



الموسسة 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 7 OF 19)**



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

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## SECTION 10: APPENDIX B SCHEDULE OF PRICES

## **SECTION 10: APPENDIX B SCHEDULE OF PRICES**

### **1. Form of Tender**



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

# **FORM OF TENDER**





## FORM OF TENDER

The Secretary  
General Tenders Committee  
Qatar General Electricity & Water Corporation  
P.O. Box 41 - Doha – Qatar  
Dear Sirs,



### TENDER NO. GTC 626/2014 Construction of Mega Reservoir PRPs - Package A (PRPS-1)

- Having carefully examined the Tender documents for the execution of the above named services, we the undersigned offer to execute the whole of the said services in conformity with the above-referred Tender documents for the Sum of 2,158,734,343.01 QR (Two Billion One Hundred Fifty Eight Million Seven Hundred Thirty Four Thousand Three Hundred Forty Three and 1/100 Qatar Riyals) subject to final measurement.
- We enclose herewith a Tender Bond for 20,000,000/- valid till 14 February 2015.
- The following documents (**original + 2 copies**) are returned herewith:-
  - Signed Secrecy Declaration
  - Attested Certificate showing the specimen of signatories authorized to sign the Form of Tender and the Contract
  - This Form of Tender, completed and signed (separate form for each Package Tendered)
  - Priced Schedule of Rates/Prices/Bill of Quantities (as applicable) Completed Contract Schedules.
- We acknowledge receipt of the following Tender bulletins and these have been considered in our Tender preparation:-

Ref. No.	Subject	Date
1. TA/TW/TWM/14/FX-8881	Tender Circular No. 1	05/05/2014
2. TA/TW/TWM/14/FX-1009	Tender Circular No. 2	26/05/2014
3. TA/TW/TWM/14/FX-1067	Tender Circular No. 3	05/06/2014
4. TA/TW/TWM/14/FX-1098	Tender Circular No. 4	10/06/2014
5. TA/TW/TWM/14/FX-1125	Tender Circular No. 5	16/06/2014
6. TA/TW/TWM/14/FX-1139	Tender Circular No. 6	19/06/2014
7. TA/TW/TWM/14/FX-1169	Tender Circular No. 7	24/06/2014
8. TA/TW/TWM/14/FX-1177	Tender Circular No. 8	26/06/2014
9. TA/TW/TWM/14/FX-1207	Tender Circular No. 9	06/07/2014
10. TA/TW/TWM/14/FX-1213	Tender Circular No. 10	07/07/2014
11. TA/TW/TWM/14/FX-1225	Tender Circular No. 11	09/07/2014
12. TA/TW/TWM/14/FX-1246	Tender Circular No. 12	13/07/2014
13. TA/TW/TWM/14/FX-1276	Tender Circular No. 13	22/07/2014
14. TA/TW/TWM/14/FX-1327	Tender Circular No. 14	12/08/2014
15. TA/TW/TWM/14/FX-1337	Tender Circular No. 15	18/08/2014
16. TA/TW/TWM/14/FX-1344	Tender Circular No. 16	20/08/2014
17. TA/TW/TWM/14/FX-1399	Tender Circular No. 17	26/08/2014
18. TA/TW/TWM/14/FX-1414	Tender Circular No. 18	28/08/2014
19. TA/TW/TWM/14/FX-1460	Tender Circular No. 19	08/09/2014
20. TA/TW/TWM/14/FX-1495	Tender Circular No. 20	14/09/2014
21. TA/TW/TWM/14/FX-1495	Tender Circular No. 21	16/09/2014

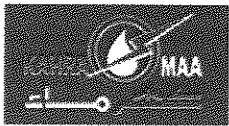
- This Tender shall remain valid for a period of one hundred twenty (120) calendar days from the closing date for submission of Tenders.
- We also understand that you may, prior to acceptance of the Tender, vary the scope of works and such variations, whether increase or decrease, any result in certain works being excluded in the scope of works.

Signed : .....  
Name : Mustafa Younis  
Position : General Manager  
Company : CCC/TCC – Joint Venture  
Address : P.O. Box 23897, Doha, Qatar

Date: 30 / 11 / 2014  
(Company Seal)



**SECTION 10: APPENDIX B**  
**SCHEDULE OF PRICES**  
**2. Preamble**



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

## **APPENDIX B**

### **NOTES ON PRICING &**

### **SCHEDULE OF PRICES**



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### **Section (1) Preamble**

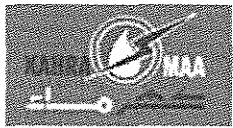
The Preamble is common to all Packages

- Notes on Pricing**
- Terms of Payment**
- Metric System & Abbreviation**
- Bank Guarantee for Advance Payment**

### **Section (2) Schedule of Prices (Bills of Quantities)**

The following Bills of Quantities are provided individually for each Package

- Bill No. 1 – Supply of Main Pumps, Motors and Spares- Preferred Supplier
- Bill No. 2 - Supply of Main Pumps, Motors and Spares- Supplier No. 2
- Bill No. 3 - Supply of Main Pumps, Motors and Spares- Supplier No. 3
- Bill No. 4 - Supply of Main Pumps, Motors and Spares- Supplier No. 4
- Bill No. 5 - Supply of Major M&E Equipment
- Bill No. 6 - Supply of Pipes, Fittings, Valves and Accessories
- Bill No. 7 - Supply of Instrumentation & Control Equipment
- Bill No. 8 - Civil Works
- Bill No. 9 - MEICA Works
- Bill No. 10 - Supply of Spare Parts for MEICA Equipment



## **Section (1) Preamble**

### **1. Notes on Pricing**

Tenderers shall read the following prior to quoting their rates and completing the Tender Schedule of Prices (SOP).

**1.1** The Contract Price as stated on the Grand Summary in the Bill of Quantities (BOQ) and Form of Agreement is classified as follows:

- a) 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.
- b) Re-measurement of the Tender quantities will only be applicable where there is a change to the scope of Works instructed by Kahramaa in accordance with Article 14 of the General Conditions of Contract
- c) All the lump sum items (LS and IM) are fixed Lump sum items, which are not subject to final re-measurement but to variation only.
- d) Kahramaa has the right to request the contractor to submit price break down for any BOQ item and the contractor shall submit the same for Kahramaa approval.
- e) All BOQ Items including "Optional Items" if any shall be accounted for in the total tender offer/price stated on the Form of Tender and the Grand Summary page of the BOQ.

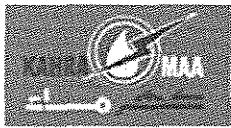
**1.2** This Contract is a Procurement & Construction Contract (**PC Contract**); unless otherwise specified, or identified in the BoQ item description, it is the Contractor's responsibility to develop details, prepare construction/shop drawings, (referenced shop drawings below,) prepare materials/equipment data sheets, prepare submittals for material approvals, procure materials, construct and complete the Works, all in accordance with the Drawings and Specification.

**Contractor Detailing** will be required including but not limited to the following items:-

- Detailed shop drawings for metalwork including access ladders and stairs



- Validation and finalising of Surge Suppression study and plant requirements for equipment selected, preparation of associated shop drawings including revision of all affected tender design, all to Kahramaa approval.
  - Pumping station pipework to confirm or amend the design to suit approved plant and materials, including shop drawings for Kahramaa approval.
  - Selection and detailing of pumps to suit the specified duty
  - Detailed shop and installation drawings for all electro mechanical plant and instrumentation
  - Plinths and supports for all plant to suit approved materials
  - Supports, brackets, hangers and the like for all pipework
  - Supports, traywork and the like for all cables
  - Shop drawings for structural steelwork
  - Detailing and Shop drawings for Steel Reinforcement, including Bar Bending Schedules.
  - Detailed Shop drawings for all MEPF plant, fire fighting systems, internal cabling, pipework etc. to complete the installation shown on the Tender Drawings.
  - Development of the complete SCADA/Automation requirements
- 1.3** The estimated Bills of Quantities included in Appendix B are based on the Tender Drawings according to item (1.8) below. The Bill of Quantities (BoQ) is not, and does not purport to be, either exhaustive or explanatory of all the obligations and duties of the Contractor who shall be deemed to have satisfied himself as to the correctness and sufficiency of the rates and prices entered by him in the Bill of Quantities which shall cover all of his obligations under the Contract. The Tenderer shall be deemed to have made his own assessment of the overall work required to complete the Scope of Work as Specified. The Tenderer shall have made due allowance in his rates and prices for all quantities and work required to provide a complete functional installation and completion of the Works all as Specified and detailed on the Drawings.
- 1.4** All contractual obligations and liabilities, including, but not limited to, Performance bond, Insurances, providing site office to specifications, maintenance of site office, all health, safety, welfare and security provisions, provision of sign boards, trench notice boards and trench



safety barriers, provision and maintenance of storage facilities for supplied materials, traffic regulation, access roads, tests of materials, mobilizations, de-mobilizations, superintendence, design of works where specified, preparation and submission of shop drawings, obtaining material approvals, all procedures, method statements, reports, obtaining ROs, permits, building permits, documentation by fixed photos throughout the construction period, all in accordance with the General Conditions of Contract, **are deemed to be included in the Contractor's rates.** In case of issuing variation order, with or without time extension, and/or contract delays, the Contractor shall be deemed to extend the value and validity of the Performance bond, Insurances and continue to supply, maintain and perform all general items and activities necessary for the performance of the Contract at his own cost.

These obligations shall include but shall not be limited to the following:

**Temporary Facilities:** The Contractor shall provide, construct, service and maintain brand new site office at an appropriate location with associated services and furniture as described and detailed in Appendix A "Scope of Work", all to remain the property of the Contractor on completion.

**Provision of Sign boards, Trench Notice Boards & Safety Barriers:** Allow for providing and maintaining Signboards, Trench Notice Board and all safety barriers as required in (Arabic & English) for the Site .

**Stores & Enclosures:** Allow for providing and maintaining adequate stores and enclosures for the storage of supplied equipment and materials in compliance with manufacturers recommendations as required during the entire contract period

**Specific Requirements:** including providing Traffic regulation, Access Roads, Site Offices and Tests of materials all to specification

- 1.5 The individual rates included in the Schedule of Prices shall remain fixed throughout the Contract period.
- 1.6 For offers adjudication, only the total Tender price quoted in the Form of Tender will be considered. Any clauses that increase or decrease this price shall not be considered.



**Qatar General Electricity & Water Corporation**  
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- 1.7** The works which are to be executed shall be complete in all respects and allowing satisfactory, safe and efficient usage of the completed Works. The Contractor's price shall be deemed to be fully inclusive of all the parts necessary to achieve completion.
- 1.8** The Bills of Quantities (BoQ) are based on the Tender Drawings and cover the full Scope of Work to be provided under this Contract. The Tenderer is deemed to have satisfied himself as to the coverage of the BoQ, as no claim for adjustment due to any claimed omissions from the BoQ shall be accepted.
- 1.9** The rates quoted by the Tenderer against each item in all BoQ shall be fully inclusive of all required temporary and permanent works including the total cost of supply, transportation, storage, installation, testing, commissioning, and putting into operation, handing over, maintaining and all other obligations, including spare parts and consumables, required up to the end of the Warranty Period. The rates quoted by the Tenderer shall include for the cost of water at Kahramaa standard rate for testing, swabbing and sterilising and for all costs associated with metering the water supplied.
- 1.10** Where work items are specifically identified in the BoQ for design by the Contractor the costs of undertaking any necessary investigations, studies, liaison, preparation of designs, validating the design and obtaining approvals shall be deemed to be included in the rates and prices.
- 1.11** Works shown on the Drawings and not mentioned in the Specification or BoQ, or described in the Specification but not shown on the Drawings or BoQ, will nevertheless be deemed to be included in the Contract Price in the same manner as if they had been expressly shown on the Drawings and/or described in the Specification and the BoQ.
- 1.12** Where the Specifications and/or Drawings indicate a higher standard/value for an item of Work than that which is indicated in the Bill of Quantities, the highest standard/value indicated for that item of Work shall be deemed to have been included in the Tender Price and that its Work shall be executed by the Contractor in fulfilment of his obligations under the Contract.
- 1.13** The Tenderer is deemed to have computed the Contract Price in the manner required by the BoQ and not to have deviated therefrom. Where the Tenderer considers it necessary, he shall include additional complementary item(s) in an existing item(s) to provide a comprehensive Contract Price. No new items shall be added to the



Schedules of Prices nor shall any alterations be made thereto except as specifically permitted.

- 1.14** The Tenderer is deemed to have inserted a rate or price as applicable against each and every item included in the BoQ. The services and obligations contained in any particular item not so separately priced are deemed to be covered in the rates or prices for other items in that BoQ, and the Tenderer has referenced and stated in which item such work is included.
- 1.15** The Contract Price is deemed to be the full and complete compensation for the Works of the Contract and all of the obligations hereunder in accordance with the terms and Conditions of the Contract. Reference should be made to the General Conditions of Contract, Scope of Work, Contract Specification, Tender Drawings, schedule of prices and all other relevant parts of the Tender Documents for details of the Works to be provided.
- 1.16** The Tenderer shall include and consider in his rates any additional works that may not be mentioned in all the BoQ's but considered necessary for best operation and to comply with latest standards. The Contractor shall be responsible for the supply and installation of such works without additional cost and without need for time extension of the Contract Completion Date.

#### **1.17 Statutory Regulations**

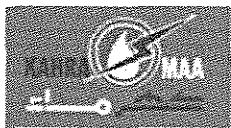
The rates and prices are deemed to include for all costs in respect of local religious holidays, customs, and the provision of all amenities customary in the State of Qatar.

#### **1.18 Working Hours**

The Tenderer shall allow for working hours according to Qatar Labour Law. The Contractor shall not work out of normal working hours without permission from the Engineer.

#### **1.19 Inspection of Site**

The Tenderer is deemed to have satisfied himself as to the nature and extent of Scope of Work for the completion of Work, the environment and Worksite conditions and the means of access to the Worksite. In general, the Tenderer is deemed to have obtained all necessary information as to the risks, contingencies and other circumstances, which may influence or affect the Contract Price. Allowance shall be made in pricing for any restrictions imposed by the area classification, restrictions on entry of personnel and vehicles to Worksite, special working methods required, and for compliance with Kahramaa's Safety Rules and Regulations.



### **1.20 Delays in Work Executions**

The Contract Price is deemed to include anticipated costs for all delays and/or temporary works arising to comply with Kahramaa's safety requirements. The Contract Price is also deemed to include for delays or abortive work caused by weather conditions, and for delay or disruption caused by Kahramaa's urgent operational requirements at the time of executing the Work. No "standby" charges shall be paid to the Contractor for such delays.

### **1.21 Discount and Correction of Errors**

Where the Tenderer has applied a final discount/ addition on the computed Contract Price, or by way of correction of errors, such discount or correction is deemed to apply proportionally to individual prices and rates throughout the Bills of Quantities. Such proportionally reduced prices and rates shall be used for the valuation of Variations and all payments to be made under the Contract.

### **1.22 Addition and Deletion of Work**

Any works added to or deleted from the Contract shall be measured and priced at the rates entered in the schedules of prices and the Contract Price shall be increased or reduced accordingly.

Kahramaa shall have the right, at any time, to make any changes in the Work such as additions, deletions, substitutions or other alterations or revisions in the Work in accordance with Article 14 (Change of Works) of the General Conditions of Contract, and to direct the Contractor to perform such changes as detailed in a Contract Variation Form. Any increase or decrease in the Contract Price or any modification to the Execution Programme resulting from such change shall be evaluated and determined in accordance with the Contract and the rates and prices contained in Appendix B. If Appendix B does not contain rates or prices, which are specifically applicable to such change, then Kahramaa shall compensate the Contractor on a basis to be mutually agreed between the parties.

Deletions of individual items or any portion of Works from the Scope of Work in full or in part shall not entitle the Contractor to reimbursement for loss or alleged loss of overheads or profit or to financial compensation for executing a reduced Scope of Work.

### **1.23 Currency of Bid**

All rates, costs, charges and sum prices included in the Bills of Quantities, shall be quoted in Qatari Riyals and shall be fixed for the duration of the contract. Where specified materials are purchased in foreign currencies, the Currency Pricing Formula (given in Section 1.32 below) shall apply. Payment shall be made only in Qatari Riyals to a bank account of the Contractor with a local bank in Qatar.



### **1.24 Bringing Into Use by Areas**

The Contractor is deemed to have allowed in his pricing for all additional cost related to working in the distinct geographical areas simultaneously and in an efficient manner in order to meet the Milestone Completion Dates as Specified and as per the approved Execution Programme.

### **1.25 Road Opening Permits and Building Permits**

Road Opening Permits (RO) and the relevant drawings received from concerned services departments will be handed over to the Contractor by Kahramaa. All required drawings and documentations, for all RO's shall be prepared, carried out and followed up by the Contractor and administered by Kahramaa if needed. Copies of all ROs and Building Permits and the relevant approvals shall be submitted to the Engineer's representative prior to commencing any excavation works. The Contractor shall identify the required drawing and request any additional drawing from Kahramaa. On Completion of work Contractor shall return to Kahramaa all documents and drawings collected from Kahramaa.

### **1.26 Liquidated Damages**

#### **1.26.1 Milestone 1 - Bypass Pipeline**

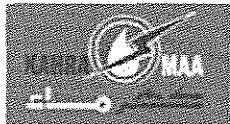
If the Contractor fails to achieve completion by the completion date for the Contract Milestone 1 as specified in 1.2.1 of Appendix A1, the Contractor will be liable to pay to Kahramaa Liquidated Damages at the rate of 0.11 % of the Milestone Price per day after the Completion Date of that milestone, up to the actual completion date, up to the maximum limit of 10% of the Milestone Price. The Milestone price for this purpose is defined as the total Price of the section of Works identified within the BoQ.

#### **1.26.2 Milestone 2 - Reservoir 1**

If the Contractor fails to achieve completion by the completion date for the Contract Milestone 2 as specified in 1.2.2 of Appendix A1, the Contractor will be liable to pay to Kahramaa Liquidated Damages at the rate of 0.11 % of the Milestone Price per day after the Completion Date of that Milestone, up to the Completion Date of that milestone, up to the maximum limit of 10% of the Milestone Price. The Milestone Price for this purpose is defined as the total Price of the section of Works identified within the BoQ.

#### **1.26.3 Milestone 3 - Pumping Station Completion**

If the Contractor fails to achieve completion by the completion date for the Contract Milestone 3 as specified in 1.2.3 of Appendix A1, the Contractor will be liable to pay to Kahramaa Liquidated Damages at the rate of 0.11 % of the Milestone Price per day after the Completion Date of that Milestone, up to the Completion Date of that milestone, up to the maximum limit of 10% of the Milestone Price. The Milestone Price for this purpose is defined as the total Price of the section of Works identified within the BoQ.



#### **1.26.4 Milestone 4 - Reservoir Completion**

If the Contractor fails to achieve completion by the completion date for the Contract Milestone 4 as specified in 1.2.4 of Appendix A1, the Contractor will be liable to pay to Kahramaa Liquidated Damages at the rate of 0.11 % of the Milestone Price per day after the Completion Date of that Milestone, up to the Completion Date of that milestone, up to the maximum limit of 10% of the Milestone Price. The Milestone Price for this purpose is defined as the total Price of the section of Works identified within the BoQ.

#### **1.26.5 Contract Completion**

If the Contractor fails to achieve the contract completion Date as specified in Item 1.2 of Appendix A the Contractor will be liable to pay to Kahramaa Liquidated Damages at the rate of 0.11% of the Contract Price per day up to the maximum limit of 10% of the Contract Price providing that the total sum of Liquidated Damages chargeable against the Contractor in respect of Article 1.2.1, Article 1.2.2, Article 1.2.3, Article 1.2.4 and Article 1.2.5 of Appendix A1 shall not exceed 10% of the total Contract Price

#### **1.26.6 Performance**

If the Contractor fails to perform the Work as stipulated in the Contract, Kahramaa shall have the right to confiscate the Performance Bond, employ a third party to perform such Work and the Contractor shall be back charged for the actual expenses incurred by Kahramaa as per the General Conditions of Contract.

#### **1.27 Variations and Extension of Contract Period**

Should a Variation Order be issued on the Contract with or without time extension and/or in case of contract delays, all obligations and liabilities (Performance Bond, Insurances), specified requirements, mobilizations, de-mobilizations, superintendence, submission of all procedures, method statements, reports, follow up of RO's, permits, documentation by fixed photos through the construction period and the like all in accordance with the General Conditions of Contract shall be provided at the Contractor's cost. The Contractor shall be deemed to extend the value and validity of Performance Bond, Insurances and shall continue to perform all activities required, whether or not mentioned herein, at his own cost; no claim for such cost will be considered.

#### **1.28 Material Supply**

All Materials must be in accordance with the Specifications. Materials delivery procedure shall be carried out in accordance with Article 6 of the General Conditions of Contract, Appendix A and Appendix I.

The Contractor may be awarded the Contract based upon the price of their preferred supplier, or any of the other options provided within the Bill of



Quantities. Kahramaa has the right to award this Contract on the basis of any of the alternative supplier option bills. Should the Contractor request to change the supplier to a more expensive supply option, after the signing of the Contract, the rate provided in the Contract will still apply. Any such changes may be made only with the explicit prior agreement of Kahramaa, with a valid reason and investigation. Such changes to suppliers shall not be considered as a valid reason for any time extension.

Should the Contractor request to change the supplier to a different supplier with a lower rate, after the signing of the Contract, Kahramaa reserve the right to reduce the rate accordingly. Any such changes may be made only with the explicit prior agreement of Kahramaa.

Manufacturers/suppliers for all materials, plant and equipment shall be selected from the preferred supplier list.

The Contractor shall ensure that at all times there will be available on Site approved materials sufficient for continuous working.

### **1.29 Safety**

If the Contractor shall fail to comply with any requirements set forth herein, Kahramaa shall have the authority to take further actions as mentioned below. Kahramaa reserve the right to suspend the work without an extension of time until all safety requirements are met.

