HDPE Duct for Fiber Optical Cable. Kindly provide the layout drawing & BOQ item for the same.
A78						Answer: Refer to drawing SC-8300 for F.O layout
Q79	All	Commercial		TC 18	30	Q&A 75 We could not understand the Mass concrete filling grade SRC 20 to excavated excess or voids as stated in TC 18. Kindly provide us more details.
A79						Answer: Where over excavation occurs underneath structures of any kind, these voids shall be filled with Concrete grade SRC 20.
Q80						Upon reviewing dwg. MQ174-R1-DH-CI-6027 referred to "Distribution Overflow Chamber", we found out that it is the Overflow and Relief Channel. Please confirm if our understanding is correct. Please confirm also if we have to provide the Removable Lightweight Anodized Aluminum open mesh flooring all throughout Flood Relief Channel as reflected on the said drawing.
A80						Answer: Drawing CI-6027 is a detail of the overflow from the IDC connecting to the main overflow channel which connect itself to the flood relief channel as shown on the drawing CI-3250 series. Correct the anodized aluminium flooring shall be provided throughout the overflow and FRC channels at the exception at the road crossing

Q81						MQ174-R1-DH-CI-6027 Distribution Overflow Chamber did not mention the 2400 mm Ø overflow pipe on the pipe schedule. Can you provide us plan view that will reflect the pipe connection details? Is there a requirement for an access ladder?
A81						<p>Answer: There is not 2400mm overflow pipe from the IDC. Maximum overflow pipe is 1600mm from the IDC to the connection overflow channel. Bidders shall read the combined upstream storm network drawings series 3160 series and the overflow/FRC profile drawing CI-3272. bidders shall include 6 numbers of anodized aluminium ladders at maximum depth of 4m for all segments of the overflow/RFC channels. location and detail will be provided during IFC stage.</p>
Q82						Drawing for "Valve Chamber for Single DN600" measured on Bill item 8.7.18.8. Civil drawing under ref. MQ174-R1-DH-CI-6391 has 300 mm base offset from wall while structural drawing does not have (MQ174-R1-DH-ST-ST-8040 to 8041). Please confirm which drawing will govern.
A82						<p>Answer: Structural drawing ST-8040/8041 govern over CI-6391 in terms of thickness of the slab/wall and toe foundation.</p>
Q83						Kindly provide structural drawing for Valve Chamber Type - 1 for DN500 as shown on Civil dwg. MQ174-R1-DH-CI-6392
A83						Bidders shall price as per drawing ST-8040, however at maximum 2m depth instead 4.3m depth.

Q84						Kindly clarify which material of "perforated pipe" will be utilized for the under floor drainage shown in dwg. CI-6030 rev. B since it is contradicting on what is mentioned on Q&A126 page 41 of Tender Circular 14.
A84						<p>Answer: Bidders shall refer to latest circulars 18 and 19, the perforated pipe for the under floor drainage is ESVC as mentioned in SOW clause 1.1.3.9 and drawing CI-3200 series</p>
Q85						<p>Please clarify whether the Precast wall cladding be replaced with painted aluminum cladding as mentioned on TC 14 and quoted below:</p> <ul style="list-style-type: none"> - Page 16 Answer 38, "Above ground the reservoir shall be fair faced finish with painted aluminum cladding; - Page 24 Answer 69, "Panels are now replaced with aluminum cladding. The Contractor shall submit shop drawing for fixing hardware." - Page 40 Answer 120 "All precast finish to be smooth for painting". - Page 103 Answer 374 "Precast concrete panels to Reservoir are to be replaced with Aluminum sheet cladding." <p>Please note that page 40 answer 120 of the same circular still pointing for the precast panel. Also kindly provide revised drawing and related specifications on Reservoir cladding amendments.</p>
A85						<p>Answer: Refer to drawing AR - 2015. Reservoirs shall be clad with hot dipped zinc coated steel cladding as shown on this drawing.</p>