- 1. The Contractor will be given 1st warning for any safety violation with instruction to rectify it within 5 working days and during that time if the safety is improved to acceptable level no further penalty shall be applied in regard to this specific incident.**
- 2. In case that the safety does not improve within the warning period given in item 1 above, a second warning will be given with 3 more working days to rectify it.**
- 3. If the safety does not further improve after completion of above period then penalty of QR 50,000/00 will be applied and the safety officer shall be removed from Site.**
- 4. The above penalty and action by Kahramaa shall be applied for maximum three different successive safety violations.**
- 5. In case that the Contractor failed to adhere to safety in accordance with Kahramaa rules & regulations and does not improve his safety performance after applying of the penalties as set on point 3 above, then Item 1.30 below (Contractor's Poor Performance) shall be applied, and in case that the Contractor fail to improve his performance then Articles No. 18 (Suspension) & 19 (Termination) of the General Conditions of Contract shall be applied.**

Transportation of any materials by the Contractor shall be in suitable vehicles which when loaded does not cause spillage and all loads shall be suitably



secured. Any vehicle, which does not comply with this requirement or any of the local traffic regulations and laws, shall not be used on roads, highways or upon the Site. Defective vehicles shall be removed from the Site.

### **1.30 Contractor's Poor Performance**

Kahramaa has the right to suspend any of the Contractor's payments should he fail to comply with the terms and Conditions of the Contract or in case of failure to meet the programmed date of any item in the Execution Programme without acceptable reason(s).

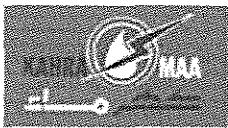
### **1.31 Method of Measurements**

#### **1.31.1 Item coverage**

- a) Items in the Bills of Quantities shall generally be all inclusive to provide a complete and fully functional installation. The Contractor shall include for any and all accessories, plant, equipment and services that he deems to be necessary to comply with the Drawings and Specifications and which are necessary for the satisfactory completion and operation of the Works.
- b) Items shall include detailing and shop drawings where required or specified to provide for complete installation details.
- c) The Contractor shall include in his prices the cost of attendance at the factory acceptance tests by staff of Kahramaa and/or the Engineer as specified in Appendix A1.
- d) The Contractor shall supply special tools, consumables and spares recommended for the maintenance and satisfactory working of the equipment supplied for a minimum period of 2 years.
- e) Any further special tools and spares required beyond the two year Warranty Period shall be proposed by the Tenderer. The list shall include unit rates and quantities and shall be submitted with the Tender.

#### **1.31.2 Mechanical Works**

- a) The prices inserted against each item in the Bill of Quantities shall include the manufacture, factory inspection and testing, painting, packing, dispatch to site and storing, complete with all various accessories as specified. Prices shall include for, erection, setting to work, testing, commissioning and all plant requirements for these items, with all other obligations, until the final Taking Over of the Works.
- b) A metal label shall be attached to each piece of spare parts giving a suitable description for easy identification at site.
- c) The spare parts shall be adequately protected and collectively packed in suitable containers and shall be complete with four copies of detail schedules.
- d) The prices of material, equipment, apparatus and their spare parts shall include submission of inspection and test certificates. No payment will be made for any supplies and equipment unless the required certificates are submitted.



- e) The prices for pumps, pipes, valves and fittings shall include supply, erection, lining, coating or painting for external protection according to the Specifications, constructing of supports and anchors where necessary, testing, cleaning and any other requirements in accordance with the Specification and the manufacturers requirements to complete the Works.
- f) The prices for pumps shall include selection of appropriate items to meet the specified duty. Where the selected and approved pump requires a change to the designed pipework and installation details, the item rate is deemed to include the re-design of all pipework and other affected works, (e.g. civil and structural,) including submission and obtaining approval of drawings.

#### **1.31.3 Electrical Works**

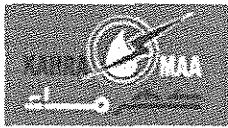
- a) The prices inserted against each item in the Bill of Quantities shall be applicable and including the preparation of drawings, the manufacture, painting, packing, supply and dispatch to site and storing, complete with all various accessories as specified. Prices also shall include for erection, setting to Work, testing, commissioning and all plant requirements for these items, with all other obligations, until the final taking over of the Works.
- b) The Contractor in fulfilment of his obligation under the contract shall include all items and accessories as would be required to achieve satisfactory completion of all works as per local regulations and standard industrial practices and meeting adequately the requirements of Kahramaa.
- c) The rate shall also include liaison with the different concerned authorities for coordination and approval.
- d) The rates shall also include any additional items not specifically detailed to make the plant completely operational.
- e) The rates for electrical MSB/MCC shall include but not limited to bus-bars, circuit breakers, starters, measuring instruments, instrument transformers, protective relays, interlocks, etc. as per specification and drawings. The rates shall also deem to include internal wiring and connections; all anchor bolts, materials and all accessories to complete the installation.
- f) The rates for lighting panel boards, distribution boards and control panels shall include but not limited to bus-bars, circuit breakers, signal lamps etc. as per specification. The rates shall also include equipment mounting panels, internal wiring and connection and all materials and accessories to complete the installation.
- g) The rate for local isolators shall include electrical outlet, heavy duty enclosure with the required degree of protection, handle, interlocking and all accessories.
- h) The rates for lighting fittings/luminaries shall include control gear, capacitors whenever required, lamps, holders, internal wiring and connections, conduits, conduit fittings, junction boxes, wiring, boxes for



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wall and/or ceiling outlets, final circuits, ceiling rose, suspension rods with ceiling plates, nuts and washers whenever required and all accessories to complete the installation

- i) The rates for switched socket shall include socket outlet, cover if required, final circuits, wiring/cabling, conduits, conduit fittings, boxes for socket and flex outlets, and all accessories to complete the installation.
- j) The rates for power cables shall include for all items necessary to allow for the installation of the cables in different environments. This shall include but not be limited to excavation and backfilling of cable trenches in any kind of soil including rock, cable trays, draw pits, cables concrete tiles, warning tapes, conduits, terminations, glands, sleeves, etc. to complete the installation. In case of high voltage cables, the required cable termination kit shall also be included.
- k) The rates for lighting poles are deemed to include the poles, metal base plate, concrete foundation, cut-outs, fuses/MCBs with the associated terminal board, wires to light fittings, cable glands, lugs, terminations, lanterns, lamps, control gear, capacitors and all other accessories to complete the installation. The rate shall also include for painting columns with primer and two coats of alkaline gloss paint.
- l) The rates for telephone junction boxes (TJB) and telephone outlets shall include wiring from the TJB up to the respective telephone outlet, conduits, conduit fittings, boxes for telephone outlet, telephone sockets, interconnection, etc. and all accessories to complete the installation to Ooredoo approval.
- m) The rates for telephone exchange shall include main distribution frame, power supply, batteries, battery charger, operator console, wiring, connections, ...etc. and all accessories to complete the installation to Ooredoo approval.
- n) The rates for telephone cables shall include design, preparation of drawings and all necessary items to allow the installation of the cable in different environments. This shall include but not limited to excavation and backfilling of cable trenches in any kind of soil including rock, ducts, hand holes, conduits and conduit fittings, etc. and all accessories to complete the installation to Ooredoo approval.
- o) The rates for exhaust fans shall include wiring, conduits, conduit fittings, and boxes for electrical outlet, final circuit, and all accessories to complete the installation as per Kahramaa regulations.
- p) The rates for window type air conditioning units shall include complete unit, drain pipes, supports, connection to the nearest drain point, wiring, conduits, conduit fittings, boxes for electrical outlet, final circuit and all accessories to complete the installation to Kahramaa regulations.
- q) The rate for roof top air conditioners shall include reciprocating compressors, cooling and heating coils, air cooled condenser with copper tube fins, evaporator with centrifugal fans, condenser's propeller fans, electric motors, filters, automatic controls, associated electric distribution

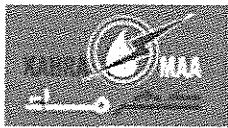


board with the related cabling and wiring and all necessary equipment for complete and proper installation.

- r) The rates for water heaters shall include wiring, conduits, and conduit fittings; boxes for electrical outlet, final circuit and all accessories to complete the installation.
- s) The rates for fire alarm system shall include all associated cabling/wiring, conduits, conduit fittings, boxes for ceiling and/or wall outlets, etc. and all accessories for complete installation all in accordance with QCS, Section 23 and Kahramaa HSE manuals.
- t) The rate for interconnection between FACP and ZIP shall include preparation of drawings and all necessary items to allow efficient and proper operation of the fire alarm system. The rate shall also include but not limited to excavation and backfill of trenches in different environments, conduits, conduit fittings, etc., and all accessories required to complete the installation as per local regulations.
- u) The rate for earthing system shall include design, preparation of drawings, supply, installation, testing and commissioning of the required earth tapes/conductors PVC insulated (covered yellow/green), earth electrodes, standard earth pits with test links cover, clamps and all necessary equipment for complete and efficient installation.
- v) The Contractor shall supply all the spare parts recommended for the maintenance and satisfactory working of the equipment supplied for a minimum period of two years. The list of the proposed spares shall include unit rates and quantities and shall be submitted by the Contractor along with the Tender.

#### **1.31.4 Instrumentation and Control**

- a) The rate for each of the instrumentation and control items shall include supply, installation, testing and commissioning of the complete instrumentation and control system which will be required to be installed for safe and correct operation of the system and for a complete and integrated system.
- b) The Contractor shall include any additional measurements and controls that would be necessary for trouble-free and satisfactory operation of the complete system.
- c) The required signal and power cables, field junction boxes, communication equipment cabinets, signal marshalling cabinet for field signals, instrument electrical interface box and necessary erection hardware along with other miscellaneous items, which will be required for installation following the industry accepted practice and for proper functioning of the system, shall form a part of the Contractor's scope of supply.
- d) The requirements of different types of cables, junction boxes, cabinets, electrical instrument interface box and miscellaneous erection hardware that will be required to complete the installation are not quantified in the attached Bill of Quantities. However, the Contractor shall include all these



items and accessories as would be required to achieve satisfactory completion of the work as per standard industrial practice and also meeting adequately the standard approval of Kahramaa. This shall be applied for all the above mentioned items.

- e) The rates for SCADA works shall include preparation of a complete design for approval of Kahramaa to provide a fully functional control system within the PRPS site. The system installed shall also provide for future connection by others to an overall water management system to communicate between all PRPS sites and a central control facility.

#### **1.31.5 Earthworks**

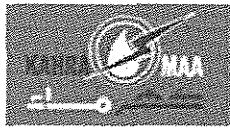
- f) Excavation rates are deemed to include for excavation in any kind material including rock, all necessary imported fill including concrete backfill in areas of over excavation, in soft spots and under structures and disposal of surplus material. Rates shall also include stockpiling of topsoil and selected excavated materials and disposal offsite of surplus or unsuitable excavated materials.
- g) Excavation for pipelines is measured along each pipeline regardless of whether it is in a single or multiple trench as detailed on the drawings.
- h) Backfilling rates are deemed to include for backfilling of selected excavated materials, imported backfilling materials, concrete fill to voids and adjacent structures and locally grading of the site area as required.
- i) Excavation rates are deemed to include for working in such a manner as not to interfere with the stability of adjacent structures and properties and keeping the excavations free from water and sewage whether affected by groundwater (which may be subject to tidal influence), floods, storms or otherwise.
- j) No extra payment will be made if the position of the works as set out will not allow the use of mechanical plant or necessitates double handling or additional cartage of excavated material.

#### **1.31.6 Connections to Existing Pipelines**

Connection to operational pipelines or pipelines laid by others shall be priced as lump sum. The Tenderer shall include in his price all necessary fittings, temporary by-pass pipelines, all valves required and cutting of existing pipelines. Prices shall also include preparation of method statements for approval by Kahramaa.

#### **1.31.7 Pipe-laying**

- a) Pipe lengths shall be measured as net length of the pipeline. Length of pipe fittings for chambers shall not be included in the pipe length. The rates shall include all the jointing works, supports and anchorage required in pipe laying, excavation of trenches for the required depth and width in any kind of soil including rock, testing, cleaning, backfilling of trenches and



restoration of ground surface to its original condition and any other requirements in accordance with the specification and the Manufacturers requirements to complete the Works.

- b) Pipes at chambers shall be measured from the rocker pipe excluding the rocker pipe and coupling
- c) Pipes at bends shall exclude the bend, any rocker pipes and associated fittings which shall be measured separately.

#### **1.31.8 Reservoir structures**

- a) Reservoirs are measured as lump sums for each reservoir.
- b) The rate for reservoirs shall include, but not be limited to, supply and installation of all materials, excavation, preparation of formation, blinding, waterproofing, concreting works, reinforcement, formwork and falsework, finishes, roof finishes, wall cladding, internal and external coatings, pipework, metalwork, testing and sterilisation.
- c) Instrumentation and external pipework is measured separately.
- d) Underfloor drainage and land drainage is measured separately.

#### **1.31.9 Other concrete structures**

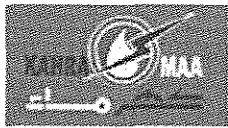
- a) Concrete structures shall be measured as lump sum items and shall include but not be limited to, excavation all concrete work including its reinforcement and associated activities, provision of any required plinths and fixings, access and support metalwork.
- b) Electromechanical plant associated with or attached to any structure shall be measured separately.

#### **1.31.10 Building Works**

- a) Building works items shall include for providing a complete installation including but not limited to all fixings, tying in and connection with adjacent works, finishes and providing finished installations in compliance with the specification and manufacturer's recommendations.
- b) Buildings are measured as complete installations for each building, divided into lump sum elements and shall include but not be limited to all earthworks, civil and structural work, building work.
- c) MEPF works associated with buildings are measured separately.

#### **1.31.11 Chambers**

- a) Chambers shall be measured per unit/no. Rates for the chamber shall include, but not be limited to, concrete works, excavation works, all necessary temporary works to construct the chambers and all pipe fittings and accessories that are not included under the pipe fittings section.
- b) Chamber rates are deemed to include for working in such a manner as not to interfere with the stability of adjacent structures and properties and keeping the excavations free from water and sewage whether affected by



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groundwater (which may be subject to tidal influence), floods, storms or otherwise.

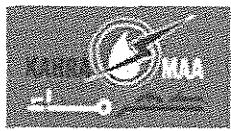
- c) No extra payment will be made if the position of the works as set out will not allow the use of mechanical plant or necessitates double handling or additional cartage of excavated material.

### **1.32 Application of Currency Pricing Formula**

- a)- To improve evaluation of the offered prices for supply of materials, this Currency Pricing Formula shall be applied, where shown within the Bill of Quantities. This has been implemented to remove the need for Contractors to consider the element of risk associated with potential currency exchange rate differences, between the date of the offer and the date of award.
- b)- All Bidders may present their quotations with break-down of unit rates by the various foreign currency parts (where applicable), as given in the attached Bill of Quantities. The foreign currency parts shall be presented in QR (Qatari Riyals) and calculated based on the exchange rates provided in section i) below. This shall be based on the origin of the offered equipment/material (e.g.: 70 % of the item need to be paid in Euro, then 70% of the unit price will be Euro part; the same for other applicable currencies will apply up to total of 100% of the item).
- c)- The currency exchange rate to be considered in the quotes shall be fixed to the rates specified by Kahramaa in section i) below.
- d)- The quotations shall be thereafter amended proportionally to the currency exchange rate, at the date of the Provisional Letter of Award (LOA), which shall only be Monday to Thursday and excluding Qatar and UK public / bank holidays.
- e)- The Currency Adjustment Formula (applicable for Bill No. 1 only):

$$\text{Contract price for foreign Currency part [QR]} = \frac{\text{Original Offer price for foreign Currency part [QR]}}{\left( \frac{\text{(Currency exc. rate (USD/Currency) @ date of the Offer as advised in section i) below)}}{\text{(Currency exc. rate (USD/Currency) @ date of the Provisional LOA)}} \right)}$$

- 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.
- g)- The currency adjustment shall be based on the break-down of unit rates by various foreign currency parts (where applicable), as given in the Bill of Quantities (e.g.:70 % of the item portion is Euro part, then the Euro adjustment rate shall apply for 70% only, the same for other applicable currencies will apply up to total of 100% of the item).



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- h)- Construction and Site costs (which comprises local costs and civil works costs given in Bill No. 5) shall not be adjusted to any currency exchange.
- i)- The Bidders quotations shall be based on the following assumed exchange rates (only):
- USD = 0.720 Euro
  - USD = 0.597 GBP
  - USD = 101.600 JPY
  - USD = 3.64 QR (Constant)
  - Resource for Variables at the date of adjustment:  
<http://www.marketprices.ft.com/markets/currencies/ab>
  - The final Contract Price after adjustment shall be considered final, No further currency fluctuation in rate shall be considered.
- j)- The Contract Price after adjustment by the Currency Adjustment Formula shall be adjusted only by Variations (including those resulting from re-measurement), in accordance with Article 14 of the General Conditions of Contract.
- k)- The Currency Adjustment Formula shall be applied only on positive value Variations limited to the items from Bill Nos. 1 to 4 only based on the currency exchange rate at the date of Variation Order (V.O.) relative to the currency rate indicated in the Final Letter of Award (FLOA).

$$\text{Variation Order price for foreign Currency part [QR]} = \frac{\text{Contract price for foreign Currency part [QR]}}{\left( \frac{\text{Currency exc. rate (US/Currency) @ date of the Provisional LOA}}{\text{Currency exc. rate (US/Currency) @ date of the V.O.}} \right)}$$



## **2. Terms of Payment**

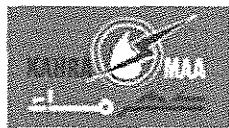
### **2.1 Advance Payment**

Kahramaa will make an interest-free advance payment of 10% of the Contract Price to the Contractor exclusively for the costs of mobilization in respect of the Works.

Payment of the advance payment will be made once the Contract Agreement is signed and provision by the Contractor of an unconditional bank guarantee in a form and by a bank acceptable to Kahramaa, issued by a bank in Qatar or endorsed by a bank branch in Qatar, in amount equal to the advance payment. The bank guarantee shall remain effective until the advance payment has been repaid, but the amount may be progressively reduced by the amount repaid by the Contractor as indicated in Interim Payment Certificates issued in accordance with this clause. The wording of bank guarantee must be in accordance with the format appended to these terms of payment. The advance payment shall be repaid through 10% deductions from the approved interim invoice value.

### **2.2 Payments on BOQ Items**

Interim payments shall be in accordance with the following:



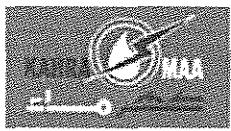
### **2.2.1 Reservoirs**

The lump sum items for each reservoir shall be paid in accordance with the following table:-

No	Item	% payment
1	Excavation and disposal of arisings	1%
2	Preparation of formation	2%
3	Polythene sheet under blinding	1%
4	Blinding	4%
5	Base Slab	10%
6	External walls	15%
7	Internal Walls	15%
8	Columns	5%
9	Pipes and fittings cast in	3%
10	Roof slab	20%
11	Metalwork (covers, ladders, vents etc.)	1%
12	Internal coatings	3%
13	External cladding	4%
14	Roof finishes	2%
15	Testing, cleaning and sterilising	4%
16	Certificate of Operation	5%
17	Taking Over Certificate	5%
	<b>TOTAL</b>	<b>100%</b>

### **2.2.2 Pipelines**

- a) 50% of the item rate shall be paid upon receipt of Materials/Equipment and/or prefabricated materials, suitably stored at the Construction Site and inspected and approved by the Engineer. This payment shall be made against bank guarantee valid up to 3 months after the Engineer's approval of the installation and initial testing of the materials claimed
- b) 15% of the item rate after completing the pipe surround or casting in where required.
- c) 15% of the item rate after the success of the initial test.
- d) 10% of the item rate after backfilling and reinstatement.
- e) 5% of the item rate after issuing of Certificate of Operation (CO).
- f) 5% of the item rate after issuing of Taking Over Certificate (TOC) by Kahramaa.



#### **2.2.3 Fittings/valves Works inside chambers**

- a) 50% of the item rate shall be paid upon receipt of Materials/Equipment and/or prefabricated materials, suitably stored at the Construction Site and inspected and approved by the Engineer. This payment shall be made against bank guarantee valid up to 3 months after the Engineer's approval of the installation and testing of the materials claimed
- b) 25% of the item rate after successful installation of fittings/ valves.
- c) 10% of the item rate after the success of the initial test.
- d) 10% of the item rate after issuing of Certificate of Operation (CO).
- e) 5% of the item rate after issuing of Taking Over Certificate (TOC) by Kahramaa.

#### **2.2.4 RC Chambers and Draw Pits :**

- a) 20% of the item rate after the approved construction of the chamber base
- b) 30% of the item rate after the approved construction of the chamber walls
- c) 20% of the item rate after backfilling and reinstatement.
- d) 15% of the item rate after completion of chamber concrete and metallic finishing works. (Example: slopes, paint, ladder, cover etc.)
- e) 15% of the item rate after the final acceptance of work by Engineer.

#### **2.2.5 Civil works and building works not specified above:**

- a) Payments shall be made based on approved monthly progress work statements.

#### **2.2.6 Fibre Optic Cable and Ducts:**

- a) 50% of the item rate after supply of Materials/Equipment and/ or prefabricated material and shall be paid upon receipt of Materials/Equipment and/or prefabricated materials, suitably stored at the Construction Site and inspected and approved by the Engineer. This payment shall be made against bank guarantee valid up to 3 months after the Engineer's approval of the installation and testing of the materials claimed
- b) 25% of the item rate after installation.
- c) 15% of the item rate after testing
- d) 5% of the item rate after issuing of Certificate of Operation (CO).



- e) 5% of the item rate after issuing of Taking Over Certificate (TOC) by Kahramaa.

#### **2.2.7 Mechanical Electrical and Instrumentation Works**

- a) 50% of the item rate shall be paid upon receipt of Materials/Equipment and/or prefabricated materials, suitably stored at the Construction Site and inspected and approved by the Engineer. This payment shall be made against bank guarantee valid up to 3 months after the Engineer's approval of the installation and testing of the materials claimed
- b) 25% of the item rate after completing the installation of the item including all fixing, grouting, sealing etc.
- c) 15% of the item rate after successful pre-commissioning testing.
- d) 5% of the item rate after issuing of Certificate of Operation (CO).
- e) 5% of the item rate after issuing of Taking Over Certificate (TOC) by Kahramaa.

#### **2.2.8 Controls and Automation**

- a) 10% of the item rate shall be paid upon approval by Kahramaa of the developed system and details.
- b) 40% of the item rate shall be paid upon installation of all hardware (cables, instruments, PLCs etc.)
- c) 30% of the item rate shall be paid upon installation of the software
- d) 10% of the item rate shall be paid upon testing and proving of the system to the satisfaction of Kahramaa and the Engineer.
- e) 5% of the item rate shall be paid upon issue of the Certificate of Operation.
- f) 5% of the item rate shall be paid upon issue of the Taking Over Certificate (TOC) by Kahramaa.