Q86						<p>We found discrepancies between the number Valve Chamber in BOQ and what is reflected on the drawing:</p> <ul style="list-style-type: none"> - PRPS 1 - Bill 8.7.18, two (2) no of chambers are measured while there are three (3) no. of ht mentioned in the dwg (see dwg. MQ174-R1-CI-6506 Rv. A) - PRPS 1 - Bill 8.7.18.19, two (2) no. of chambers are measured while there are three (3) no. of ht mentioned in the dwg (see dwg. MQ174-R1-CI-6507 Rv. A) - PRPS 1 - Bill 8.7.18.20, two (2) no. of chambers are measured while there are three (3) no. of ht mentioned in the dwg (see dwg. MQ174-R1-CI-6508 Rv. A) - PRPS 1 - Bill 8.7.18.21, two (2) no. of chambers are measured while there are three (4) no. of ht mentioned in the dwg (see dwg. MQ174-R1-CI-6509 Rv. A) - PRPS 1 - Bill 8.7.18.22, two (2) no. of chambers are measured while there are three (4) no. of ht mentioned in the dwg (see dwg. MQ174-R1-CI-6510 Rv. A) - PRPS 1 - Bill 8.7.18.23, two (2) no. of chambers are measured while there are three (4) no. of ht mentioned in the dwg (see dwg. MQ174-R1-CI-6511 Rv. A)
A86						<p>Answer: PRPS 1 Bill No. 8 Item 8.7.18.18 to 8.7.18.23 BOQ quantity correct. Drawing indicates all the chambers including chambers related future reservoirs. Under this PRPS 1 contract only 4 nr reservoirs will be constructed.</p>

Q87							PRPS 1 - please provide layout for the location of Temporary Site Boundary Fence as mentioned on Scope of Work Section 1.1.2 Item 18 and dwg. ref. MQ174-R1-DH-CI-8051.
A87							Answer: The temporary Site Boundary Fence shall be installed by the Contractor to protect the works until the erection of the final boundary wall. This shall be located 2 m outside the final site boundary for the whole of the site.
Q88							PRPS 1 - kindly provide the estimated quantity of stockpiled soil materials for us to separate the volume from cutting in our computation. Please note that you did not provide a topographical survey before providing the stockpile material at site.
A88							Answer: A topographical survey has been provided for PRPS1. However as the stockpiles may have varied since the survey was completed, the contractor shall verify for himself all stockpiles and allow for this in his price accordingly.
Q89	PRPS 4	Commercial	Quantities	Dwg. No: MQ174-R4-DH-CI-8600-A to 8602-A			Kindly advise if any Rocker Pipes and Socket Collars required on Thrust blocks.
A89							Answer: Bidders shall read the process pipework under series CI-9100 for understanding of the ductile iron thrust bloc requirement which imply to drawing CI-8600 to CI-8602. All the bends in different geometry and tees require thrust block to resist the pressure in change flow direction. The arrangement of the bends require a short pipe plus socket plus rocker pipe next to them. The short pipe shall be at least 1m from the first socket / spigot.

Q90	PRPS 3	Commercial	Quantities	BOQ	6/22/96R3	6.6.17	Kindly advise the location of 20 Nos. 1200mm dia Flange Socket as shown in BOQ Bill 6.6.17.
A90							<p>Answer: The bidders shall read the description of bill number 6.6 under supply of pipes and fittings and refer to the referenced drawings. Location of These 1200 mm dia. Flange Sockets are at the connection tees from ring main to reservoirs.</p>
Q91	All	Commercial		BOQ	10.8		<p>Bill No. 10, Item No. 10.2 are mentioned that manufactured recommended Spares to Cover for two years operation. The same item repeated in Bill No. 10, Item No. 10.8. Please Clarify the Same.</p>
A91							<p>Answer: Item 10.8 is a general item to cover spares, consumables and tools where not included in the spare parts bill</p>
Q92		Contractual					<p>Please confirm whether the effective date of contract is based upon the final letter of award, or the [provisional letter of award.</p>
A92							<p>Answer: The Effective Date of Contract shall be no later than fourteen (14) days from the date on which Kahramaa receives the Contractor's formal confirmation of unconditional acceptance, in Writing, to Kahramaa's Provisional Letter of Award.</p>
Q93	PRPS 4	Commercial	Quantities	App. A 3	456 to 473/509		<p>Refer to TC 18 - App. A3 - Architectural Specification Rev. 1 & dwg. MQ174-R4-DH-AR-1890-B - Hardware schedule for D05, D07, D11, D12, D17, D19, D22, D23 & D25 are missing. Kindly provide.</p>
A93							<p>Answer: The bidder shall refer to similar doors for the appropriate ironmongery</p>

TECHNICAL AFFAIRS

الشؤون الفنية

TELEFAX MESSAGE	DATE: 16 /09/2014	TOTAL PAGES: 2+3
To: All Bidders		Fax:
For the Attention of: General Manager		Our Ref.: TA/TW/TWM/14/FX/
Subject: GTC 626/2014 - CONSTRUCTION OF MEGA RESERVOIRS PRPSs (PACKAGES A, B, C, D & E)		1496

CIRCULAR No. 21

TENDER CLARIFICATION

1. Extension of Tender Closing Date:

The Bidder is advised that due to the strategic nature of this project, there shall be no further extensions of time for the Tender Closing Date.

2. Notice of Amendment

2.1 Epoxy Coated Reinforcement

Epoxy Coated Steel reinforcement shall now be accepted to ASTMASTM A775/A775M. The surface of the steel reinforcing bars to be coated shall be cleaned by abrasive blast cleaning to near-white metal. All tests for coating thickness, continuity, flexibility and adhesion shall be performed in adherence to this specification. If the specimen for coating thickness or flexibility fails to meet the specified requirements, two retests on random samples shall be conducted for each failed test. The contractor is required to provide reinforcement bar lap lengths that will develop similar or better bond strength than uncoated bars.

2.2 Piling for Lagoons

Further to additional Queries, the contractor is advised that piles are only required to Lagoons on site PRPS1 (lagoon number 1 and 2), and PRPS5. Lagoons on PRPS 2, PRPS 3 and PRPS 4 do not require any piling.

| Page 1

Warning: this fax and any attachments may contain information which is confidential. They should not be reproduced or copied to anyone without the approval of the sender. If you are not one of the approved recipients of this fax, any attachments, and copies, please notify the sender by return fax or telephone. Confidentiality is not defined or lost by redaction or obscuring.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : تلفون : ٤٤٨٤٥٣٩١ - (974)44845333
عن. ب : ٤١ الدوحة - قطر



2.3 Appendix B: Bank Guarantee for Advance Payment

This form has been updated. A revised version may be found at the back of this circular before the table of clarifications. This form shall be used in place of the one provided with the original tender documents.

Note: Please sign and stamp the attached acknowledgement form and return it back by Fax to "Water Projects" Department on Fax No. 44845353 within two working days.

Regards,

ENG. AHMED NASSER AL NASER
DIRECTOR, TECHNICAL AFFAIRS

CC: TW,GTC, File

1

| Page 2

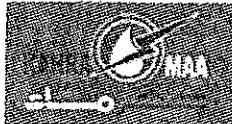
This fax and any attachments may contain information which is confidential. They should not be disclosed or copied to anyone without the approval of the sender. If you are not one of the intended recipients of this fax, any attachments, and copies, please notify the sender by email or fax or return the transmission. Confidentiality is not guaranteed for long distance communications.

Tele: (974) 4484 5333 - Fax: (974) 44845391
P O BOX 41, DOHA - QATAR.