#### **2.2.9 Payments Based on Certificate of Readiness (COR)**

If Kahramaa is unable to provide access to connect the Works to operational pipelines and if as a consequence Kahramaa issues the Certificate of Readiness (COR) then based on Contractor request Kahramaa shall pay the Contractor instalment related to the CO certificate against value to value bank guarantee valid for twelve (12) months from the date of the COR.

The guarantor accepts the obligation to extend the validity of the bank guarantee whenever so requested by Kahramaa without regard to any objections whatsoever from the Contractor.



### **2.3 Minimum Value of Invoices**

The minimum value of each monthly invoice submitted by the Contractor shall not be less than QR. 25,000,000, (QR Twenty Five Million).

### **2.4 Retention Money**

All payments are subjected to retention of 10% of the approved invoice value and shall be invoiced in accordance with Article 12.5 of the General Conditions of Contract.

### **2.5 Formats**

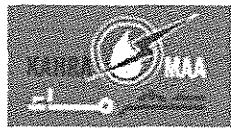
The Contractor's application for payment shall be made in a standard format acceptable to Kahramaa.

### **2.6 Interim Payments**

- 2.6.1 Upon completion of the required Works to be claimed for interim payment, the Contractor shall submit to Kahramaa for approval, a Work Statement that shows the quantities for the accomplished works on the relevant form accompanied by the necessary approved inspection forms which indicate that these Works have been successfully undergone the required testing and inspection procedures and the supporting documents for material delivery and Kahramaa Acceptance Log for Arrived Goods (KALAG) in the form of the Material Status Report. All relevant forms shall be handed over to the Contractor upon the award of the Contract.
- 2.6.2 Kahramaa shall return the Work Statement to the Contractor with the necessary remarks or amended quantities as verified Kahramaa.
- 2.6.3 The Contractor shall submit the Original Invoice to Finance Dept. quoting OV number which is an internal Kahramaa costing system number which can be obtained from the Kahramaa Water Projects Dept. prior to submitting the Original Invoice to Kahramaa Finance Dept.
- 2.6.4 The Interim payment shall be based on the rates and quantities entered in the Bills of Quantities and shall be made in accordance with Article 12 of the General Condition of Contract and Clause 6 of Appendix D. A correctly prepared and adequately supported invoice is deemed to be paid by Kahramaa upon the expiry of forty-five (45) Calendar days from receipt by Kahramaa Finance Dept.
- 2.6.5 Cost of surplus materials -if any- shall be borne by the Contractor. No surplus materials shall be returned to Kahramaa. Any amounts paid in previous payments to the Contractor against materials that are found to be surplus shall be adjusted towards the end of the Contract.

### **2.7 Final Payment**

- 2.7.1 Upon satisfactory completion of all the Works as defined under the Contract Terms and Conditions, the final account shall be settled by



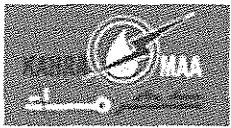
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Kahramaa, based on the Contract Price taking into consideration any variation to the Scope of Work, after obtaining Final Taking over Certificate.

- 2.7.2 It should be noted that prior to releasing the Final Payment, Kahramaa requires that the Contractor shall produce the clearance certificate from the Concerned Department and any other clearance, as may be required by the laws of Qatar.

### **3. Metric System and Abbreviations**

- Linear metre	LM
- Kilometre	KM
- Gram	GM
- Square metre	SM
- Cubic metre	M3
- Number	NO
- Kilogram	KG
- Qatar Riyals	QR
- Millimetre	MM
- Square Centimetre	SC
- Ton/tonne	TN
- Item	IM
- Hour	HR
- Lump Sum	LS
- Set	ST
- Each	EA



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**Bank Guarantee for Advance Payment and/or against COR**

**M/s. Qatar General Electricity & Water Corporation  
P. O. Box 41  
Doha  
State of Qatar.**

**ADVANCE PAYMENT GUARANTEE No.: \_\_\_\_\_**

We..... Bank of P. O. Box..... Doha, Qatar, refer to Contract..... issued by Qatar General Electricity & Water Corporation (Kahramaa) in Doha, Qatar, to M/s ..... P. O. Box..... having its main office in.....

We understand that, according to Appendix B of the Conditions of the Contract, an advance payment in the sum [amount in figures] ( ) [amount in words] [maximum 10% of the Contract Price] is to be made against an advance payment guarantee.

At the request of the Contractor, we [name of Bank] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of [amount in figures] ( ) [amount in words] upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor used the advance payment for purposes other than the costs of mobilization in respect of the Works.

It is a condition for any claim and payment under this guarantee to be made that the advance payment referred to above must have been received by the Contractor on its account number \_\_\_\_\_ at \_\_\_\_\_ [name and address of Bank].

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as indicated in certified copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that eighty (80) percent of the Contract Price has been certified for payment, or on the \_\_\_\_ day of \_\_\_\_, 2\_\_\_\_, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.



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The Guarantor accepts the obligation to extend the validity of the bank guarantee whenever so requested by Kahramaa without regard to any objections whatsoever from the Contractor.

**Signature and Seal of the Guarantors**

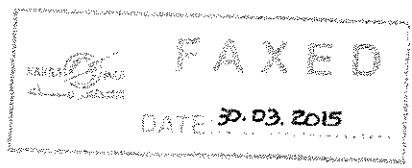
Date: .....

Address:.....

**SECTION 10: APPENDIX B  
SCHEDULE OF PRICES  
3. Bill of Quantities  
Contract BOQ (After Currency Adjustment)**

**TECHNICAL AFFAIRS**

**الشؤون الفنية**

TELEFAX MESSAGE	DATE: 30 /03/2015	TOTAL PAGES: 1
To: M/s Consolidated Contracting Group S.A.L. (Offshore) (CCC) & Teyseer Contracting Co. W.L.L. – Joint Venture	Fax : 44667053	
For the Attention of: General Manager	Our Ref.: TA/TW/TWM/FX/15/SS1	
PROJECT: <u>GTC 626/2014 - (PACKAGE A)</u> <u>CONSTRUCTION OF MEGA RESERVOIR PRPS 1 – UMM BIRKA</u>		
SUBJECT: <u>CONTRACT BOQ</u>		
<p>With reference to your letter ref. no. CCC/30.02/M-1205 dated 28<sup>th</sup> of March 2015 on the above mentioned subject, please be informed that the submitted Contract BOQ with applied Currency Pricing Formula is in accordance with the Tender requirements (Appendix B, Section 1.32) and therefore acceptable.</p> <p>Based on the above, your Contract Price adjusted by the Currency Pricing Formula is: <b>QAR 2,097,322,626.32.</b></p> <p>Accordingly, Final Letter of Award, including your above Contract Price, shall be issued by Kahramaa in due course.</p> <p>Regards,</p> 		
CC: TW, TWM, File, PMC	 <p><b>FAXED</b> DATE: 30.03.2015</p>	

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

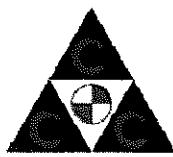
CC: TW, TWM, File, PMC

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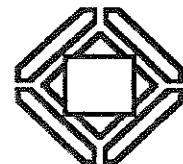
Tele: (974) 44845321 - Fax: (974) 44845353  
P O BOX 41, DOHA - QATAR.

تلفون: ٩٧٤ - ٤٤٨٤٥٣٢١ - فاكس: ٩٧٤ - ٤٤٨٤٥٣٥٣  
عنوان: ٤١ الدوحة - قطر





CONSOLIDATED CONTRACTORS GROUP S.A.L. (OFFSHORE) (CCC) /  
TEYSEER CONTRACTING COMPANY W.L.L.



JOINT VENTURE

CORRESPONDENCE ADDRESS

ALI BIN ABI TALEB STREET • STREET NO. 820 • AL ASSERY AREA • ZONE 40 • P.O. BOX 23897 • DOHA • QATAR  
TEL: (974) 4463 7111 • FAX: (974) 4466 7053 • E-MAIL: CCCTCCJV@CCC.COM.QA

Ref.: CCC/30.02/M-1205

Date: 28 March 2015

**Qatar General Electricity & Water Corporation (Kahramaa)  
P.O. Box 41  
Kahramaa Main Building, Floor #19  
Doha – Qatar**

Attention: Eng. Ahmed Nasser Al-Naser  
Director, Technical Affairs

Project: **Construction of Mega Reservoir PRPS 1 – Umm Birka  
GTC - 626/2014A – Package A**

Subject: **Contract BOQ**

Dear Sir,

Reference is made to Provisional Letter of Award Ref. No. TA/TW/15/92 dated 18/3/2015 for Package A and our acceptance confirmation letter ref. No. CCC/30.02/M-1193 dated 22 March 2015. We kindly submit herewith, both hard copy and soft copy (excel file), of 'Contract BOQ', amended proportionally to the currency exchange rate at the date of Provisional Letter of Award dated 19<sup>th</sup> March 2015.

Yours faithfully,

**Mustafa Younis  
General Manager**

cc: Mr Darko Jovicic - Energoprojekt - 21st Floor

# **WATER SECURITY MEGARESERVOIR**

**Construction of Mega Reservoir PRPS at Umm Birka - Package A  
PRPS 1  
GTC/626A/2014**

**BILL OF QUANTITIES (Rev 03)**

PROJECT: WATER SECURITY MEGA RESERVOIR	BILL OF QUANTITIES	BILL NO: 1 Preferred Supplier
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A	Supply of Main Pumps, Motors and Spares	Rev. 03

**Bill No.1**  
**Supply of Main Pumps, Motors and Spares- Preferred Supplier**

**WATER SECURITY MEGARESERVOIR: PRPS 1**

**GTC/626A/2014**

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 1 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment					Rev. 03	
				Pump Supplier						
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
1.1	Supply of Main Pumps and Motors  Supply of the following main Pumps and Motors including all related sensors, equipment and ancillary items required for a complete installation.									
1.1.1	Pump Set Sub System 1A  Electrically driven, variable speed, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 566 l / Sec @ 49 m Head	NO	4	-	328,511.88	-	-	-	328,511.88	1,314,047.52
1.1.2	Pump Set-Sub System 1B  Electrically driven, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 1679 l / Sec @ 58 m Head	NO	5	-	1,220,877.97	-	-	-	1,220,877.97	6,104,389.85
<b>Subtotal for 1.1</b>										<b>7,418,437.37</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 1 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
				Pump Supplier							
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
1.2	Supply of Spare Parts  Supply of Manufacturer recommended Spare Parts for the following Main Pumps and Motors as specified.										
1.2.1	Pump Set Sub System 1A (4 Nos.)  Electrically driven, variable speed, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 566 l / Sec @ 49 m Head	LS		-	24,096.59	-	-	-	-	24,096.59	24,096.59
1.2.1.1	Additonal Spare Parts for above Pump and Mortor										
1.2.2.1.1	Impeller (each)	NO	2	-	27,108.67	-	-	-	-	27,108.67	54,217.34
1.2.2.1.2	Impeller wear ring(set)	NO	6	-	9,638.63	-	-	-	-	9,638.63	57,831.78
1.2.2.1.3	Casing wear rings (set)	NO	6	-	11,747.09	-	-	-	-	11,747.09	70,482.54
1.2.2.1.4	Shaft with key and nut (set)	NO	3	-	3,012.08	-	-	-	-	3,012.08	9,036.24
1.2.2.1.5	Shaft protection sleeves (set)	NO	6	-	9,036.22	-	-	-	-	9,036.22	54,217.32
1.2.2.1.6	Pumps bearings & washers (set)	NO	6	-	1,204.83	-	-	-	-	1,204.83	7,228.98
1.2.2.1.7	Mechanical seals (each)	NO	6	-	14,006.15	-	-	-	-	14,006.15	84,036.90
1.2.2.1.8	O-rings, V-rings , and gaskets (set)	NO	12	-	602.41	-	-	-	-	602.41	7,228.92
1.2.2.1.9	Pump/motor coupling	NO	2	-	12,500.11	-	-	-	-	12,500.11	25,000.22
1.2.2.1.10	Bearing housing	NO	2	-	1,656.64	-	-	-	-	1,656.64	3,313.28

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 1 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment					Rev. 03	
				Pump Supplier						
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
1.2.2	Pump Set-Sub System 1B (5 Nos.)  Electrically driven, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 1679 l / Sec @ 58 m Head	LS		-	45,181.11	-	-	-	45,181.11	45,181.11
1.2.2.1	Additonal Spare Parts for above Pump and Mortor									
1.2.2.1.1	Impeller (each)	NO	3	-	96,386.37	-	-	-	96,386.37	289,159.11
1.2.2.1.2	Impeller wear ring(set)	NO	8	-	18,373.66	-	-	-	18,373.66	146,989.28
1.2.2.1.3	Casing wear rings (set)	NO	8	-	21,084.52	-	-	-	21,084.52	168,676.16
1.2.2.1.4	Shaft with key and nut (set)	NO	4	-	7,530.19	-	-	-	7,530.19	30,120.76
1.2.2.1.5	Shaft protection sleeves (set)	NO	8	-	29,518.32	-	-	-	29,518.32	236,146.56
1.2.2.1.6	Pumps bearings & washers (set)	NO	8	-	7,228.98	-	-	-	7,228.98	57,831.84
1.2.2.1.7	Mechanical seals (each)	NO	8	-	16,265.20	-	-	-	16,265.20	130,121.60
1.2.2.1.8	O-rings, V-rings , and gaskets (set)	NO	16	-	903.62	-	-	-	903.62	14,457.92
1.2.2.1.9	Pump/motor coupling	NO	2	-	26,807.46	-	-	-	26,807.46	53,614.92
1.2.2.1.10	Bearing housing	NO	2	-	6,325.36	-	-	-	6,325.36	12,650.72
	<b>Subtotal for 1.2</b>									1,581,640.09

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 1 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment					Rev. 03	
				Pump Supplier						
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	(7)=(2)+(3)+(4) +(5)+(6)	
	COLLECTION									
	Subtotal for 1.1									7,418,437.37
	Subtotal for 1.2									1,581,640.09
	Carried Forward to General Summary									9,000,077.46

PROJECT: WATER SECURITY MEGA RESERVOIR	BILL OF QUANTITIES	BILL NO: 2 Supplier No. 2
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A	Supply of Main Pumps, Motors and Spares	Rev. 03

**Bill No.2**  
**Supply of Main Pumps, Motors and Spares Alternative Supplier No. 2**

**WATER SECURITY MEGARESERVOIR: PRPS 1**

**GTC/626A/2014**

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 2 Supplier No. 2	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment					Rev. 03	
				Pump Supplier						
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
2.1	Supply of Main Pumps and Motors  Supply of the following main Pumps and Motors including all related sensors, equipment and ancillary items required for a complete installation.									
2.1.1	Pump Set Sub System 1A  Electrically driven, variable speed, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 566 l / Sec @ 49 m Head	NO	4							
2.1.2	Pump Set-Sub System 1B  Electrically driven, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 1679 l / Sec @ 58 m Head	NO	5							
	<b>Subtotal for 2.1</b>									

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 2 Supplier No. 2	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
				Pump Supplier							
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.			RATE QR					
				(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
2.2	Supply of Spare Parts  Supply of Manufacturer recommended Spare Parts for the following Main Pumps and Motors as specified.										
2.2.1	Pump Set Sub System 1A (4 Nos.)  Electrically driven, variable speed, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 566 l / Sec @ 49 m Head	LS									
2.2.1.1	Additonal Spare Parts for above Pump and Mortor										
2.2.2.1.1	Impeller (each)	NO	2								
2.2.2.1.2	Impeller wear ring(set)	NO	6								
2.2.2.1.3	Casing wear rings (set)	NO	6								
2.2.2.1.4	Shaft with key and nut (set)	NO	3								
2.2.2.1.5	Shaft protection sleeves (set)	NO	6								
2.2.2.1.6	Pumps bearings & washers (set)	NO	6								
2.2.2.1.7	Mechanical seals (each)	NO	6								
2.2.2.1.8	O-rings, V-rings , and gaskets (set)	NO	12								
2.2.2.1.9	Pump/motor coupling	NO	2								
2.2.2.1.10	Bearing housing	NO	2								

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 2 Supplier No. 2	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment					Rev. 03	
				Pump Supplier						
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)
				(1)	USD PART	EUR PART	GBP PART	JPY PART	QAR PART	
2.2.2	Pump Set-Sub System 1B (5 Nos.) Electrically driven, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 1679 l / Sec @ 58 m Head	LS								-
2.2.2.1	Additonal Spare Parts for above Pump and Mortor									-
2.2.2.1.1	Impeller (each)	NO	3							
2.2.2.1.2	Impeller wear ring(set)	NO	8							
2.2.2.1.3	Casing wear rings (set)	NO	8							
2.2.2.1.4	Shaft with key and nut (set)	NO	4							
2.2.2.1.5	Shaft protection sleeves (set)	NO	8							
2.2.2.1.6	Pumps bearings & washers (set)	NO	8							
2.2.2.1.7	Mechanical seals (each)	NO	8							
2.2.2.1.8	O-rings, V-rings , and gaskets (set)	NO	16							
2.2.2.1.9	Pump/motor coupling	NO	2							
2.2.2.1.10	Bearing housing	NO	2							
	<b>Subtotal for 2.2</b>									-

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 2 Supplier No. 2	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment					Rev. 03	
				Pump Supplier						
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)
				(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)
	COLLECTION									
	Subtotal for 2.1									
	Subtotal for 2.2									
	Carried Forward to General Summary									

PROJECT: WATER SECURITY MEGA RESERVOIR	BILL OF QUANTITIES	BILL NO: 3 Supplier No. 3
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A	Supply of Main Pumps, Motors and Spares	Rev. 03

**Bill No.3**

**Supply of Main Pumps, Motors and Spares Alternative Supplier No. 3**

**WATER SECURITY MEGA RESERVOIR: PRPS 1**

**GTC/626A/2014**

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 3 Supplier No. 3	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment					Rev. 03	
				Pump Supplier						
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT	AMOUNT (QR)
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) (5)+(6)	(8)=(7)x(1)
3.1	Supply of Main Pumps and Motors  Supply of the following main Pumps and Motors including all related sensors, equipment and ancillary items required for a complete installation.									
3.1.1	Pump Set Sub System 1A  Electrically driven, variable speed, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 566 l / Sec @ 49 m Head	NO	4							
3.1.2	Pump Set-Sub System 1B  Electrically driven, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 1679 l / Sec @ 58 m Head	NO	5							
<b>Subtotal for 3.1</b>										

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 3 Supplier No. 3	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
				Pump Supplier							
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR							AMOUNT (QR)
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT	(7)=(2)+(3)+(4) +(5)+(6)	
3.2	Supply of Spare Parts  Supply of Manufacturer recommended Spare Parts for the following Main Pumps and Motors as specified.										
3.2.1	Pump Set Sub System 1A (4 Nos.)  Electrically driven, variable speed, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 566 l / Sec @ 49 m Head	LS									
3.2.1.1	Additonal Spare Parts for above Pump and Mortor										
3.2.2.1.1	Impeller (each)	NO	2								
3.2.2.1.2	Impeller wear ring(set)	NO	6								
3.2.2.1.3	Casing wear rings (set)	NO	6								
3.2.2.1.4	Shaft with key and nut (set)	NO	3								
3.2.2.1.5	Shaft protection sleeves (set)	NO	6								
3.2.2.1.6	Pumps bearings & washers (set)	NO	6								
3.2.2.1.7	Mechanical seals (each)	NO	6								
3.2.2.1.8	O-rings, V-rings , and gaskets (set)	NO	12								
3.2.2.1.9	Pump/motor coupling	NO	2								
3.2.2.1.10	Bearing housing	NO	2								

Not Used

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 3 Supplier No. 3	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment					Rev. 03	
				Pump Supplier						
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
3.2.2	Pump Set-Sub System 1B (5 Nos.)  Electrically driven, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 1679 l / Sec @ 58 m Head	LS	NO							
3.2.2.1	Additonal Spare Parts for above Pump and Mortor									
3.2.2.1.1	Impeller (each)			3						
3.2.2.1.2	Impeller wear ring(set)			8						
3.2.2.1.3	Casing wear rings (set)			8						
3.2.2.1.4	Shaft with key and nut (set)			4						
3.2.2.1.5	Shaft protection sleeves (set)			8						
3.2.2.1.6	Pumps bearings & washers (set)			8						
3.2.2.1.7	Mechanical seals (each)			8						
3.2.2.1.8	O-rings, V-rings , and gaskets (set)			16						
3.2.2.1.9	Pump/motor coupling			2						
3.2.2.1.10	Bearing housing			2						
	<b>Subtotal for 3.2</b>									

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 3 Supplier No. 3	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment					Rev. 03	
				Pump Supplier						
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
	COLLECTION									
	Subtotal for 3.1									
	Subtotal for 3.2									
	Carried Forward to General Summary									

PROJECT: WATER SECURITY MEGA RESERVOIR	BILL OF QUANTITIES	BILL NO: 4 Supplier No. 4
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A	Supply of Main Pumps, Motors and Spares	Rev. 03

**Bill No.4**

**Supply of Main Pumps, Motors and Spares - Alternative Supplier No. 4**

**WATER SECURITY MEGA RESERVOIR: PRPS 1**

*Not Used*  
GTC/626A/2014

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 4 Supplier No. 4	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment					Rev. 03	
				Pump Supplier						
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
4.1	Supply of Main Pumps and Motors  Supply of the following main Pumps and Motors including all related sensors, equipment and ancillary items required for a complete installation.									
4.1.1	Pump Set Sub System 1A  Electrically driven, variable speed, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 566 l / Sec @ 49 m Head	NO	4							
4.1.2	Pump Set-Sub System 1B  Electrically driven, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 1679 l / Sec @ 58 m Head	NO	5							
<b>Subtotal for 4.1</b>										

Not Used

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 4 Supplier No. 4	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
				Pump Supplier							
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
4.2	Supply of Spare Parts  Supply of Manufacturer recommended Spare Parts for the following Main Pumps and Motors as specified.										
4.2.1	Pump Set Sub System 1A (4 Nos.)  Electrically driven, variable speed, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 566 l / Sec @ 49 m Head	LS									
4.2.1.1	Additonal Spare Parts for above Pump and Mortor										
4.2.2.1.1	Impeller (each)	NO	2								
4.2.2.1.2	Impeller wear ring(set)	NO	6								
4.2.2.1.3	Casing wear rings (set)	NO	6								
4.2.2.1.4	Shaft with key and nut (set)	NO	3								
4.2.2.1.5	Shaft protection sleeves (set)	NO	6								
4.2.2.1.6	Pumps bearings & washers (set)	NO	6								
4.2.2.1.7	Mechanical seals (each)	NO	6								
4.2.2.1.8	O-rings, V-rings , and gaskets (set)	NO	12								
4.2.2.1.9	Pump/motor coupling	NO	2								
4.2.2.1.10	Bearing housing	NO	2								

Not Used

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 4 Supplier No. 4	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment					Rev. 03	
				Pump Supplier						
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
4.2.2	Pump Set-Sub System 1B (5 Nos.)  Electrically driven, Single stage, axially split Case Horizontal centrifugal water pumps complete with all the ancillaries. Capacity: 1679 l / Sec @ 58 m Head	LS							-	-
4.2.2.1	Additonal Spare Parts for above Pump and Mortor								-	-
4.2.2.1.1	Impeller (each)	NO	3							
4.2.2.1.2	Impeller wear ring(set)	NO	8							
4.2.2.1.3	Casing wear rings (set)	NO	8							
4.2.2.1.4	Shaft with key and nut (set)	NO	4							
4.2.2.1.5	Shaft protection sleeves (set)	NO	8							
4.2.2.1.6	Pumps bearings & washers (set)	NO	8							
4.2.2.1.7	Mechanical seals (each)	NO	8							
4.2.2.1.8	O-rings, V-rings , and gaskets (set)	NO	16							
4.2.2.1.9	Pump/motor coupling	NO	2							
4.2.2.1.10	Bearing housing	NO	2							
	<b>Subtotal for 4.2</b>									

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 4 Supplier No. 4	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment					Rev. 03	
				Pump Supplier						
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)
				(1)	(2)	(3)	(4)	(5)	(6)	
	COLLECTION									
	Subtotal for 4.1									
	Subtotal for 4.2									
	Carried Forward to General Summary									

<b>PROJECT: WATER SECURITY MEGA RESERVOIR</b>	<b>BILL OF QUANTITIES</b>	<b>BILL NO: 5</b> <b>Materials Supply</b>
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A	Supply of Major M&E Equipment	Rev. 03

**Bill No.5**  
**Materials Supply – Major M&E Equipment**

**WATER SECURITY MEGARESERVOIR: PRPS 1**

**GTC/626A/2014**

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 5 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT		
	Supply of major M&E Equipment  Supply of the following major M&E Equipment including cabling, cable trays and all related equipment and ancillary items required for a complete installation. Scope includes the supply of all other equipment in accordance with KAHARAMAA requirements and standards.										
5.1	<u>MV /Generator and Substations</u>										
5.1.1	<u>MV /Generator</u>										
5.1.1.1	Medium Voltage Switchgear Panel R1-MVSG-01 - Voltage: 11 kV - Busbar Rating: 800 A - Incomers: 5 No. 400 A - Outgoing Ways: 8 No. - Busbar Couplers: 2 No.	NO	1		2,912,773.29					2,912,773.29	2,912,773.29
5.1.1.2	Medium Voltage Switchgear Panel R1-MVSG-02 - Voltage: 11 kV - Busbar Rating: 800 A - Incomers: 5 No. 400 A - Outgoing Ways: 7 No. - Busbar Couplers: 2 No.	NO	1		1,875,461.43					1,875,461.43	1,875,461.43
5.1.1.3	Medium Voltage Prime-rated Generator Sets R1-MVG-GEN-01A, R1-MVG-GEN-02A and R1-MVG-GEN-03A including generator controls. - Fuel: Diesel - Voltage: 11 kV - Rating: 2.6 MVA	NO	3	5,619,099.49						5,619,099.49	16,857,298.47

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 5 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
				(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
5.1.1.4	Low Voltage Prime-rated Generator Set R1-MVG GEN-04 including generator controls. - Fuel: Diesel - Voltage: 415 V - Rating: 2 MVA	NO	1	2,368,134.80						2,368,134.80	2,368,134.80
5.1.1.5	Transformer R1-MVG-TX-20 - Type: Dry Type - Voltage: 11/0.415 kV - Rating: 1.6 MVA - Impedance: 6%	NO	1		238,933.82					238,933.82	238,933.82
5.1.1.6	Medium Voltage Generator Synchronization Panel BB-R1-GEN-01 - Voltage: 11 kV - Busbar Rating: 1200 A - Incomers: 3No. 400 A - Outgoing Ways: 4No. 400 A - Busbar Coupler: 1 No.	NO	1		438,082.30					438,082.30	438,082.30
5.1.1.7	Low Voltage Switchgear Panel R1-MVG-MDB-01 - Voltage: 415 V - Busbar Rating: 2500 A - Incomers: 2No. 2500 A - Outgoing Ways: 16No. Various Ratings	NO	1		668,084.95					668,084.95	668,084.95
5.1.1.8	Low Voltage Generator Switchgear Panel R1-MVG-GMDB-01 - Voltage: 415 V - Busbar Rating: 3200 A - Incomers: 1No. 3200 A - Outgoing Ways: 4No. 2500 A	NO	1		205,708.62					205,708.62	205,708.62

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 5 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)	
5.1.2	<b>Remote Substation 1 &amp; 2</b>										
5.1.2.1	Medium Voltage Switchgear Panels R1-RS1-MVP-01 and R1-RS2-MVP-01 - Voltage: 11 kV - Busbar Rating: 800 A - Incomers: 2No. 400 A - Outgoing Ways: 1No. 400 A	NO	2		421,855.71				421,855.71	843,711.42	
5.1.2.2	Transformers R1-RS1-TX-21 and R1-RS1-TX-22 - Type: Dry Type - Voltage: 11/0.415 kV - Rating: 0.5 MVA - Impedance: 4.75%	NO	2		123,974.94				123,974.94	247,949.88	
5.1.2.3	Low Voltage Switchgear Panels R1-RS1-MDB-01 and R1-RS2-MDB-01 - Voltage: 415 V - Busbar Rating: 1000 A - Incomers: 2No. - Outgoing Ways: Various	NO	2		245,232.86				245,232.86	490,465.72	
5.1.3	<b>Remote Substation 3&amp;4</b>										
5.1.3.1	Medium Voltage Switchgear Panels R1-RS3-MVP-01 and R1-RS4-MVP-01 - Voltage: 11 kV - Busbar Rating: 800 A - Incomers: 2No. 400 A - Outgoing Ways: 1No. 400 A	NO	2		440,581.11				440,581.11	881,162.22	
5.1.3.2	Transformers R1-RS3-TX-23 and R1-RS4-TX-24 - Type: Dry Type - Voltage: 11/0.415 kV - Rating: 1.6 MVA - Impedance: 6%	NO	2		239,108.94				239,108.94	478,217.88	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 5 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)	
5.1.3.3	Low Voltage Switchgear Panels R1-RS3-MDB-01 and R1-RS4-MDB-01 - Voltage: 415 V - Busbar Rating: 2500 A - Incomers: 2No. 2500 A - Outgoing Ways: Various	NO	2		575,064.33				575,064.33	1,150,128.66	
5.1.3.4	Low Voltage Prime-rated Generator Sets R1-RS3-GEN-02 and R1-RS4-GEN-03 including generator controls. - Fuel: Diesel - Voltage: 415 V - Rating: 1.28 MVA	NO	2		1,597,747.38				1,597,747.38	3,195,494.76	
5.1.4	<b>Remote Generator Room</b>										
5.1.4.1	Low Voltage Prime-rated Generator Set R1-RG1-GEN-02 including generator controls. - Fuel: Diesel - Voltage: 415 V - Rating: 1 MVA	NO	1		877,058.24				877,058.24	877,058.24	
5.1.4.2	Low Voltage Generator Switchgear Panel R1-RG1-GMDB-01 - Voltage: 415 V - Busbar Rating: 3000 A - Incomers: 1No. 3200 A - Outgoing Wavs: 2No. 1200 A	NO	1		1,171,738.86				1,171,738.86	1,171,738.86	
	<b>Subtotal for 5.1</b>									34,900,405.32	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 5 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
5.2	<b>Main Pump Station</b>										
5.2.1	<b>Pumps</b>										
5.2.1.1	Flood Pumps  Electrically driven, vertical Submersible water pumps complete with instrumentation, sensors and all the ancillaries. Capacity: 242.1 l/s @ 10.5 m Head	NO	4	-	66,976.48	-	-	-	66,976.48	267,905.92	
5.2.1.2	Drain Pumps  Electrically driven, vertical Submersible water pumps complete with instrumentation, sensors and all the ancillaries. Capacity: 9.72 l / Sec @ 16.4 m Head Drive Motor- 4.2kW	NO	4	-	44,548.57	-	-	-	44,548.57	178,194.28	
5.2.2	<b>Main Pump Station Other Equipment</b>										
5.2.2.1	1400KW, MV Variable frequency drive unit including 11/3.3kV 2MVA Phase Shift Transformer, Frequency converter with 24 pulse (minimum) rectifier, Harmonic filter unit, IGBT/IGCT inverter and all other ancillary equipment and works required for complete installation	NO	5		2,205,114.00				2,205,114.00	11,025,570.00	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 5 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
5.2.2.2	400KW LV Variable frequency drive unit of PWM design including Frequency converter having full wave diode bridge rectifier, DC links, inverters, Harmonic filter units and all other ancillary equipment and works required for complete installation	NO	4		374,875.35				374,875.35	1,499,501.40	
5.2.2.3	Passenger / handyman tools Lift from an approved manufacturer complete with all integral parts, accessories, interior finishing, additional features, pit ladder and final connections as specified	NO	1	-	-	-	-	492,233.32	492,233.32	492,233.32	
5.2.2.4	Transformers - Type: Oil Filled - Voltage: 11/0.415 kV - Rating: 1.6 MVA - Impedance: 6%	NO	5		88,818.11				88,818.11	444,090.55	
<b>Subtotal for 5.2</b>											<b>13,907,495.47</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 5 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
5.3	<u>Auxiliary Pumping Station</u>										
5.3.1	<u>Pumps</u>										
5.3.1.1	Recirculation Pumps  Submersible pumps complete with instrumentation, sensors and all the ancillaries. Capacity: 1260 l/sec @ 8.06 m Head	NO	4	-	435,347.12	-	-	-	435,347.12	1,741,388.48	
5.3.1.2	Drain Down Return Pumps  Electrically driven, Single or Multi Channel Impeller pumps With large through lets and single volute pump casing complete with instrumentation, sensors and all the ancillaries. Capacity: 900 l/sec @ 10 m Head.	NO	2	-	523,983.45	-	-	-	523,983.45	1,047,966.90	
5.3.1.3	Scour Pumps  Electrically driven, Multi Channel Impeller pumps complete with instrumentation, sensors and all the ancillaries. Capacity: 54 l/ Sec @ 7m Head Drive Motor	NO	2	-	35,331.63	-	-	-	35,331.63	70,663.26	
5.3.1.4	Drain Pumps  Electrically driven, Vortex Impeller type Submersible water pumps complete with instrumentation, sensors and all the ancillaries. Capacity:10 l/ Sec @ 11.7 m Head Drive Motor-3.1kW	NO	2	-	26,882.78	-	-	-	26,882.78	53,765.56	
<b>Subtotal for 5.3</b>											2,913,784.20

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 5 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
5.4	<b>TFS Pumping Station</b>										
5.4.1	<b>Pumps</b>										
5.4.1.1	Main Pump  Submersible pump installed in dry well complete with instrumentation, sensors and all the ancillaries. Capacity: 100 l/Sec @ 9.96 m Head	NO	4	-	93,859.26	-	-	-	93,859.26	375,437.04	
5.4.1.2	Drain Pump  Electrically driven, Submersible water pumps complete with instrumentation, sensors and all the ancillaries. Capacity: 10 l/Sec @ 11.7 m Head	NO	2	-	44,548.57	-	-	-	44,548.57	89,097.14	
<b>Subtotal for 5.4</b>										464,534.18	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 5 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)	
5.5	<u>Utility Pumping Station</u>										
5.5.1	Pumps										
5.5.1.1	Fire Pump Electrically driven, Horizontal pumps as per NFPA requirement complete with instrumentation, sensors and all the ancillaries.	NO	1	-	103,383.43	-	-	-	103,383.43	103,383.43	
5.5.1.2	Diesel Engine driven, Horizontal pumps as per NFPA requirement complete with instrumentation, sensors and all the ancillaries.	NO	1	-	172,203.30	-	-	-	172,203.30	172,203.30	
5.5.1.3	Jockey Pump Electrical driven pumps as per NFPA requirement complete with instrumentation, sensors and all the ancillaries.	NO	2	-	15,060.37	-	-	-	15,060.37	30,120.74	
5.5.1.4	Potable Water Pumps Electrical driven Booster pumps complete with instrumentation, sensors and all the ancillaries. Capacity: 10 l/s @3 bar	NO	2	-	49,157.06	-	-	-	49,157.06	98,314.12	
5.5.1.5	Irrigation Pumps Electrical driven Booster pumps complete with instrumentation, sensors and all the ancillaries. Capacity: 2.6 l/s @6.5 bar	NO	2	-	29,955.09	-	-	-	29,955.09	59,910.18	
<b>Subtotal for 5.5</b>										<b>463,931.77</b>	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 5 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)$ $+(5)+(6)$		
5.6	<u>Land and Under Floor Drainage Lift Station</u>										
5.6.1	Electrically driven, Submersible water pumps complete with instrumentation, sensors and all the ancillaries. Capacity: 9.72 l/Sec @ 16.4 m Head	NO	3	-	13,554.33	-	-	-	13,554.33	40,662.99	
<b>Subtotal for 5.6</b>										40,662.99	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 5 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)$ $+(5)+(6)$		
5.7	<b>Compressor Building</b>										
5.7.1	Air Compressors - Oil Free Rotary Screw type, Delivery Capacity -10.61 m <sup>3</sup> / min, Nominal Pressure -10 bar, Drive Motor- 75kW, complete with 3 nr. Air receivers, all necessary pipe work, fittings and valves and all the ancillaries required for a complete installation.	NO	5	-	393,075.67	-	-	-	393,075.67	1,965,378.35	
	<b>Subtotal for 5.7</b>									1,965,378.35	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 5 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
5.8	<b><u>Other Equipment</u></b>										
5.8.1	Complete chlorination system including pumps, dosing injection, necessary pipe works, chlorine drums (duty/standby/storage), water quality monitoring, cabines and all the ancillaries required for a complete installation.	LS		-	4,819,318.58	-	-	-	4,819,318.58	4,819,318.58	
5.8.2	Electrically powered six seater passenger vehicles.	NO	3	-	54,217.34	-	-	-	54,217.34	162,652.02	
5.8.3	Electrically powered four seater vehicle with cargo bed at the rear.	NO	2	-	60,241.48	-	-	-	60,241.48	120,482.96	
<b>Subtotal for 5.8</b>											5,102,453.56

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 5 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Major M&E Equipment					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT	
	COLLECTION									
	Subtotal for 5.1									34,900,405.32
	Subtotal for 5.2									13,907,495.47
	Subtotal for 5.3									2,913,784.20
	Subtotal for 5.4									464,534.18
	Subtotal for 5.5									463,931.77
	Subtotal for 5.6									40,662.99
	Subtotal for 5.7									1,965,378.35
	Subtotal for 5.8									5,102,453.56
	Carried Forward to General Summary									59,758,645.84

PROJECT: WATER SECURITY MEGA RESERVOIR	BILL OF QUANTITIES	BILL NO: 6 Materials Supply
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A	Supply of Pipes, Fittings, Valves and Accessories	Rev. 03

**Bill No.6**

## **Materials supply – Pipes, Fittings, Valves and Accessories**

**WATER SECURITY MEGARESERVOIR: PRPS 1**

**GTC/626A/2014**

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)	
6.1	Supply of Pipes, Fittings, Valves and Accessories  Supply of Pipes, Fittings, Valves and Accessories for following Pumping Stations  Supply of the following ancillary items and related Carbon Steel/DI Pressure pipes, fittings and valves complete with accessories, as per Specifications and in accordance with KAHARAMAA requirements and standards.  Main Pump Station Pipe Work. Reference drawing No. MQ174-R1-DH-CI-6200 to MQ174-R1-DH-CI-6207									
6.1.1	DN1000 PN16 Motorized Gate Valve	NO	5	-	201,595.51	-	-	-	201,595.51	1,007,977.55
6.1.2	DN700 PN16 Motorized Gate Valve	NO	4	-	92,123.70	-	-	-	92,123.70	368,494.80
6.1.3	DN800 PN16 Axial Spring Loaded NRV	NO	5	-	240,924.33	-	-	-	240,924.33	1,204,621.65
6.1.4	DN600 PN16 Axial Spring Loaded NRV	NO	4	-	129,476.41	-	-	-	129,476.41	517,905.64
6.1.5	DN800 PN16 Motorized Butterfly Valve	NO	5	-	73,606.90	-	-	-	73,606.90	368,034.50
6.1.6	DN600 PN16 Motorized Butterfly Valve	NO	4	-	42,565.13	-	-	-	42,565.13	170,260.52
6.1.7	DN1600 PN16 Quick Closing Valve	NO	2	-	615,858.26	-	-	-	615,858.26	1,231,716.52
6.1.8	DN2200 PN16 Quick Closing Valve	NO	2	-	1,226,012.97	-	-	-	1,226,012.97	2,452,025.94
6.1.9	DN1200 PN16 Quick Closing Valve	NO	1	-	241,035.39	-	-	-	241,035.39	241,035.39
6.1.10	DN2200 PN16 Motorized Butterfly Valve	NO	3	-	552,357.28	-	-	-	552,357.28	1,657,071.84

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)	
6.1.11	DN200 PN16 Gate Valve	NO	15	-	2,411.83	-	-	-	2,411.83	36,177.45	
6.1.12	DN100 PN16 Gate Valve	NO	12	-	1,552.74	-	-	-	1,552.74	18,632.88	
6.1.13	CS DN600 x DN300 PN16 Concentric Reducer	NO	4	2,501.73	-	-	-	-	2,501.73	10,006.92	
6.1.14	CS DN800 x DN600 PN16 Concentric Reducer	NO	5	12,688.76	-	-	-	-	12,688.76	63,443.80	
6.1.15	CS DN700 x DN350 PN16 Eccentric Reducer	NO	4	3,051.91	-	-	-	-	3,051.91	12,207.64	
6.1.16	CS DN1000x DN800 PN16 Eccentric Reducer	NO	5	24,006.20	-	-	-	-	24,006.20	120,031.00	
6.1.17	DN2200 PN16 Dismantling joint	NO	5	72,981.79	-	-	-	-	72,981.79	364,908.95	
6.1.18	DN1600 PN16 Dismantling joint	NO	2	27,327.54	-	-	-	-	27,327.54	54,655.08	
6.1.19	DN1200 PN16 Dismantling joint	NO	1	14,368.00	-	-	-	-	14,368.00	14,368.00	
6.1.20	DN1000 PN16 Dismantling joint	NO	5	9,371.71	-	-	-	-	9,371.71	46,858.55	
6.1.21	DN800 PN16 Dismantling joint	NO	10	5,571.35	-	-	-	-	5,571.35	55,713.50	
6.1.22	DN700 PN16 Dismantling joint	NO	4	4,879.62	-	-	-	-	4,879.62	19,518.48	
6.1.23	DN600 PN16 Dismantling joint	NO	8	3,696.18	-	-	-	-	3,696.18	29,569.44	
6.1.24	DN2200 PN16 Carbon Steel Blind Flange	NO	2	56,082.48	-	-	-	-	56,082.48	112,164.96	
6.1.25	DN1800 PN16, Carbon Steel Blind Flange	NO	2	25,178.13	-	-	-	-	25,178.13	50,356.26	
6.1.26	DN1200 PN16, Carbon Steel Blind Flange	NO	1	9,128.18	-	-	-	-	9,128.18	9,128.18	
6.1.27	DN700 PN16, Carbon Steel Blind Flange	NO	2	2,430.06	-	-	-	-	2,430.06	4,860.12	

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.1.28	DN1000 PN16, Carbon Steel Blind Flange	NO	1	5,208.94	-	-	-	-	5,208.94	5,208.94	
6.1.29	DN800 PN16, Carbon Steel Blind Flange	NO	1	3,271.47	-	-	-	-	3,271.47	3,271.47	
6.1.30	DN600 PN16, Carbon Steel Blind Flange	NO	2	1,911.01	-	-	-	-	1,911.01	3,822.02	
6.1.31	DN200 PN16, Carbon Steel Blind Flange	NO	15	258.94	-	-	-	-	258.94	3,884.10	
6.1.32	DN100 PN16, Carbon Steel Blind Flange	NO	12	122.30	-	-	-	-	122.30	1,467.60	
6.1.33	DN800 Expansion Joint	NO	5	-	5,421.73	-	-	-	5,421.73	27,108.65	
6.1.34	DN600 Expansion Joint	NO	5	-	2,710.87	-	-	-	2,710.87	13,554.35	
6.1.35	DN300 Expansion Joint	NO	4	-	1,204.83	-	-	-	1,204.83	4,819.32	
6.1.36	DN350 Expansion Joint	NO	4	-	1,506.03	-	-	-	1,506.03	6,024.12	
6.1.37	DN2200 Carbon Steel Pipe	LM	120	19,132.82	-	-	-	-	19,132.82	2,295,938.40	
6.1.38	DN1800 Carbon Steel Pipe	LM	57	7,803.64	-	-	-	-	7,803.64	444,807.48	
6.1.39	DN1600 Carbon Steel Pipe	LM	18	6,250.58	-	-	-	-	6,250.58	112,510.44	
6.1.40	DN1200 Carbon Steel Pipe	LM	56	3,939.12	-	-	-	-	3,939.12	220,590.72	
6.1.41	DN1000 Carbon Steel Pipe	LM	18	4,448.08	-	-	-	-	4,448.08	80,065.44	
6.1.42	DN800 Carbon Steel Pipe	LM	28	3,559.16	-	-	-	-	3,559.16	99,656.48	
6.1.43	DN700 Carbon Steel Pipe	LM	18	3,044.66	-	-	-	-	3,044.66	54,803.88	
6.1.44	DN600 Carbon Steel Pipe	LM	25	2,665.04	-	-	-	-	2,665.04	66,626.00	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) (5)+(6)		
6.1.45	DN2200 PN16 Weld Neck, Carbon Steel Flange	NO	48	59,638.93	-	-	-	-	59,638.93	2,862,668.64	
6.1.46	DN1800 PN16 Weld Neck, Carbon Steel Flange	NO	18	8,904.66	-	-	-	-	8,904.66	160,283.88	
6.1.47	DN1600 PN16 Weld Neck, Carbon Steel Flange	NO	12	7,280.38	-	-	-	-	7,280.38	87,364.56	
6.1.48	DN1200 PN16 Weld Neck, Carbon Steel Flange	NO	17	3,679.22	-	-	-	-	3,679.22	62,546.74	
6.1.49	DN1000 PN16 Weld Neck, Carbon Steel Flange	NO	11	2,683.71	-	-	-	-	2,683.71	29,520.81	
6.1.50	DN800 PN16 Weld Neck, Carbon Steel Flange	NO	26	1,671.53	-	-	-	-	1,671.53	43,459.78	
6.1.51	DN700 PN16 Weld Neck, Carbon Steel Flange	NO	10	1,301.67	-	-	-	-	1,301.67	13,016.70	
6.1.52	DN600 PN16 Weld Neck, Carbon Steel Flange	NO	23	1,111.97	-	-	-	-	1,111.97	25,575.31	
6.1.53	DN300 PN16 Weld Neck, Carbon Steel Flange	NO	4	368.78	-	-	-	-	368.78	1,475.12	
6.1.54	DN350 PN16 Weld Neck, Carbon Steel Flange	NO	4	488.76	-	-	-	-	488.76	1,955.04	
6.1.55	DN200 PN16 Weld Neck, Carbon Steel Flange	NO	15	215.69	-	-	-	-	215.69	3,235.35	
6.1.56	DN100 PN16 Weld Neck, Carbon Steel Flange	NO	12	120.13	-	-	-	-	120.13	1,441.56	
6.1.57	DN150, PN16 Air Releasing Valve	NO	3	7,607.42	-	-	-	-	7,607.42	22,822.26	
6.1.58	DN150, PN16 Gate Valve	NO	3	-	1,869.53	-	-	-	1,869.53	5,608.59	
<b>Drain/Flood System</b>											
6.1.59	DI DN500 PN16 Double Flanged 90° Elbow	NO	2	9,844.67	-	-	-	-	9,844.67	19,689.34	
6.1.60	DI DN100 PN16 Double Flanged 90° Elbow	NO	2	787.57	-	-	-	-	787.57	1,575.14	