44845391 : -98 = 97444845333 : 333

$$M = \{m_1, m_2, \dots, m_n\}$$





Qatar General Electricity & Water Corporation
Tender NO. GTC 626/2014
Construction of Mega Reservoir PRPSs
(Packages A, B, C, D & E)

ADVANCE PAYMENT GUARANTEE

TO:
**M/S. QATAR GENERAL ELECTRICITY & WATER CORPORATION (KAHRAMAA)
P. O. BOX 41
DOHA
STATE OF QATAR.**

WE _____ BANK OF P.O. BOX _____ DOHA, QATAR, WITH
REFERENCE TO CONTRACT GTC _____ / _____. ISSUED BY QATAR GENERAL
ELECTRICITY & WATER CORPORATION ("KAHRAMAA") IN DOHA, QATAR, TO
M/S _____ HAVING ITS MAIN OFFICE IN _____ P.O.
BOX _____, CALLED HEREINAFTER THE CONTRACTOR, HEREBY
IRREVOCABLY AND UNCONDITIONALLY UNDERTAKE TO PAY TO KAHRAMAA
AN AMOUNT OF QR. _____ (QATAR RYALS
_____) IN CONSIDERATION OF THE
ADVANCE PAYMENT PAYABLE BY KAHRAMAA TO THE CONTRACTOR,
NOTWITHSTANDING ANY CONTESTATION OR OBJECTION BY THE
CONTRACTOR.

THIS LETTER OF GUARANTEE IS SOLELY RELATED TO CONTRACT NO.
GTC _____ / _____ AND THE BANK BINDS ITSELF, ITS SUCCESSORS, ASSIGNS
BY THESE PRESENTS.

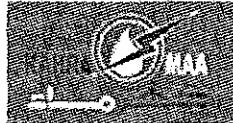
WE UNDERTAKE TO PAY YOU UPON YOUR FIRST WRITTEN DEMAND, NOT
WITHSTANDING ANY OBJECTIONS WHATSOEVER BY THE CONTRACTOR,
SUCH AMOUNT OR AMOUNTS AS YOU SHALL REQUIRE NOT EXCEEDING IN
AGGREGATE THE ABOVE MENTIONED AMOUNT OF QATARI RYALS
BY TRANSFER TO AN ACCOUNT IN YOUR NAME AT
SUCH BANK IN QATAR AS YOU SHALL STIPULATE OR IN SUCH OTHER
MANNER AS SHALL BE ACCEPTABLE TO YOU.

THE GUARANTOR ACCEPTS AND WARRANTS THAT THE AMOUNT OF THE
ABOVE GUARANTEE DOES NOT EXCEED TEN PER CENT OF THE TOTAL OF
THE PAID UP CAPITAL AND RESERVES OF THE GUARANTOR.

ANY PAYMENT MADE HEREUNDER SHALL BE MADE FREE AND CLEAR OF
AND WITHOUT DEDUCTION FOR OR ON ACCOUNT OF ANY PRESENT OR
FUTURE TAXES, LEVIES, IMPOSTS, DUTIES, CHARGES, FEES, DEDUCTIONS
OR WITHHOLDINGS OF ANY NATURE WHATSOEVER AND BY WHOMSOEVER
IMPOSED.

THE VALUE OF THIS GUARANTEE SHALL BE PROGRESSIVELY REDUCED BY
THE AMOUNT DEDUCTED BY KAHRAMAA FROM THE CONTRACTOR AS
CONTAINED IN THE CERTIFICATES AND PAYMENTS AGAINST THE SAID
ADVANCE PAYMENT.

THIS GUARANTEE SHALL BE EFFECTIVE FROM _____ AND
SHALL REMAIN VALID UNTIL KAHRAMAA RECEIVES FULL PAYMENT OF THE



**Qatar General Electricity & Water Corporation
Tender NO. GTC 626/2014
Construction of Mega Reservoir PRPSs
(Packages A, B, C, D & E)**

ADVANCE PAYMENT AMOUNT FROM THE CONTRACTOR OR UNTIL
_____, WHICHEVER IS EARLIER.

THE GUARANTOR ACCEPTS THE OBLIGATION TO EXTEND THE VALIDITY OF THIS GUARANTEE WHENEVER SO REQUESTED BY KAHRAMAA WITHOUT REGARD TO ANY OBJECTIONS WHATSOEVER FROM THE CONTRACTOR.

YOURS FAITHFULLY
(BANK)

AUTHORIZED SIGNATURE