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GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)	
6.1.61	DI DN300 PN16 Double Flanged 45° Bend.	NO	4	3,937.87	-	-	-	-	3,937.87	15,751.48	
6.1.62	DI DN100 PN16 Double Flanged 45° Bend.	NO	4	708.81	-	-	-	-	708.81	2,835.24	
6.1.63	DI DN300 x DN150 PN16 Double Flanged Eccentric reducer	NO	4	1,968.93	-	-	-	-	1,968.93	7,875.72	
6.1.64	DI DN100 x DN80 PN16 Double Flanged Eccentric reducer	NO	4	393.79	-	-	-	-	393.79	1,575.16	
6.1.65	DI DN500 x DN300, PN16 flanged Reducing Tee	NO	4	11,813.60	-	-	-	-	11,813.60	47,254.40	
6.1.66	DI DN500 x DN150, PN16 flanged Reducing Tee	NO	2	11,813.60	-	-	-	-	11,813.60	23,627.20	
6.1.67	DI DN300 PN16 Dismantling joint	NO	4	1,633.49	-	-	-	-	1,633.49	6,533.96	
6.1.68	DI DN100 PN16 Dismantling joint	NO	4	412.54	-	-	-	-	412.54	1,650.16	
6.1.69	DN300 PN16 Gate Valve	NO	4	-	4,020.88	-	-	-	4,020.88	16,083.52	
6.1.70	DN150 PN16 Gate Valve	NO	2	-	1,869.53	-	-	-	1,869.53	3,739.06	
6.1.71	DN100 PN16 Gate Valve	NO	4	-	1,552.74	-	-	-	1,552.74	6,210.96	
6.1.72	DN300 PN16 Non Return Valve	NO	4	-	21,497.06	-	-	-	21,497.06	85,988.24	
6.1.73	DN100 PN16 Non Return Valve	NO	4	-	737.66	-	-	-	737.66	2,950.64	
6.1.74	DN150 PN16 Air Valve	NO	2	7,607.42	-	-	-	-	7,607.42	15,214.84	
6.1.75	DI DN100 PN16 Double flanged Pipe L=1000mm	NO	6	977.22	-	-	-	-	977.22	5,863.32	

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GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.1.76	DI DN100 PN16 Double flanged Pipe L=200mm	NO	8	468.13	-	-	-	-	468.13	3,745.04	
6.1.77	DI DN500 PN16 Double flanged Pipe L=1000mm	NO	2	8,570.38	-	-	-	-	8,570.38	17,140.76	
6.1.78	DI DN500 PN16 Double flanged Pipe L=500mm	NO	2	8,477.37	-	-	-	-	8,477.37	16,954.74	
6.1.79	DI DN500 PN16 Flange Spigot Pipe with Puddle Flange L=1500mm	NO	2	23,804.63	-	-	-	-	23,804.63	47,609.26	
6.1.80	DI DN300 PN16 Double flanged Pipe L=2000mm	NO	4	9,793.67	-	-	-	-	9,793.67	39,174.68	
6.1.81	DI DN100 PN16 Flange Spigot Pipe L=1000mm	NO	2	863.21	-	-	-	-	863.21	1,726.42	
6.1.82	DI DN500 PN16 Blind flange	NO	2	3,150.29	-	-	-	-	3,150.29	6,300.58	
6.1.83	DN100 DI PN16 Flanged Y type Tee	NO	2	984.47	-	-	-	-	984.47	1,968.94	
<b>Subtotal for 6.1</b>											<b>17,405,918.11</b>

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GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) (5)+(6)		
6.2	Auxiliary Pump Station Pipe Work. Reference drawing No. MQ174-R1-DH-CI-6330 to MQ174-R1-DH-CI-6333										
6.2.1	DN1000, PN16 Motorized Gate Valve	NO	4	-	201,595.51	-	-	-	201,595.51	806,382.04	
6.2.2	DN800, PN16 Motorized Gate Valve	NO	2	-	73,606.90	-	-	-	73,606.90	147,213.80	
6.2.3	DN250, PN16 Motorized Gate Valve	NO	3	-	23,022.23	-	-	-	23,022.23	69,066.69	
6.2.4	DN250, PN16 Gate Valve	NO	1	-	3,311.24	-	-	-	3,311.24	3,311.24	
6.2.5	DN200, PN16 Motorized Gate Valve	NO	2	-	18,362.30	-	-	-	18,362.30	36,724.60	
6.2.6	DN150, PN16 Gate Valve	NO	6	-	1,869.53	-	-	-	1,869.53	11,217.18	
6.2.7	DN100, PN16 Gate Valve	NO	2	-	1,552.74	-	-	-	1,552.74	3,105.48	
6.2.8	DN800, PN16 Non Return Valve	NO	6	-	84,389.11	-	-	-	84,389.11	506,334.66	
6.2.9	DN200, PN16 Non Return Valve	NO	2	-	14,140.50	-	-	-	14,140.50	28,281.00	
6.2.10	DN100, PN16 Non Return Valve	NO	2	-	737.66	-	-	-	737.66	1,475.32	
6.2.11	DN800, PN16 Motorized Butterfly Valve	NO	6	-	73,607.96	-	-	-	73,607.96	441,647.76	
6.2.12	DN200, PN16 Motorized Butterfly Valve	NO	1	-	20,314.16	-	-	-	20,314.16	20,314.16	
6.2.13	DN1200, PN16 Dismantling Joint	NO	6	14,368.00	-	-	-	-	14,368.00	86,208.00	
6.2.14	DN1000, PN16 Dismantling Joint	NO	4	9,371.71	-	-	-	-	9,371.71	37,486.84	
6.2.15	DN800, PN16 Dismantling Joint	NO	16	5,569.89	-	-	-	-	5,569.89	89,118.24	

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)	
6.2.16	DN250, PN16 Dismantling Joint	NO	4	1,012.59	-	-	-	-	1,012.59	4,050.36	
6.2.17	DN200, PN16 Dismantling Joint	NO	4	787.57	-	-	-	-	787.57	3,150.28	
6.2.18	DN100, PN16 Dismantling Joint	NO	3	562.55	-	-	-	-	562.55	1,687.65	
6.2.19	DN1000, PN16 Flexible Coupling	NO	4	11,813.60	-	-	-	-	11,813.60	47,254.40	
6.2.20	DN800, PN16 Flexible Coupling	NO	6	7,088.16	-	-	-	-	7,088.16	42,528.96	
6.2.21	DN500, PN16 Flexible Coupling	NO	2	3,150.29	-	-	-	-	3,150.29	6,300.58	
6.2.22	DN150, PN16 Flexible Coupling	NO	4	393.79	-	-	-	-	393.79	1,575.16	
6.2.23	DI DN1200xDN1000, PN16 flanged Reducing Tee	NO	4	63,005.86	-	-	-	-	63,005.86	252,023.44	
6.2.24	DI DN1200xDN800, PN16 flanged Reducing Tee	NO	4	63,005.86	-	-	-	-	63,005.86	252,023.44	
6.2.25	DI DN800, PN16 flanged Equal Tee	NO	4	23,627.20	-	-	-	-	23,627.20	94,508.80	
6.2.26	DI DN800xDN150, PN16 flanged Reducing Tee	NO	6	23,627.20	-	-	-	-	23,627.20	141,763.20	
6.2.27	DI DN250, PN16 flanged Equal Tee	NO	2	2,953.40	-	-	-	-	2,953.40	5,906.80	
6.2.28	DI DN200, PN16 flanged Equal Tee	NO	3	2,165.83	-	-	-	-	2,165.83	6,497.49	
6.2.29	DI DN250 x DN200, PN16 flanged Reducing Tee	NO	1	2,953.40	-	-	-	-	2,953.40	2,953.40	
6.2.30	DI DN800xDN500, PN16 flanged Concentric Reducer	NO	2	13,782.53	-	-	-	-	13,782.53	27,565.06	
6.2.31	DI DN200xDN150, PN16 flanged Concentric Reducer	NO	2	1,378.25	-	-	-	-	1,378.25	2,756.50	

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4)+(5)+(6)	(8)=(7)x(1)	
6.2.32	DI DN250xDN150, PN16 flanged Eccentric Reducer	NO	2	1,772.04	-	-	-	-	1,772.04	3,544.08	
6.2.33	DI DN100xDN65, PN16 flanged Concentric Reducer	NO	2	393.79	-	-	-	-	393.79	787.58	
6.2.34	DI DN1000, PN16 , 90° flanged Bend	NO	4	33,471.87	-	-	-	-	33,471.87	133,887.48	
6.2.35	DI DN800, PN16 , 90° flanged Duck Foot Bend	NO	8	27,565.07	-	-	-	-	27,565.07	220,520.56	
6.2.36	DI DN200, PN16 , 90° flanged Duck foot Bend	NO	3	1,968.93	-	-	-	-	1,968.93	5,906.79	
6.2.37	DI DN150, PN16 , 90° flanged Duck foot Bend	NO	2	1,378.25	-	-	-	-	1,378.25	2,756.50	
6.2.38	DI DN100, PN16 , 90° flanged Bend	NO	1	787.57	-	-	-	-	787.57	787.57	
6.2.39	DI DN100, PN16 , 45° flanged Bend	NO	2	708.81	-	-	-	-	708.81	1,417.62	
6.2.40	DI DN100, PN16 , flanged Y Type Tee	NO	1	984.47	-	-	-	-	984.47	984.47	
6.2.41	DI DN1200 PN16 Blind Flange	NO	4	31,502.93	-	-	-	-	31,502.93	126,011.72	
6.2.42	DI DN800 PN16 Blind Flange	NO	2	9,844.67	-	-	-	-	9,844.67	19,689.34	
6.2.43	DI DN200 PN16 Blind Flange	NO	1	984.47	-	-	-	-	984.47	984.47	
6.2.44	DI DN250 PN16 Blind Flange	NO	1	1,181.36	-	-	-	-	1,181.36	1,181.36	
6.2.45	DI DN150 PN16 Blind Flange	NO	6	393.79	-	-	-	-	393.79	2,362.74	
6.2.46	DN1200 Orifice Plate	NO	2	98,446.66	-	-	-	-	98,446.66	196,893.32	
6.2.47	DI DN1200, PN16 Double Flanged Pipe L=3000mm	NO	4	64,935.08	-	-	-	-	64,935.08	259,740.32	

PROJECT: WATER SECURITY MEGA RESERVOIR					BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR							AMOUNT (QR)	
				(1)	USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
6.2.48	DI DN1200, PN16 Double Flanged Pipe L=1500mm	NO	4	45,405.02	-	-	-	-	-	45,405.02	181,620.08	
6.2.49	DI DN1200, PN16 Double Flanged Pipe L=2000mm	NO	2	54,358.14	-	-	-	-	-	54,358.14	108,716.28	
6.2.50	DI DN1200, PN16 Flanged Spigot Pipe with Central Puddle Flange L=3000mm	NO	2	65,914.06	-	-	-	-	-	65,914.06	131,828.12	
6.2.51	DI DN1200, PN16 Flanged Spigot Pipe with Central Puddle Flange L=2000mm	NO	2	50,223.05	-	-	-	-	-	50,223.05	100,446.10	
6.2.52	DI DN1000, PN16 Double Flanged Pipe L=2000mm	NO	4	35,514.84	-	-	-	-	-	35,514.84	142,059.36	
6.2.53	DI DN800, PN16 Double Flanged Pipe L=2000mm	NO	4	26,729.70	-	-	-	-	-	26,729.70	106,918.80	
6.2.54	DI DN800, PN16 Double Flanged Pipe L=1000mm	NO	8	16,421.65	-	-	-	-	-	16,421.65	131,373.20	
6.2.55	DI DN800, PN16 Double Flanged Pipe L=1800mm	NO	2	27,444.27	-	-	-	-	-	27,444.27	54,888.54	
6.2.56	DI DN800, PN16 Double Flanged Pipe L=1200mm	NO	4	19,157.86	-	-	-	-	-	19,157.86	76,631.44	
6.2.57	DI DN800, PN16 Flanged Spigot Pipe with Central Puddle Flange L=3000mm	NO	2	47,826.12	-	-	-	-	-	47,826.12	95,652.24	
6.2.58	DI DN250, PN16 Double Flanged Pipe L=1500mm	NO	1	7,724.30	-	-	-	-	-	7,724.30	7,724.30	
6.2.59	DI DN250, PN16 Double Flanged Pipe L=500mm	NO	8	2,027.40	-	-	-	-	-	2,027.40	16,219.20	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4)+(5)+(6)	(8)=(7)x(1)	
6.2.60	DI DN250, PN16 Flanged Spigot Pipe with Central Puddle Flange L=2000mm	NO	1	10,284.34	-	-	-	-	10,284.34	10,284.34	
6.2.61	DI DN200, PN16 Double Flanged Pipe L=2000mm	NO	1	3,150.29	-	-	-	-	3,150.29	3,150.29	
6.2.62	DI DN200, PN16 Double Flanged Pipe L=1500mm	NO	2	2,756.51	-	-	-	-	2,756.51	5,513.02	
6.2.63	DI DN200, PN16 Double Flanged Pipe L=1800mm	NO	4	2,953.40	-	-	-	-	2,953.40	11,813.60	
6.2.64	DI DN200, PN16 Double Flanged Pipe L=2800mm	NO	3	3,150.29	-	-	-	-	3,150.29	9,450.87	
6.2.65	DI DN200, PN16 Double Flanged Pipe L=700mm	NO	1	1,130.44	-	-	-	-	1,130.44	1,130.44	
6.2.66	DI DN200, PN16 Double Flanged Pipe L=250mm	NO	4	983.17	-	-	-	-	983.17	3,932.68	
6.2.67	DI DN150, PN16 Double Flanged Pipe L=200mm	NO	6	864.29	-	-	-	-	864.29	5,185.74	
6.2.68	DI DN100, PN16 Double Flanged Pipe L=2500mm	NO	2	2,165.83	-	-	-	-	2,165.83	4,331.66	
6.2.69	DI DN100, PN16 Double Flanged Pipe L=600mm	NO	1	941.47	-	-	-	-	941.47	941.47	
6.2.70	DI DN100, PN16 Double Flanged Pipe L=200mm	NO	4	466.25	-	-	-	-	466.25	1,865.00	
6.2.71	DI DN100, PN16 Double Flanged Pipe L=745mm	NO	2	1,425.54	-	-	-	-	1,425.54	2,851.08	
6.2.72	DI DN200, PN16 Flanged Spigot Pipe with Central Puddle Flange L=1500mm	NO	1	9,175.22	-	-	-	-	9,175.22	9,175.22	
Subtotal for 6.2											5,381,591.52

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)	
6.3	TFS Pump Station Pipe Work. Reference drawing No. MQ174-R1-DH-CI-6380 to MQ174-R1-DH-CI-6382										
6.3.1	DN250, PN16 Non Return Valve	NO	5	-	24,054.23	-	-	-	24,054.23	120,271.15	
6.3.2	DN100, PN16 Non Return Valve	NO	2	-	737.66	-	-	-	737.66	1,475.32	
6.3.3	DN500, PN16 Motorized Gate valve	NO	1	-	54,858.13	-	-	-	54,858.13	54,858.13	
6.3.4	DN500, PN16 Pressure Sustaining Valve	NO	1	-	166,573.31	-	-	-	166,573.31	166,573.31	
6.3.5	DN300, PN16 Motor Operated Gate Valve	NO	4	-	23,630.34	-	-	-	23,630.34	94,521.36	
6.3.6	DN250, PN16 Motor Operated Butterfly Valve	NO	4	-	23,991.82	-	-	-	23,991.82	95,967.28	
6.3.7	DN100, PN16 Gate Valve	NO	2	-	1,552.74	-	-	-	1,552.74	3,105.48	
6.3.8	DN250, PN16 Motor Operated Gate Valve	NO	2	-	23,022.23	-	-	-	23,022.23	46,044.46	
6.3.9	DN600, PN16 Dismantling Joint	NO	1	3,696.18	-	-	-	-	3,696.18	3,696.18	
6.3.10	DN500, PN16 Dismantling Joint	NO	2	2,812.76	-	-	-	-	2,812.76	5,625.52	
6.3.11	DN300, PN16 Dismantling joint	NO	4	1,633.49	-	-	-	-	1,633.49	6,533.96	
6.3.12	DN250, PN16 Dismantling joint	NO	6	1,012.59	-	-	-	-	1,012.59	6,075.54	
6.3.13	DN100, PN16 Dismantling joint	NO	2	562.55	-	-	-	-	562.55	1,125.10	
6.3.14	DN600,PN16 Collar	NO	1	4,725.44	-	-	-	-	4,725.44	4,725.44	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)	
6.3.15	DN500, PN16 Collar	NO	1	3,544.08	-	-	-	-	3,544.08	3,544.08	
6.3.16	DN250, PN16 Flexible Coupling	NO	4	984.47	-	-	-	-	984.47	3,937.88	
6.3.17	DN200, PN16 Flexible Coupling	NO	4	590.68	-	-	-	-	590.68	2,362.72	
6.3.18	DI DN500xDN250, PN16 flanged Reducing Tee	NO	7	11,813.60	-	-	-	-	11,813.60	82,695.20	
6.3.19	DI DN600xDN300, PN16 flanged Reducing Tee	NO	6	17,720.40	-	-	-	-	17,720.40	106,322.40	
6.3.20	DI DN600, PN16 , 90° flanged Bend	NO	1	13,782.53	-	-	-	-	13,782.53	13,782.53	
6.3.21	DI DN500, PN16 , 90° flanged Bend	NO	1	9,844.67	-	-	-	-	9,844.67	9,844.67	
6.3.22	DI DN500, PN16 , 90° flanged Duck Foot Bend	NO	1	11,813.60	-	-	-	-	11,813.60	11,813.60	
6.3.23	DI DN250, PN16 , 90° flanged Bend	NO	4	3,150.29	-	-	-	-	3,150.29	12,601.16	
6.3.24	DI DN250, PN16 , 22.5° flanged Bend	NO	1	2,756.51	-	-	-	-	2,756.51	2,756.51	
6.3.25	DI DN600xDN250, PN16 flanged Concentric Reducer	NO	1	6,891.27	-	-	-	-	6,891.27	6,891.27	
6.3.26	DI DN300xDN250, PN16 flanged Eccentric Reducer	NO	4	1,968.93	-	-	-	-	1,968.93	7,875.72	
6.3.27	DI DN250xDN200, PN16 flanged Concentric Reducer	NO	4	1,772.04	-	-	-	-	1,772.04	7,088.16	
6.3.28	DI DN100xDN65, PN16 flanged Concentric Reducer	NO	2	393.79	-	-	-	-	393.79	787.58	
6.3.29	DI DN300, PN16 Blind Flange	NO	2	1,378.25	-	-	-	-	1,378.25	2,756.50	
6.3.30	DI DN250, PN16 Blind Flange	NO	2	1,181.36	-	-	-	-	1,181.36	2,362.72	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)	
6.3.31	DI DN500, PN16 Blind Flange	NO	1	3,150.29	-	-	-	-	3,150.29	3,150.29	
6.3.32	DI DN100, PN16 flanged Y Tee	NO	1	984.47	-	-	-	-	984.47	984.47	
6.3.33	DI DN100, PN16 Flanged 45° bend	NO	2	708.81	-	-	-	-	708.81	1,417.62	
6.3.34	DI DN600, PN16 Double Flanged Pipe L=750mm	NO	6	12,244.97	-	-	-	-	12,244.97	73,469.82	
6.3.35	DI DN600, PN16 Double Flanged Pipe L=500mm	NO	1	10,504.39	-	-	-	-	10,504.39	10,504.39	
6.3.36	DI DN500, PN16 Double Flanged Pipe L=600mm	NO	1	11,591.04	-	-	-	-	11,591.04	11,591.04	
6.3.37	DI DN500, PN16 Double Flanged Pipe L=850mm	NO	5	12,263.18	-	-	-	-	12,263.18	61,315.90	
6.3.38	DI DN500, PN16 Double Flanged Pipe L=750mm	NO	1	11,992.58	-	-	-	-	11,992.58	11,992.58	
6.3.39	DI DN500, PN16 Double Flanged Pipe L=550mm	NO	1	11,461.56	-	-	-	-	11,461.56	11,461.56	
6.3.40	DI DN300, PN16 Double Flanged Pipe L=500mm	NO	4	2,297.67	-	-	-	-	2,297.67	9,190.68	
6.3.41	DI DN250, PN16 Double Flanged Pipe L=300mm	NO	4	1,647.69	-	-	-	-	1,647.69	6,590.76	
6.3.42	DI DN100, PN16 Double Flanged Pipe L=1300mm	NO	1	1,457.02	-	-	-	-	1,457.02	1,457.02	
6.3.43	DI DN100, PN16 Double Flanged Pipe L=1000	NO	2	976.51	-	-	-	-	976.51	1,953.02	
6.3.44	DI DN100, PN16 Double Flanged Pipe L=200mm	NO	4	1,082.93	-	-	-	-	1,082.93	4,331.72	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.3.45	DI DN250, PN16 Double Flanged Pipe L=800mm	NO	1	2,914.02	-	-	-	-	-	2,914.02	2,914.02
6.3.46	DI DN250, PN16 Double Flanged Pipe L=500mm	NO	1	2,677.74	-	-	-	-	-	2,677.74	2,677.74
6.3.47	DI DN600, PN16 Flange spigot pipe with central puddle flange L=2000mm	NO	1	14,963.89	-	-	-	-	-	14,963.89	14,963.89
6.3.48	DI DN500, PN16 Flange spigot pipe with central puddle flange L=2000mm	NO	1	10,632.24	-	-	-	-	-	10,632.24	10,632.24
6.3.49	DI DN100, PN16 Flange spigot pipe with central puddle flange L=2000mm	NO	1	1,772.04	-	-	-	-	-	1,772.04	1,772.04
<b>Subtotal for 6.3</b>											<b>1,130,391.73</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)	
6.4	Utility Pump Station Pipe Work. Reference drawing No. MQ174-R1-DH-CI-6440 to MQ174-R1-DH-CI-6442										
6.4.1	DN200, Flanged Gate Valve	NO	9	-	2,411.83	-	-	-	2,411.83	21,706.47	
6.4.2	DN 200 Flanged Swing Check Valve.	NO	2	-	23,755.99	-	-	-	23,755.99	47,511.98	
6.4.3	DN 150, Flanged Gate Valve	NO	2	-	1,552.74	-	-	-	1,552.74	3,105.48	
6.4.4	Automatic Air Release Valve	NO	1	10,915.22	-	-	-	-	10,915.22	10,915.22	
6.4.5	DN 150, Flanged Flow Meter 500 to 2000 GPM Flow Range	NO	1	-	11,638.66	-	-	-	11,638.66	11,638.66	
6.4.6	DN 150, Flanged Main Relief Valve, Angled 200PSI Max Adjustment	NO	1	-	3,012.08	-	-	-	3,012.08	3,012.08	
6.4.7	DN 150x200 mm Flanged Waste Cone	NO	1	-	2,108.45	-	-	-	2,108.45	2,108.45	
6.4.8	DN 50 Jockey Pump discharge and Suction Gate Valve, Threaded	NO	4	-	301.21	-	-	-	301.21	1,204.84	
6.4.9	DN 50 Jockey Pump Check Valve, Threaded	NO	2	-	301.21	-	-	-	301.21	602.42	
6.4.10	DN 200x150mm Welded Concentric Reducer	NO	3	1,378.25	-	-	-	-	1,378.25	4,134.75	
6.4.11	Reducing Coupling 50x32mm, Threaded	NO	4	216.61	-	-	-	-	216.61	866.44	
6.4.12	DN 200x200 mm, Welded equal Tee	NO	2	2,165.83	-	-	-	-	2,165.83	4,331.66	
6.4.13	DN 200x150mm, Welded reducing Tee	NO	2	2,165.83	-	-	-	-	2,165.83	4,331.66	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4)+(5)+(6)	(8)=(7)x(1)	
6.4.14	DN 200 mm Elbow 90°, Welded	NO	10	1,772.04	-	-	-	-	1,772.04	17,720.40	
6.4.15	DN 150 mm Elbow 90°, Welded	NO	8	1,181.36	-	-	-	-	1,181.36	9,450.88	
6.4.16	Elbow 90° 50mm, Threaded	NO	6	216.61	-	-	-	-	216.61	1,299.66	
6.4.17	DN 200 mm Blind Flange	NO	4	984.47	-	-	-	-	984.47	3,937.88	
6.4.18	DN 200mm Carbon Steel Pipe (Approx. length)	LM	40	433.17	-	-	-	-	433.17	17,326.80	
6.4.19	DN 150 mm Carbon Steel Pipe (Approx. length)	LM	15	303.23	-	-	-	-	303.23	4,548.45	
6.4.20	DN 50 mm Carbon Steel Pipe (Approx. length)	LM	12	196.89	-	-	-	-	196.89	2,362.68	
6.4.21	DN 200 mm DI Flanged Bellmouth	NO	2	1,575.15	-	-	-	-	1,575.15	3,150.30	
6.4.22	DN 200 mm DI double flanged pipe 409 mm long	NO	2	2,283.96	-	-	-	-	2,283.96	4,567.92	
6.4.23	DN 200 mm DI double flanged 90° Elbow	NO	2	1,772.04	-	-	-	-	1,772.04	3,544.08	
6.4.24	DN 200 mm DI Dismantling Joint	NO	2	984.47	-	-	-	-	984.47	1,968.94	
6.4.25	DN 200 mm DI double flanged spool pipe.	NO	2	3,150.29	-	-	-	-	3,150.29	6,300.58	
6.4.26	DN 200 mm DI all flanged Tee	NO	4	2,165.83	-	-	-	-	2,165.83	8,663.32	
6.4.27	DN 200 mm DI flanged/spigot pipe 1198 mm long.	NO	1	2,559.61	-	-	-	-	2,559.61	2,559.61	
6.4.28	DN 200 mm DI double flanged pipe suit to site.	NO	4	3,150.29	-	-	-	-	3,150.29	12,601.16	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)	
6.4.29	DN 150 mm DI flanged/spigot pipe 540 mm long.	NO	1	1,890.17	-	-	-	-	1,890.17	1,890.17	
6.4.30	DN 200 mm DI double flanged 11.25° Bend	NO	2	1,575.15	-	-	-	-	1,575.15	3,150.30	
6.4.31	DN 150 mm DI double flanged 11.25° Bend	NO	2	1,378.25	-	-	-	-	1,378.25	2,756.50	
6.4.32	DN 150 mm DI double flanged 90° Elbow	NO	2	1,181.36	-	-	-	-	1,181.36	2,362.72	
6.4.33	DN 150 mm DI double flanged pipe suit to site.	NO	1	2,362.72	-	-	-	-	2,362.72	2,362.72	
<b>Potable Water</b>											
6.4.34	DN 150 mm DI double flanged pipe 2000 mm long	NO	1	3,310.98	-	-	-	-	3,310.98	3,310.98	
6.4.35	DN 150 mm DI double flanged pipe 1400 mm long	NO	1	2,979.86	-	-	-	-	2,979.86	2,979.86	
6.4.36	DN 150 mm DI double flanged pipe 500 mm long	NO	1	2,364.30	-	-	-	-	2,364.30	2,364.30	
6.4.37	DN 150 mm DI double flanged pipe 250 mm long	NO	1	2,246.17	-	-	-	-	2,246.17	2,246.17	
6.4.38	DN 100 mm DI double flanged pipe 250 mm long	NO	3	4,671.18	-	-	-	-	4,671.18	14,013.54	
6.4.39	DN 100 mm DI double flanged pipe 1000 mm long	NO	1	3,751.35	-	-	-	-	3,751.35	3,751.35	
6.4.40	DN 100x80 mm DI Reducing Tee	NO	1	962.72	-	-	-	-	962.72	962.72	
6.4.41	DN 50, Flanged Gate Valve	NO	1	-	2,048.11	-	-	-	2,048.11	2,048.11	
6.4.42	DN 50, Flanged Air Valve	NO	1	4,413.12	-	-	-	-	4,413.12	4,413.12	
6.4.43	DN150 Motorized Butterfly Valve	NO	1	-	20,039.31	-	-	-	20,039.31	20,039.31	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4)+(5)+(6)	(8)=(7)x(1)	
6.4.44	DN150 DI Dismantling Joint	NO	1	587.55	-	-	-	-	587.55	587.55	
6.4.45	DN 150 mm DI 90° Bend	NO	10	1,181.36	-	-	-	-	1,181.36	11,813.60	
6.4.46	DN 100 mm DI 90° Bend	NO	2	787.57	-	-	-	-	787.57	1,575.14	
6.4.47	DN 100 Motorized Butterfly Valve	NO	1	-	2,710.87	-	-	-	2,710.87	2,710.87	
6.4.48	DN 100 DI Dismantling Joint	NO	1	562.55	-	-	-	-	562.55	562.55	
6.4.49	DN 150 mm DI Flanged Bellmouth	NO	1	1,575.15	-	-	-	-	1,575.15	1,575.15	
6.4.50	DN 150 mm DI double flanged pipe 1314 mm long	NO	1	2,441.48	-	-	-	-	2,441.48	2,441.48	
6.4.51	DN 150 mm DI double flanged pipe 1163 mm long with IPF	NO	1	2,126.45	-	-	-	-	2,126.45	2,126.45	
6.4.52	DN 150 DI Dismantling Joint	NO	1	587.55	-	-	-	-	587.55	587.55	
6.4.53	DN 150 mm DI double flanged pipe 600 mm long	NO	1	2,126.45	-	-	-	-	2,126.45	2,126.45	
6.4.54	DN 150 mm DI double flanged pipe 680 mm long	NO	1	2,126.45	-	-	-	-	2,126.45	2,126.45	
6.4.55	DN 200 mm DI flanged spigot pipe 1020 mm long with IPF	NO	2	2,953.40	-	-	-	-	2,953.40	5,906.80	
<b>Subtotal for 6.4</b>										<b>318,264.68</b>	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.5	<b>Supply of Carbon Steel Pipes &amp; Fittings (Process Pipe Work)</b>  Supply of the following PN16 Carbon Steel Pressure pipes complete with fitting accessories, external coating, internal lining, wrapping and polyethylene sleeving all to project technical specification and in accordance with General Specifications of Main Laying materials. Scope includes the supply of spare parts and all other equipment in accordance with KAHRAMAA requirements and standards. Reference drawing No. MQ174-R1-DH-CI-3050 to MQ174-R1-DH-CI-3076 and MQ174-R1-DH-CI-9100 to MQ174-R1-DH-CI-9122										
6.5.1	2400 mm dia. pipes as specified	LM	0	10,866.71	-	-	-	-	10,866.71	-	
6.5.2	2400x2200 mm dia. Reducer	NO	0	48,616.50	-	-	-	-	48,616.50	-	
6.5.3	2200 mm dia. pipes as specified	LM	1723	9,156.89	-	-	-	-	9,156.89	15,777,321.47	
6.5.4	2200 mm dia. welded 90° bends	NO	4	170,951.53	-	-	-	-	170,951.53	683,806.12	
6.5.5	2200 mm dia. welded 45° bends	NO	2	82,886.47	-	-	-	-	82,886.47	165,772.94	
6.5.6	2200 mm dia. welded 11.25° bends	NO	2	73,337.89	-	-	-	-	73,337.89	146,675.78	
6.5.7	2200x2000 mm dia. Reducer	NO	4	44,661.39	-	-	-	-	44,661.39	178,645.56	
6.5.8	2200x1200mm dia. unequal Tee	NO	16	50,164.71	-	-	-	-	50,164.71	802,635.36	
6.5.9	2000 mm dia. pipe as specified	LM	1,600	7,818.54	-	-	-	-	7,818.54	12,509,664.00	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply		
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03		
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART (1)	EUR PART (2)	GBP PART (3)	JPY PART (4)	QAR PART (5)	UNIT (6)		
6.5.10	2000 mm dia. equal Tee	NO	5	47,255.63	-	-	-	-	-	47,255.63	236,278.15
6.5.11	2000x1200mm dia. unequal Tee	NO	16	44,466.98	-	-	-	-	-	44,466.98	711,471.68
6.5.12	2000 mm dia. Steel Blind Flange	NO	2	39,502.17	-	-	-	-	-	39,502.17	79,004.34
6.5.13	1200 mm dia. Blind Flange	NO	16	10,722.14	-	-	-	-	-	10,722.14	171,554.24
<b>Subtotal for 6.5</b>											<b>31,462,829.64</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)	
6.6	<b>Supply of DI Pipes &amp; Fittings</b>  Supply of the following class K9 of PN16 D.I Pipes of BS 545 Pressure pipes Socket/Spigot, K12 for fittings and K14 for tees only complete with fitting accessories, external coating, internal lining, wrapping and polyethylene sleeving all to project technical specification and in accordance with General Specifications of Main Laying materials. Scope includes the supply of spare parts and all other equipment in accordance with KAHRAMAA requirements and standards. Reference drawing No. MQ174-R1-DH-CI-3050 to MQ174-R1-DH-CI-3076 and MQ174-R1-DH-CI-9100 to MQ174-R1-DH-CI-9122									
6.6.1	1600 mm dia. pipe as specified.	LM	4190	4,989.26	-	-	-	-	4,989.26	20,904,999.40
6.6.2	1600mm dia. socketed 45° bends	NO	34	61,628.71	-	-	-	-	61,628.71	2,095,376.14
6.6.3	1600mm dia. socketed 22.5° bends	NO	2	51,059.53	-	-	-	-	51,059.53	102,119.06
6.6.4	1600mm dia. socketed 11.25° bends	NO	4	47,685.72	-	-	-	-	47,685.72	190,742.88
6.6.5	1600 mm dia. equal Tee	NO	2	104,848.95	-	-	-	-	104,848.95	209,697.90
6.6.6	1600 x 900 mm dia. unequal Tee (Included with Surge Vessel	NO	0	51,091.84	-	-	-	-	51,091.84	-
6.6.7	1400 mm dia. pipe as specified	LM	310	3,953.89	-	-	-	-	3,953.89	1,225,705.90

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.6.8	1400mm dia. socketed 45° bends	NO	11	44,279.59	-	-	-	-	44,279.59	487,075.49	
6.6.9	1400mm dia. socketed 22.5° bends	NO	1	34,061.23	-	-	-	-	34,061.23	34,061.23	
6.6.10	1400x1200 mm dia. Reducer	NO	2	34,061.23	-	-	-	-	34,061.23	68,122.46	
6.6.11	1200 mm dia. pipe as specified	LM	3850	3,005.61	-	-	-	-	3,005.61	11,571,598.50	
6.6.12	1200mm dia. socketed 90° bends	NO	16	36,935.68	-	-	-	-	36,935.68	590,970.88	
6.6.13	1200mm dia. socketed 45° bends	NO	35	22,348.93	-	-	-	-	22,348.93	782,212.55	
6.6.14	1200mm dia. socketed 22.5° bends	NO	12	15,999.15	-	-	-	-	15,999.15	191,989.80	
6.6.15	1200mm dia. socketed 11.25° bends	NO	5	13,162.49	-	-	-	-	13,162.49	65,812.45	
6.6.16	1200 mm dia. equal Tee	NO	12	31,131.84	-	-	-	-	31,131.84	373,582.08	
6.6.17	1200 mm dia. Flange Socket	NO	16	28,847.07	-	-	-	-	28,847.07	461,553.12	
6.6.18	900 mm dia. pipe as specified	LM	100	1,880.46	-	-	-	-	1,880.46	188,046.00	
6.6.19	900mm dia. socketed 45° bends	NO	0	13,441.41	-	-	-	-	13,441.41	-	
6.6.20	800 mm dia.as specified	LM	1965	1,563.71	-	-	-	-	1,563.71	3,072,690.15	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.6.21	800mm dia. socketed 90° bends	NO	4	12,254.51	-	-	-	-	12,254.51	49,018.04	
6.6.22	800mm dia. socketed 45° bends	NO	12	10,373.34	-	-	-	-	10,373.34	124,480.08	
6.6.23	800mm dia. socketed 11.25° bends	NO	2	9,877.74	-	-	-	-	9,877.74	19,755.48	
6.6.24	800 mm dia. equal Tee	NO	16	15,304.80	-	-	-	-	15,304.80	244,876.80	
6.6.25	800 mm dia. Endcap	NO	2	9,196.51	-	-	-	-	9,196.51	18,393.02	
6.6.26	600 mm dia. as specified	LM	930	1,011.31	-	-	-	-	1,011.31	940,518.30	
6.6.27	600mm dia. socketed 90° bends	NO	3	7,251.84	-	-	-	-	7,251.84	21,755.52	
6.6.28	600mm dia. socketed 45° bends	NO	5	5,869.13	-	-	-	-	5,869.13	29,345.65	
6.6.29	600mm dia. socketed 22.5° bends	NO	3	4,806.87	-	-	-	-	4,806.87	14,420.61	
6.6.30	600mm dia. socketed 11.25° bends	NO	1	4,510.16	-	-	-	-	4,510.16	4,510.16	
6.6.31	600 mm dia. equal Tee	NO	1	9,512.87	-	-	-	-	9,512.87	9,512.87	
6.6.32	500 mm and as detailed above	LM	270	777.89	-	-	-	-	777.89	210,030.30	
6.6.33	500mm dia. socketed 90° bends	NO	2	6,131.02	-	-	-	-	6,131.02	12,262.04	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4)+(5)+(6)	(8)=(7)x(1)	
6.6.34	5600mm dia. socketed 45° bends	NO	2	5,449.80	-	-	-	-	5,449.80	10,899.60	
6.6.35	350 mm dia. as specified	LM	160	480.93	-	-	-	-	480.93	76,948.80	
6.6.36	350 mm dia. socketed 90° bends	NO	2	2,611.13	-	-	-	-	2,611.13	5,222.26	
6.6.37	350 mm dia. equal Tee	NO	2	4,717.84	-	-	-	-	4,717.84	9,435.68	
6.6.38	250 mm dia. as specified	LM	15	306.60	-	-	-	-	306.60	4,599.00	
6.6.39	250 mm dia. socketed 45° bends	NO	2	807.08	-	-	-	-	807.08	1,614.16	
6.6.40	200 mm dia. as specified	LM	70	235.36	-	-	-	-	235.36	16,475.20	
6.6.41	200 mm dia. socketed 90° bends	NO	1	652.79	-	-	-	-	652.79	652.79	
6.6.42	200 mm dia. socketed 45° bends	NO	1	522.20	-	-	-	-	522.20	522.20	
6.6.43	150 mm dia. as specified	LM	66	175.08	-	-	-	-	175.08	11,555.28	
6.6.44	150 mm dia. socketed 90° bends	NO	4	421.34	-	-	-	-	421.34	1,685.36	
6.6.45	150 mm dia. equal Tee	NO	3	569.71	-	-	-	-	569.71	1,709.13	
<b>Subtotal for 6.6</b>											<b>44,456,554.32</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
	<b>SUPPLY OF PIPE WORK - PIPEWORK ANCILLARIES</b>  Supply of the following Ductile Iron/ Carbon Steel pipes, fittings, valves and Flow Meters for following chambers, complete with fitting accessories, external coating, wrapping and polyethylene sleeving all to project technical specification and in accordance with General Specifications of Main Laying materials.										
6.7	Reservoir Distribution Inlet chamber for Eight pipes (4xDN1600, 2xDN1200 and 2xDN800) Reference drawing No. MQ174-R1-DH-Cl-6020 (2 nr Chambers)										
6.7.1	DN 1600 DI Socket Collar	NO	8	45,635.52	-	-	-	-	45,635.52	365,084.16	
6.7.2	DN1600 DI Rocker Pipe (Double spigot pipe 2400 long)	NO	4	78,553.59	-	-	-	-	78,553.59	314,214.36	
6.7.3	DN1600 DI Flanged/Spigot pipe 1800 mm long with IPF.	NO	16	84,749.15	-	-	-	-	84,749.15	1,355,986.40	
6.7.4	DN1600 DI Flanged/Spigot pipe 1800 mm long with IPF 873 from flange.	NO	0	84,749.15	-	-	-	-	84,749.15	-	
6.7.5	DN1600mm dismantling joint	NO	4	27,746.26	-	-	-	-	27,746.26	110,985.04	
6.7.6	DN1600mm BV with extension spindle	NO	4	-	191,961.81	-	-	-	191,961.81	767,847.24	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART (1)	EUR PART (2)	GBP PART (3)	JPY PART (4)	QAR PART (5)	UNIT (6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
6.7.7	DN 1600 DI double flange pipe 1136 mm long with 3 nr Bosses	NO	4	82,286.36	-	-	-	-	-	82,286.36	329,145.44
6.7.8	DN1600 DI Blank Flange	NO	8	27,772.98	-	-	-	-	-	27,772.98	222,183.84
6.7.9	DN1200 DI Socket Collar	NO	8	23,850.35	-	-	-	-	-	23,850.35	190,802.80
6.7.10	DN1200 DI Rocker Pipe (Double spigot pipe 2400 mm long)	NO	4	43,665.28	-	-	-	-	-	43,665.28	174,661.12
6.7.11	DN1200 DI Flanged/Spigot pipe 1800 mm long with IPF .	NO	4	29,434.61	-	-	-	-	-	29,434.61	117,738.44
6.7.12	DN1200 DI Flanged/Spigot pipe 2025 mm long with IPF.	NO	4	34,146.53	-	-	-	-	-	34,146.53	136,586.12
6.7.13	DN 1200 DI double flange pipe 1374 mm long with 3 nr Bosses	NO	4	28,485.07	-	-	-	-	-	28,485.07	113,940.28
6.7.14	DN1200mm BV with extension spindle	NO	4	-	104,554.58	-	-	-	-	104,554.58	418,218.32
6.7.15	DN1200mm dismantling joint	NO	4	14,589.23	-	-	-	-	-	14,589.23	58,356.92
6.7.16	DN 800 DI Socket Collar	NO	4	10,634.40	-	-	-	-	-	10,634.40	42,537.60
6.7.17	DN 800 DI Flanged/Spigot pipe 2092 mm long with IPF.	NO	4	16,717.20	-	-	-	-	-	16,717.20	66,868.80
6.7.18	DN 800 DI Flanged/Spigot pipe 2076 mm long with IPF.	NO	4	16,717.20	-	-	-	-	-	16,717.20	66,868.80

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.7.19	DN 800 DI Flanged/Spigot pipe 1800 mm long with IPF 881 mm from flange.	NO	0	15,916.07	-	-	-	-	15,916.07	-	
6.7.20	DN 800 DI double flange pipe 885 mm long.	NO	0	12,005.28	-	-	-	-	12,005.28	-	
6.7.21	DN 800 DI double flange pipe 1200 mm long.	NO	4	12,628.42	-	-	-	-	12,628.42	50,513.68	
6.7.22	DN 800mm BV with extension spindle	NO	4	-	48,259.86	-	-	-	48,259.86	193,039.44	
6.7.23	DN 800mm dismantling joint	NO	4	5,659.23	-	-	-	-	5,659.23	22,636.92	
6.7.24	DN 800mm Flow Control Valve	NO	0	-	42,701.27	-	-	-	42,701.27	-	
6.7.25	Motorized Actuator pillar with extension spindle	NO	12	-	-	-	-	-	-	Included	
6.7.26	DN1600 DI Flange Adaptor	NO	4	27,248.98	-	-	-	-	27,248.98	108,995.92	
<b>Subtotal for 6.7</b>											<b>5,227,211.64</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)	
6.8	Reservoir Distribution outlet chamber for single DN2200 mm pipe. Reference drawing No. MQ174-R1-DH-CL-6021 (2 nr Chambers)									
6.8.1	DN 2200mm BV with extension spindle	NO	2	-	495,554.62	-	-	-	495,554.62	991,109.24
6.8.2	DN 2200mm dismantling joint	NO	2	74,103.38	-	-	-	-	74,103.38	148,206.76
6.8.3	DN 2200mm Steel Flanged/Spigot pipe 1962 mm long with IPF 942 mm from flange.	NO	4	157,392.66	-	-	-	-	157,392.66	629,570.64
6.8.4	DN 2200mm Steel Flexible Coupling	NO	4	27,543.72	-	-	-	-	27,543.72	110,174.88
6.8.5	DN 2200 Steel Spigot pipe 2086 mm long	NO	2	7,869.63	-	-	-	-	7,869.63	15,739.26
6.8.6	Motorized Actuator pillar with extension spindle	NO	2	-	-	-	-	-	-	Included
	<b>Subtotal for 6.8</b>									1,894,800.78

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)	
6.9	Reservoir Inlet chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6022 (4 nr Chambers)									
6.9.1	DN 1200 DI Socket Collar	NO	8	23,850.35	-	-	-	-	23,850.35	190,802.80
6.9.2	DN 1200 DI Rocker Pipe (Double spigot pipe 1800 mm long)	NO	4	26,538.64	-	-	-	-	26,538.64	106,154.56
6.9.3	DN 1200 DI Flanged/Spigot pipe 1798 mm long with IPF 872 mm from flange.	NO	4	27,363.50	-	-	-	-	27,363.50	109,454.00
6.9.4	DN 1200mm BV with extension spindle	NO	4	-	104,579.51	-	-	-	104,579.51	418,318.04
6.9.5	DN 1200 DI Dismantling Joint	NO	4	14,589.23	-	-	-	-	14,589.23	58,356.92
6.9.6	DN 1200 DI double Flanged pipe 1000 mm long with 3 nr bosses.	NO	4	22,847.43	-	-	-	-	22,847.43	91,389.72
6.9.7	DN 1200 DI double Flanged pipe 1345 mm long .	NO	4	27,903.53	-	-	-	-	27,903.53	111,614.12
6.9.8	DN 1200 DI Flanged Bell Mouth.	NO	4	10,925.19	-	-	-	-	10,925.19	43,700.76
6.9.9	Motorized Actuator pillar with extension spindle	NO	4	-	-	-	-	-	-	Included
	Subtotal for 6.9									1,129,790.92

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.10	Reservoir Scour, Outlet & Inlet chamber Reference drawing No. MQ174-R1-DH-CI-6023- 6025 (4 nr Chambers)										
6.10.1	DN 800 DI Socket Collar	NO	16	10,634.40	-	-	-	-	10,634.40	170,150.40	
6.10.2	DN 800 DI Rocker Pipe (Double spigot pipe 1200mm long)	NO	8	10,901.46	-	-	-	-	10,901.46	87,211.68	
6.10.3	DN 800 DI Flanged/Spigot pipe 1909 mm long with IPF 983 mm from flange.	NO	8	16,212.78	-	-	-	-	16,212.78	129,702.24	
6.10.4	DN 800 mm DI all flanged equal tee	No	8	15,304.80	-	-	-	-	15,304.80	122,438.40	
6.10.5	DN 800 DI double flange pipe 1467 mm long.	NO	4	13,370.20	-	-	-	-	13,370.20	53,480.80	
6.10.6	DN 800 DI double flange pipe 1236 mm long.	NO	4	12,628.42	-	-	-	-	12,628.42	50,513.68	
6.10.7	DN 800 DI double flange pipe 1419 mm long.	NO	4	13,370.20	-	-	-	-	13,370.20	53,480.80	
6.10.8	DN 800 DI double flange pipe 574 mm long.	NO	8	10,901.46	-	-	-	-	10,901.46	87,211.68	
6.10.9	DN 800 DI double flange pipe 769 mm long.	NO	8	12,005.28	-	-	-	-	12,005.28	96,042.24	
6.10.10	DN 800 DI double flange pipe 1091 mm long.	NO	4	12,628.42	-	-	-	-	12,628.42	50,513.68	
6.10.11	DN 800 DI double flange pipe 3070 mm long.	NO	4	28,146.85	-	-	-	-	28,146.85	112,587.40	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
				(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
6.10.12	DN 800 DI double flange pipe 2419 mm long.	NO	4	26,419.96	-	-	-	-	-	26,419.96	105,679.84
6.10.13	DN 800mm BV with extension spindle	NO	16	-	48,259.83	-	-	-	-	48,259.83	772,157.28
6.10.14	DN 800mm dismantling joint	NO	16	5,659.23	-	-	-	-	-	5,659.23	90,547.68
6.10.15	DN 800 DI flange Bell Mouth	NO	8	10,343.65	-	-	-	-	-	10,343.65	82,749.20
6.10.16	DN 800 DI flanged Elbow	NO	8	15,844.83	-	-	-	-	-	15,844.83	126,758.64
6.10.17	DN 1200x800 DI All Flanged Unequal Tee	NO	4	32,093.21	-	-	-	-	-	32,093.21	128,372.84
6.10.18	DN1200 DI Socket Collar	NO	44	23,850.35	-	-	-	-	-	23,850.35	1,049,415.40
6.10.19	DN1200 DI Rocker Pipe (Double spigot pipe 1800 mm long)	NO	20	26,538.64	-	-	-	-	-	26,538.64	530,772.80
6.10.20	DN1200 DI Double spigot pipe 3002 mm long	NO	4	50,240.62	-	-	-	-	-	50,240.62	200,962.48
6.10.21	DN1200 DI Flanged/Spigot pipe 2047 mm long with integral puddle flange 1121 from flange	NO	12	34,146.53	-	-	-	-	-	34,146.53	409,758.36
6.10.22	DN1200 DI Flanged/Spigot pipe 4401 mm long with integral puddle flange 3475 from flange	NO	4	83,283.33	-	-	-	-	-	83,283.33	333,133.32

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4)+(5)+(6)	(8)=(7)x(1)	
6.10.23	DN1200 DI Flanged/Spigot pipe 1832 mm long with integral puddle flange 906 from flange	NO	4	31,220.87	-	-	-	-	31,220.87	124,883.48	
6.10.24	DN1200 DI Flanged/Spigot pipe 4968 mm long with integral puddle flange 4042 from flange	NO	4	84,185.35	-	-	-	-	84,185.35	336,741.40	
6.10.25	DN1200 DI Butterfly valve with extension spindle	NO	48	-	104,579.51	-	-	-	104,579.51	5,019,816.48	
6.10.26	DN1200 DI Dismantling Joint	NO	48	14,589.23	-	-	-	-	14,589.23	700,283.04	
6.10.27	DN1200 fabricated Steel All Flanged Cross	NO	8	216,414.91	-	-	-	-	216,414.91	1,731,319.28	
6.10.28	DN 1200 x 800 mm fabricated Steel All Flanged Cross	NO	4	157,392.66	-	-	-	-	157,392.66	629,570.64	
6.10.29	DN 1200 DI flanged Elbow	NO	8	54,281.89	-	-	-	-	54,281.89	434,255.12	
6.10.30	DN1200 DI Double Flanged Pipe 3962 mm long with 1 nr Boss	NO	8	57,160.11	-	-	-	-	57,160.11	457,280.88	
6.10.31	DN1200 DI Double Flanged Pipe 3665 mm long	NO	8	56,863.40	-	-	-	-	56,863.40	454,907.20	
6.10.32	DN1200 DI Double Flanged Pipe 999 mm long with 4 nr Bosses	NO	8	29,078.56	-	-	-	-	29,078.56	232,628.48	
6.10.33	DN1200 DI Double Flanged Pipe 999 mm long with 3 nr Bosses	NO	8	28,781.82	-	-	-	-	28,781.82	230,254.56	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.10.34	DN1200 DI Double Flanged Pipe 1306 mm long.	NO	8	27,903.53	-	-	-	-	27,903.53	223,228.24	
6.10.35	DN 1200 DI flange Bell Mouth	NO	16	10,925.19	-	-	-	-	10,925.19	174,803.04	
6.10.36	DN1200 fabricated Steel Flanged 'S' Bend	NO	8	137,718.58	-	-	-	-	137,718.58	1,101,748.64	
6.10.37	DN1200 DI All Flanged Equal Tee	NO	4	31,131.84	-	-	-	-	31,131.84	124,527.36	
6.10.38	DN1200 DI double Flanged pipe 2399 mm long with integral puddle flange 1132 from flange	NO	8	55,605.51	-	-	-	-	55,605.51	444,844.08	
6.10.39	DN1200 DI Double socketed 45° rapid bend.	NO	8	30,655.10	-	-	-	-	30,655.10	245,240.80	
6.10.40	Motorized Actuator pillar with extension spindle	NO	64	-	-	-	-	-	-	Included	
<b>Subtotal for 6.10</b>											<b>17,509,973.56</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.11	Reservoir Scour & Inlet chamber. Reference drawing No. MQ174-R1-DH-CL-6026 (4 nr Chambers)										
6.11.1	DN 800 DI Socket Collar	NO	8	10,634.40	-	-	-	-	10,634.40	85,075.20	
6.11.2	DN 800 DI Rocker Pipe (Double spigot pipe 1200mm long)	NO	4	10,901.46	-	-	-	-	10,901.46	43,605.84	
6.11.3	DN 800 DI Flanged/Spigot pipe 2804 mm long with IPF 1885 mm from flange.	NO	4	27,072.71	-	-	-	-	27,072.71	108,290.84	
6.11.4	DN 800 mm DI all flanged equal tee	No	4	15,304.80	-	-	-	-	15,304.80	61,219.20	
6.11.5	DN 800mm BV with extension spindle	NO	8	-	48,259.83	-	-	-	48,259.83	386,078.64	
6.11.6	DN 800mm dismantling joint	NO	8	5,659.23	-	-	-	-	5,659.23	45,273.84	
6.11.7	DN 800 DI flange Bell Mouth	NO	4	10,343.65	-	-	-	-	10,343.65	41,374.60	
6.11.8	DN 800 DI flanged Elbow	NO	4	15,844.83	-	-	-	-	15,844.83	63,379.32	
6.11.9	DN 800 DI double flanged spool pipe 1933 mm long.	NO	4	15,518.43	-	-	-	-	15,518.43	62,073.72	
6.11.10	DN 800 DI double flanged spool pipe 2003 mm long.	NO	4	11,708.57	-	-	-	-	11,708.57	46,834.28	
6.11.11	DN 800 DI double flanged spool pipe 572 mm long.	NO	4	10,901.46	-	-	-	-	10,901.46	43,605.84	
6.11.12	DN 800 DI double flanged spool pipe 773 mm long.	NO	4	12,005.28	-	-	-	-	12,005.28	48,021.12	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4)+(5)+(6)	(8)=(7)x(1)	
6.11.13	DN1200 DI Socket Collar	NO	8	23,850.35	-	-	-	-	23,850.35	190,802.80	
6.11.14	DN1200 DI Rocker Pipe (Double spigot pipe 1800 mm long)	NO	4	26,538.64	-	-	-	-	26,538.64	106,154.56	
6.11.15	DN1200 DI Flanged/Spigot pipe 1835 mm long with integral puddle flange 909 from flange	NO	4	31,220.87	-	-	-	-	31,220.87	124,883.48	
6.11.16	DN1200 DI Butterfly valve with extension spindle	NO	8	-	104,579.68	-	-	-	104,579.68	836,637.44	
6.11.17	DN1200 DI Dismantling Joint	NO	8	14,589.23	-	-	-	-	14,589.23	116,713.84	
6.11.18	DN 1200 DI flanged Elbow	NO	4	54,281.89	-	-	-	-	54,281.89	217,127.56	
6.11.19	DN1200 DI Double Flanged Pipe 2570 mm long with IPF 1344 from flange	NO	4	55,902.00	-	-	-	-	55,902.00	223,608.00	
6.11.20	DN 1200 DI flange Bell Mouth	NO	4	10,925.19	-	-	-	-	10,925.19	43,700.76	
6.11.21	DN1200x800 mm DI All Flanged unequal Tee	NO	4	32,093.21	-	-	-	-	32,093.21	128,372.84	
6.11.22	DN1200 DI Double Flanged Pipe 1000 mm long with 4 nr bosses.	NO	4	29,078.56	-	-	-	-	29,078.56	116,314.24	
6.11.23	Motorized Actuator pillar with extension spindle	NO	16	-	-	-	-	-	-	Included	
<b>Subtotal for 6.11</b>											<b>3,139,147.96</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.12	Reservoir Distribution Overflow chamber. Reference drawing No. MQ174-R1-DH-Cl-6027 (2 nr Chambers)										
6.12.1	DN1600 DI Double spigot pipe 1442 mm long with IPF 388 from spigot	NO	10	78,156.02	-	-	-	-	78,156.02	781,560.20	
6.12.2	DN1600 DI socket and spigot pipe 2636 mm long.	NO	10	37,467.35	-	-	-	-	37,467.35	374,673.50	
6.12.3	DN1600 DI socket and spigot pipe 1250 mm long with IPF 120 from spigot end	NO	10	61,310.21	-	-	-	-	61,310.21	613,102.10	
<b>Subtotal for 6.12</b>											<b>1,769,335.80</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)$ $+(5)+(6)$	
6.13	Reservoir Overflow arrangement, Reference drawing No. MQ174-R1-DH-Cl-6028 (12 nr points)									
6.13.1	DN 900 DI flange Bell Mouth	NO	12	9,833.31	-	-	-	-	9,833.31	117,999.72
6.13.2	DN 900 DI flanged 90° bends	NO	24	23,862.22	-	-	-	-	23,862.22	572,693.28
6.13.3	DN 900 DI Double Flanged Pipe 2015 mm long with IPF 1014 from flange	NO	12	20,366.82	-	-	-	-	20,366.82	244,401.84
6.13.4	DN 900 DI Double Flanged Pipe 2432 mm long.	NO	12	31,713.42	-	-	-	-	31,713.42	380,561.04
6.13.5	DN 900 DI Flange spigot Pipe suit to site	NO	12	11,263.49	-	-	-	-	11,263.49	135,161.88
6.13.6	DN 900 DI Socketed Elbow	NO	12	19,031.58	-	-	-	-	19,031.58	228,378.96
6.13.7	DN 900 DI Double spigot spool Pipe 2000 mm long.	NO	12	14,444.30	-	-	-	-	14,444.30	173,331.60
6.13.8	DN 900 DI Socket Collar	NO	12	15,327.57	-	-	-	-	15,327.57	183,930.84
6.13.9	DN 900 DI Flange spigot Pipe 1400 mm long with IPF 550 mm from flange	NO	12	17,030.61	-	-	-	-	17,030.61	204,367.32
6.13.10	DN 900 Stainless Steel Flap Valve.	NO	12	8,812.17	-	-	-	-	8,812.17	105,746.04
<b>Subtotal for 6.13</b>										<b>2,346,572.52</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$	
6.14	Valve chamber for single DN600 mm pipe. Reference drawing No. MQ174-R1-DH-Cl-6391									
6.14.1	DN 600 DI Socket Collar	NO	4	5,251.94	-	-	-	-	5,251.94	21,007.76
6.14.2	DN 600 DI Double spigot pipe 900 mm long.	NO	2	4,717.84	-	-	-	-	4,717.84	9,435.68
6.14.3	DN 600 DI Flanged/Spigot pipe 1800 mm long with IPF 800 mm from flange.	NO	2	18,556.89	-	-	-	-	18,556.89	37,113.78
6.14.4	DN 600mm BV with extension spindle	NO	1	-	35,056.38	-	-	-	35,056.38	35,056.38
6.14.5	DN 600mm dismantling joint	NO	1	3,753.31	-	-	-	-	3,753.31	3,753.31
6.14.6	Motorized Actuator pillar with extension spindle	NO	1	-	-	-	-	-	-	Included
	Subtotal for 6.14									106,366.91

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.15	Valve chamber for single DN 500 mm pipe. Reference drawing No. MQ174-R1-DH-Cl-6392										
6.15.1	DN 500 mm DI Socket Collar	NO	4	3,768.30	-	-	-	-	3,768.30	15,073.20	
6.15.2	DN 500 DI Double spigot pipe 750 mm long.	NO	3	4,599.15	-	-	-	-	4,599.15	13,797.45	
6.15.3	DN 500 DI Flanged/Spigot pipe 1515 mm long with IPF 700 mm from flange.	NO	3	11,358.40	-	-	-	-	11,358.40	34,075.20	
6.15.4	DN 500 DI Flanged/Spigot pipe 2135 mm long with IPF 1318 mm from flange.	NO	1	12,444.44	-	-	-	-	12,444.44	12,444.44	
6.15.5	DN 500 mm BV with extension spindle	NO	2	-	28,181.20	-	-	-	28,181.20	56,362.40	
6.15.6	DN 500 mm dismantling joint	NO	2	2,855.56	-	-	-	-	2,855.56	5,711.12	
6.15.7	DN 500 mm DI all flanged cross	NO	1	11,678.88	-	-	-	-	11,678.88	11,678.88	
6.15.8	DN 500 mm DI flanged Adaptor	NO	1	5,109.20	-	-	-	-	5,109.20	5,109.20	
6.15.9	DN 500 mm DI Blank Flange	NO	1	913.89	-	-	-	-	913.89	913.89	
6.15.10	DN 500x350 mm DI socketed concentric Taper	NO	2	4,789.05	-	-	-	-	4,789.05	9,578.10	
	<b>Subtotal for 6.15</b>									<b>164,743.88</b>	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.16	Valve chamber for single DN350 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6393										
6.16.1	DN 350 mm DI Socket Collar	NO	4	2,029.58	-	-	-	-	2,029.58	8,118.32	
6.16.2	DN 350 DI Double spigot pipe 525 mm long.	NO	2	3,447.89	-	-	-	-	3,447.89	6,895.78	
6.16.3	DN 350 DI Flanged/Spigot pipe 1550 mm long with IPF 788 mm from flange.	NO	2	7,150.97	-	-	-	-	7,150.97	14,301.94	
6.16.4	DN 500 DI Flanged/Spigot pipe 1690 mm long with IPF 930 mm from flange.	NO	1	11,358.40	-	-	-	-	11,358.40	11,358.40	
6.16.5	DN 350 mm BV with extension spindle	NO	2	-	24,073.87	-	-	-	24,073.87	48,147.74	
6.16.6	DN 350 mm dismantling joint	NO	2	1,654.17	-	-	-	-	1,654.17	3,308.34	
6.16.7	DN 350 mm DI flanged equal Tee	NO	1	4,717.84	-	-	-	-	4,717.84	4,717.84	
6.16.8	DN 350 mm DI flanged Adaptor	NO	1	3,406.12	-	-	-	-	3,406.12	3,406.12	
6.16.9	DN 350 mm DI Blank Flange	NO	1	1,679.45	-	-	-	-	1,679.45	1,679.45	
	<b>Subtotal for 6.16</b>									101,933.93	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)	
6.17	Incoming By-Pass Valve chamber for Five pipes (4xDN 1600 and 1xDN1200 mm) . Reference drawing No. MQ174-R1-DH-CI-6500 (2nr Chambers)										
6.17.1	DN 1600 DI Socket Collar	NO	20	45,635.52	-	-	-	-	45,635.52	912,710.40	
6.17.2	DN1600 DI Rocker Pipe (Double spigot pipe 2400 long)	NO	10	78,553.59	-	-	-	-	78,553.59	785,535.90	
6.17.3	DN1600 DI Flanged/Spigot pipe 2100 mm long with IPF 1020 from flange.	NO	16	85,271.39	-	-	-	-	85,271.39	1,364,342.24	
6.17.4	DN1600 DI Flanged/Spigot pipe 1892 mm long with IPF 962 from flange.	NO	2	84,749.15	-	-	-	-	84,749.15	169,498.30	
6.17.5	DN1600 DI double Flanged pipe 4233 mm long.	NO	4	167,771.34	-	-	-	-	167,771.34	671,085.36	
6.17.6	DN1600 DI double Flanged pipe 1024 mm long.	NO	4	67,195.18	-	-	-	-	67,195.18	268,780.72	
6.17.7	DN1600 DI double Flanged pipe 1647 mm long.	NO	4	81,396.20	-	-	-	-	81,396.20	325,584.80	
6.17.8	DN1600 DI double Flanged pipe 3407 mm long.	NO	2	170,198.45	-	-	-	-	170,198.45	340,396.90	
6.17.9	DN1600 DI double Flanged pipe 3494 mm long.	NO	2	170,198.45	-	-	-	-	170,198.45	340,396.90	
6.17.10	DN1600 DI flange equal tee	NO	8	104,848.95	-	-	-	-	104,848.95	838,791.60	
6.17.11	DN1600mm BV with extension spindle	NO	8	-	191,986.87	-	-	-	191,986.87	1,535,894.96	
6.17.12	DN1600mm dismantling joint	NO	8	27,746.26	-	-	-	-	27,746.26	221,970.08	
6.17.13	DN 1600 DI flanged 90° bend.	NO	4	113,246.13	-	-	-	-	113,246.13	452,984.52	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT		
6.17.14	DN 1600x1200 mm DI flanged unequal tee	NO	2	101,110.26	-	-	-	-	-	101,110.26	202,220.52
6.17.15	DN1200 DI Socket Collar	NO	8	23,850.35	-	-	-	-	-	23,850.35	190,802.80
6.17.16	DN1200 DI Rocker Pipe (Double spigot pipe 1800 long)	NO	4	26,538.64	-	-	-	-	-	26,538.64	106,154.56
6.17.17	DN1200 DI Flanged/Spigot pipe 2100 mm long with integral puddle flange.	NO	2	29,434.61	-	-	-	-	-	29,434.61	58,869.22
6.17.18	DN1200 DI Flanged/Spigot pipe 2100 mm long with integral puddle flange 1024 from flange.	NO	2	34,146.53	-	-	-	-	-	34,146.53	68,293.06
6.17.19	DN1200 DI double Flanged pipe 5000 mm long.	NO	2	72,197.89	-	-	-	-	-	72,197.89	144,395.78
6.17.20	DN1200 DI double Flanged pipe 2131 mm long.	NO	2	31,392.98	-	-	-	-	-	31,392.98	62,785.96
6.17.21	DN1200 DI double Flanged pipe 1557 mm long.	NO	2	27,903.53	-	-	-	-	-	27,903.53	55,807.06
6.17.22	DN1200mm BV with extension spindle	NO	4	-	104,579.51	-	-	-	-	104,579.51	418,318.04
6.17.23	DN1200mm dismantling joint	NO	4	14,589.23	-	-	-	-	-	14,589.23	58,356.92
6.17.24	DN 1200 DI flanged 90° bend.	NO	4	54,281.89	-	-	-	-	-	54,281.89	217,127.56
6.17.25	Motorized Actuator Pillar with extension spindle.	NO	12	-	-	-	-	-	-	-	Included
6.17.26	DN1200 DI flange equal tee	NO	2	31,131.84	-	-	-	-	-	31,131.84	62,263.68
6.17.27	DN 1600 DI flanged Adaptor.	NO	8	27,248.98	-	-	-	-	-	27,248.98	217,991.84
6.17.28	DN 1600 DI Blank flange.	NO	18	27,772.98	-	-	-	-	-	27,772.98	499,913.64
	<b>Subtotal for 6.17</b>										<b>10,591,273.32</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.18	Incoming By-Pass Valve chamber for Five pipes (4xDN 1600 and 1xDN1200 mm) . Reference drawing No. MQ174-R1-DH-CI-6501										
6.18.1	DN 1600 DI Socket Collar	NO	8	45,635.52	-	-	-	-	45,635.52	365,084.16	
6.18.2	DN1600 DI Rocker Pipe (Double spigot pipe 2400 long)	NO	4	78,553.59	-	-	-	-	78,553.59	314,214.36	
6.18.3	DN1600 DI Flanged/Spigot pipe 2100 mm long with IPF 1020 from flange.	NO	8	85,271.39	-	-	-	-	85,271.39	682,171.12	
6.18.4	DN1600 DI double Flanged pipe 3433 mm long.	NO	2	170,198.45	-	-	-	-	170,198.45	340,396.90	
6.18.5	DN1600 x DN 1200 DI Flanged unequal Tee.	NO	2	101,110.26	-	-	-	-	101,110.26	202,220.52	
6.18.6	DN1600mm BV with extension spindle	NO	2	-	191,986.82	-	-	-	191,986.82	383,973.64	
6.18.7	DN1600mm dismantling joint	NO	2	27,746.26	-	-	-	-	27,746.26	55,492.52	
6.18.8	DN1200 DI Socket Collar	NO	6	23,850.35	-	-	-	-	23,850.35	143,102.10	
6.18.9	DN1200 DI Rocker Pipe (Double spigot pipe 1800 long)	NO	3	26,538.64	-	-	-	-	26,538.64	79,615.92	
6.18.10	DN1200 DI Flanged/Spigot pipe 2400 mm long with integral puddle flange 1324 from flange.	NO	1	53,468.94	-	-	-	-	53,468.94	53,468.94	
6.18.11	DN1200 DI Flanged/Spigot pipe 2100 mm long with integral puddle flange 1024 from flange.	NO	1	34,146.53	-	-	-	-	34,146.53	34,146.53	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4)+(5)+(6)	(8)=(7)x(1)	
6.18.12	DN1200 DI Flanged/Spigot pipe 1467 mm long with integral puddle flange 1041 from flange.	NO	1	27,363.50	-	-	-	-	27,363.50	27,363.50	
6.18.13	DN1200 DI double Flanged pipe 3749 mm long.	NO	1	56,863.40	-	-	-	-	56,863.40	56,863.40	
6.18.14	DN1200 DI double Flanged pipe 4044 mm long.	NO	1	59,676.29	-	-	-	-	59,676.29	59,676.29	
6.18.15	DN1200 DI double Flanged pipe 1489 mm long.	NO	1	27,903.53	-	-	-	-	27,903.53	27,903.53	
6.18.16	DN1200 DI double Flanged pipe 1784 mm long.	NO	1	28,580.06	-	-	-	-	28,580.06	28,580.06	
6.18.17	DN1200 DI double Flanged pipe 4196 mm long.	NO	1	59,676.29	-	-	-	-	59,676.29	59,676.29	
6.18.18	DN1200 DI double Flanged pipe 1557 mm long.	NO	1	27,903.53	-	-	-	-	27,903.53	27,903.53	
6.18.19	DN1200 DI double Flanged pipe 1784 mm long with 1 nr Boss.	NO	1	28,876.76	-	-	-	-	28,876.76	28,876.76	
6.18.20	DN1200mm BV with extension spindle	NO	4	-	104,579.51	-	-	-	104,579.51	418,318.04	
6.18.21	DN1200mm dismantling joint	NO	4	14,589.23	-	-	-	-	14,589.23	58,356.92	
6.18.22	DN 1200 DI flanged 90° bend.	NO	3	54,281.89	-	-	-	-	54,281.89	162,845.67	
6.18.23	DN1200 DI flange equal tee	NO	5	31,131.84	-	-	-	-	31,131.84	155,659.20	
6.18.24	DN 1600 DI flanged Adaptor.	NO	4	27,248.98	-	-	-	-	27,248.98	108,995.92	
6.18.25	DN 1600 DI Blank flange.	NO	8	27,772.98	-	-	-	-	27,772.98	222,183.84	
6.18.26	DN 1200 DI Blank Flange.	NO	2	7,797.74	-	-	-	-	7,797.74	15,595.48	
	<b>Subtotal for 6.18</b>									<b>4,112,685.14</b>	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.19	Incoming Flow Meter chamber for Five pipes (4xDN 1600 and 1xDN1200 mm) . Reference drawing No. MQ174-R1-DH-CI-6502										
6.19.1	DN 1600 DI Socket Collar	NO	8	45,635.52	-	-	-	-	45,635.52	365,084.16	
6.19.2	DN1600 DI Rocker Pipe (Double spigot pipe 2400 long)	NO	4	78,553.59	-	-	-	-	78,553.59	314,214.36	
6.19.3	DN1600 DI Flanged/Spigot pipe 2115 mm long with IPF 1035 from flange.	NO	8	89,846.77	-	-	-	-	89,846.77	718,774.16	
6.19.4	DN1600 mm Flow Meter	NO	2	-	176,723.56	-	-	-	176,723.56	353,447.12	
6.19.5	DN1600mm dismantling joint	NO	2	27,746.26	-	-	-	-	27,746.26	55,492.52	
6.19.6	DN 1600 mm DI flanged Adaptor	NO	4	27,248.98	-	-	-	-	27,248.98	108,995.92	
6.19.7	DN 1600 mm DI Blank Flange	NO	8	27,772.98	-	-	-	-	27,772.98	222,183.84	
6.19.8	DN1200 DI Socket Collar	NO	4	23,850.35	-	-	-	-	23,850.35	95,401.40	
6.19.9	DN1200 DI Rocker Pipe (Double spigot pipe 1800 long)	NO	2	26,538.64	-	-	-	-	26,538.64	53,077.28	
6.19.10	DN1200 DI Flanged/Spigot pipe 2385 mm long with integral puddle flange 1309 from flange.	NO	2	55,000.01	-	-	-	-	55,000.01	110,000.02	
6.19.11	DN1200mm Flow Meter	NO	1	-	64,257.73	-	-	-	64,257.73	64,257.73	
6.19.12	DN1200mm dismantling joint	NO	1	14,589.23	-	-	-	-	14,589.23	14,589.23	
	<b>Subtotal for 6.19</b>									<b>2,475,517.74</b>	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)	
6.20	Incoming Flow Control Valve chamber for Five pipes (4xDN 1600 and 1xDN1200 mm) . Reference drawing No. MQ174-R1-DH-CI-6503									
6.20.1	DN 1600 DI Socket Collar	NO	8	45,635.52	-	-	-	-	45,635.52	365,084.16
6.20.2	DN1600 DI Rocker Pipe (Double spigot pipe 2400 long)	NO	4	78,553.59	-	-	-	-	78,553.59	314,214.36
6.20.3	DN1600 DI Flanged/Spigot pipe 1814 mm long with IPF 884 from flange.	NO	8	84,749.15	-	-	-	-	84,749.15	677,993.20
6.20.4	DN1600 mm Flow Control Valve	NO	2	-	1,401,574.75	-	-	-	1,401,574.75	2,803,149.50
6.20.5	DN1600mm dismantling joint	NO	2	27,746.26	-	-	-	-	27,746.26	55,492.52
6.20.6	DN 1600 mm DI flanged Adaptor	NO	4	27,248.98	-	-	-	-	27,248.98	108,995.92
6.20.7	DN 1600 mm DI Blank Flange	NO	8	27,772.98	-	-	-	-	27,772.98	222,183.84
6.20.8	DN1200 DI Socket Collar	NO	4	23,850.35	-	-	-	-	23,850.35	95,401.40
6.20.9	DN1200 DI Rocker Pipe (Double spigot pipe 1800 long)	NO	2	26,538.64	-	-	-	-	26,538.64	53,077.28
6.20.10	DN1200 DI Flanged/Spigot pipe 2671 mm long with integral puddle flange 1741 from flange.	NO	1	55,000.01	-	-	-	-	55,000.01	55,000.01
6.20.11	DN1200 DI Flanged/Spigot pipe 1800 mm long with integral puddle flange 870 from flange.	NO	1	29,434.61	-	-	-	-	29,434.61	29,434.61
6.20.12	DN1200mm Flow Control Valve	NO	1	-	563,898.25	-	-	-	563,898.25	563,898.25
6.20.13	DN1200mm dismantling joint	NO	1	14,589.23	-	-	-	-	14,589.23	14,589.23
6.20.14	Motorized Actuator Pillar with extension spindle.	NO	3	-	-	-	-	-	-	Included
<b>Subtotal for 6.20</b>										<b>5,358,514.28</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.21	Valve chamber for single DN 2200 mm pipe. Reference drawing No. MQ174-R1-DH-Cl-6504										
6.21.1	DN 2200 Steel Flexible Coupling	NO	6	27,543.72					27,543.72	165,262.32	
6.21.2	DN 2200 Steel spigot pipe 2200 long	NO	3	78,696.33					78,696.33	236,088.99	
6.21.3	DN 2200 Steel Flanged/Spigot pipe 2225 mm long with IPF 1204 from flange.	NO	2	118,044.49					118,044.49	236,088.98	
6.21.4	DN 2200 Steel Flanged/Spigot pipe 1985 mm long with IPF 1055 from flange.	NO	2	157,392.66	-	-	-	-	157,392.66	314,785.32	
6.21.5	DN 2200mm BV with extension spindle	NO	3	-	495,554.62	-	-	-	495,554.62	1,486,663.86	
6.21.6	DN 2200mm dismantling joint	NO	3	74,103.38	-	-	-	-	74,103.38	222,310.14	
6.21.7	DN 2200 Steel all flanged Equal Tee	NO	1	511,526.14	-	-	-	-	511,526.14	511,526.14	
6.21.8	Motorized Actuator Pillar with extension spindle.	NO	3	-	-	-	-	-	-	Included	
	<b>Subtotal for 6.21</b>									<b>3,172,725.75</b>	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)	
6.22	Valve chamber for single DN 2200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6505									
6.22.1	DN 2200 Steel Flexible Coupling	NO	6	27,543.72	-	-	-	-	27,543.72	165,262.32
6.22.2	DN 2200 Steel spigot pipe 2200 long	NO	3	78,696.33	-	-	-	-	78,696.33	236,088.99
6.22.3	DN 2200 Steel Flanged/Spigot pipe 2523 mm long with IPF 1730 from flange.	NO	1	118,044.49	-	-	-	-	118,044.49	118,044.49
6.22.4	DN 2200 Steel Flanged/Spigot pipe 2076 mm long with IPF 785 from flange.	NO	1	118,044.49	-	-	-	-	118,044.49	118,044.49
6.22.5	DN 2200 Steel Flanged/Spigot pipe 2225 mm long with IPF 1204 from flange.	NO	1	118,044.49	-	-	-	-	118,044.49	118,044.49
6.22.6	DN 2200mm BV with extension spindle	NO	2	-	495,554.62	-	-	-	495,554.62	991,109.24
6.22.7	DN 2200mm dismantling joint	NO	2	74,103.38	-	-	-	-	74,103.38	148,206.76
6.22.8	DN 2200 Steel all flanged Equal Tee	NO	1	511,526.14	-	-	-	-	511,526.14	511,526.14
6.22.9	Motorized Actuator Pillar with extension spindle.	NO	2	-	-	-	-	-	-	Included
	<b>Subtotal for 6.22</b>									2,406,326.92

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.23	Valve chamber for twin DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CL-6506 (2 nr Chambers)										
6.23.1	DN1200 DI Socket Collar	NO	16	23,850.35	-	-	-	-	23,850.35	381,605.60	
6.23.2	DN1200 DI Rocker Pipe (Double spigot pipe 1800 long)	NO	8	26,538.64	-	-	-	-	26,538.64	212,309.12	
6.23.3	DN1200 DI Flanged/Spigot pipe 1800 mm long with integral puddle flange 875 from flange.	NO	6	29,434.61	-	-	-	-	29,434.61	176,607.66	
6.23.4	DN1200 DI Flanged/Spigot pipe 2801 mm long with integral puddle flange 1875 from flange.	NO	2	55,308.59	-	-	-	-	55,308.59	110,617.18	
6.23.5	DN1200mm BV with extension spindle	NO	2	-	104,579.81	-	-	-	104,579.81	209,159.62	
6.23.6	DN1200mm dismantling joint	NO	2	14,589.23	-	-	-	-	14,589.23	29,178.46	
6.23.7	DN 1200 mm DI double flanged pipe 1795 mm long with 1 nr boss	NO	2	28,876.76	-	-	-	-	28,876.76	57,753.52	
6.23.8	Motorized Actuator Pillar with extension spindle.	NO	2	-	-	-	-	-	-	Included	
<b>Subtotal for 6.23</b>											<b>1,177,231.16</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$	
6.24	Flow Meter chamber for twin DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-Cl-6507 (2 nr Chambers)									
6.24.1	DN 1200 DI Socket Collar	NO	8	23,850.35	-	-	-	-	23,850.35	190,802.80
6.24.2	DN1200 DI Flanged/Spigot pipe 1835 mm long with integral puddle flange	NO	6	31,220.87	-	-	-	-	31,220.87	187,325.22
6.24.3	DN1200 DI Flanged/Spigot pipe 3363 mm long with integral puddle flange	NO	2	61,551.59	-	-	-	-	61,551.59	123,103.18
6.24.4	DN1200mm dismantling joint	NO	2	14,589.23	-	-	-	-	14,589.23	29,178.46
6.24.5	DN1200mm Flow Meter	NO	2	-	64,257.73	-	-	-	64,257.73	128,515.46
<b>Subtotal for 6.24</b>										<b>658,925.12</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$	
6.25	Flow Control Valve chamber for twin pipe DN1200. Reference drawing No. MQ174-R1-DH-Cl-6508 (2 nr Chambers)									
6.25.1	DN1200 DI Socket Collar	NO	16	23,850.35	-	-	-	-	23,850.35	381,605.60
6.25.2	DN1200 DI Rocker Pipe (Double spigot pipe 1800 long)	NO	8	26,538.64	-	-	-	-	26,538.64	212,309.12
6.25.3	DN1200 DI Flanged/Spigot pipe 1811 mm long with integral puddle flange 885 from flange.	NO	4	31,220.87	-	-	-	-	31,220.87	124,883.48
6.25.4	DN1200 DI Flanged/Spigot pipe 2874 mm long with integral puddle flange 1590 from flange.	NO	4	55,902.00	-	-	-	-	55,902.00	223,608.00
6.25.5	DN1200mm Flow Control Valve	NO	2	-	563,898.25	-	-	-	563,898.25	1,127,796.50
6.25.6	DN1200mm dismantling joint	NO	2	14,589.23	-	-	-	-	14,589.23	29,178.46
6.25.7	Motorized Actuator Pillar with extension spindle.	NO	2	-	-	-	-	-	-	Included
	<b>Subtotal for 6.25</b>									<b>2,099,381.16</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.26	Valve chamber for twin DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6509 (2 nr Chambers)										
6.26.1	DN1200 DI Socket Collar	NO	16	23,850.35	-	-	-	-	23,850.35	381,605.60	
6.26.2	DN1200 DI Rocker Pipe (Double spigot pipe 1800 long)	NO	8	26,538.64	-	-	-	-	26,538.64	212,309.12	
6.26.3	DN1200 DI Flanged/Spigot pipe 1800 mm long with integral puddle flange 875 from flange.	NO	6	29,434.61	-	-	-	-	29,434.61	176,607.66	
6.26.4	DN1200 DI Flanged/Spigot pipe 2801 mm long with integral puddle flange 1875 from flange.	NO	2	55,308.59	-	-	-	-	55,308.59	110,617.18	
6.26.5	DN1200mm BV with extension spindle	NO	2	-	104,579.51	-	-	-	104,579.51	209,159.02	
6.26.6	DN1200mm dismantling joint	NO	2	14,589.23	-	-	-	-	14,589.23	29,178.46	
6.26.7	DN 1200 mm DI double flanged spool pipe 1800 mm long with 1 nr boss	NO	2	28,580.06	-	-	-	-	28,580.06	57,160.12	
6.26.8	Motorized Actuator Pillar with extension spindle.	NO	2	-	-	-	-	-	-	Included	
	<b>Subtotal for 6.26</b>									<b>1,176,637.16</b>	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.27	Flow Meter chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-Cl-6510 (2 nr Chambers)										
6.27.1	DN1200 DI Socket Collar	NO	4	23,850.35	-	-	-	-	23,850.35	95,401.40	
6.27.2	DN1200 DI Flanged/Spigot pipe 1811 mm long with integral puddle flange 885 from flange.	NO	4	26,538.64	-	-	-	-	26,538.64	106,154.56	
6.27.3	DN1200mm dismantling joint	NO	2	14,589.23	-	-	-	-	14,589.23	29,178.46	
6.27.4	DN1200mm Flow Meter	NO	2	-	64,257.73	-	-	-	64,257.73	128,515.46	
<b>Subtotal for 6.27</b>											<b>359,249.88</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$	
6.28	Flow Control Valve chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6511 (2 nr Chambers)									
6.28.1	DN1200 DI Socket Collar	NO	8	23,850.35	-	-	-	-	23,850.35	190,802.80
6.28.2	DN1200 DI Rocker Pipe (Double spigot pipe 1800 long)	NO	4	26,538.64	-	-	-	-	26,538.64	106,154.56
6.28.3	DN1200 DI Flanged/Spigot pipe 1811 mm long with integral puddle flange 885 from flange.	NO	4	31,220.87	-	-	-	-	31,220.87	124,883.48
6.28.4	DN1200mm Flow Control Valve	NO	2	-	563,898.25	-	-	-	563,898.25	1,127,796.50
6.28.5	DN1200mm dismantling joint	NO	2	14,589.23	-	-	-	-	14,589.23	29,178.46
6.28.6	Motorized Actuator Pillar with extension spindle.	NO	2	-	-	-	-	-	-	Included
<b>Subtotal for 6.28</b>										<b>1,578,815.80</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)	
6.29	Valve chamber for single DN2000 mm pipe (at any depth). Reference drawing No. MQ174-R1-DH-CI-6512 (3 Nr. Chambers)									
6.29.1	DN 2000 Steel Flexible Coupling	NO	6	25,576.31	-	-	-	-	25,576.31	153,457.86
6.29.2	DN 2000 Steel Flanged/Spigot pipe 1890 mm long with IPF	NO	6	137,718.58	-	-	-	-	137,718.58	826,311.48
6.29.3	DN 2000mm BV with extension spindle	NO	3	-	328,042.85	-	-	-	328,042.85	984,128.55
6.29.4	DN 2000mm dismantling joint	NO	3	60,289.32	-	-	-	-	60,289.32	180,867.96
6.29.5	Motorized Actuator Pillar with extension spindle.	NO	3	-	-	-	-	-	-	Included
	<b>Subtotal for 6.29</b>									2,144,765.85

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.30	Valve chamber for single DN2000 mm pipe (at any depth). Reference drawing No. MQ174-R1-DH-CI-6514										
6.30.1	DN 2000 Steel Flexible Coupling	NO	6	25,576.31	-	-	-	-	25,576.31	153,457.86	
6.30.2	DN 2000 Steel spigot pipe 1800 long	NO	3	66,891.88	-	-	-	-	66,891.88	200,675.64	
6.30.3	DN 2000 Steel Flanged/Spigot pipe 2000 mm long with IPF	NO	1	137,718.58	-	-	-	-	137,718.58	137,718.58	
6.30.4	DN 2000 Steel Flanged/Spigot pipe 1913 mm long with IPF	NO	1	137,718.58	-	-	-	-	137,718.58	137,718.58	
6.30.5	DN 2000 Steel Flanged/Spigot pipe 2167 mm long with IPF	NO	1	137,718.58	-	-	-	-	137,718.58	137,718.58	
6.30.6	DN 2000 Steel all flanged Equal Tee	NO	1	393,481.65	-	-	-	-	393,481.65	393,481.65	
6.30.7	DN 2000mm BV with extension spindle	NO	2	-	328,042.85	-	-	-	328,042.85	656,085.70	
6.30.8	DN 2000mm dismantling joint	NO	2	60,289.32	-	-	-	-	60,289.32	120,578.64	
6.30.9	Motorized Actuator Pillar with extension spindle.	NO	2	-	-	-	-	-	-	Included	
	<b>Subtotal for 6.30</b>									<b>1,937,435.23</b>	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.31	Valve chamber for single DN2200 mm pipe. Reference drawing No. MQ174-R1-DH-CL-6515 (2 Nr. Chambers)										
6.31.1	DN 2200 Steel Flexible Coupling	NO	8	27,543.72	-	-	-	-	27,543.72	220,349.76	
6.31.2	DN 2200 Steel spigot pipe 2200 long	NO	4	66,891.88	-	-	-	-	66,891.88	267,567.52	
6.31.3	DN 2200 Steel Flanged/Spigot pipe 3307 mm long with IPF	NO	2	157,392.66	-	-	-	-	157,392.66	314,785.32	
6.31.4	DN 2200 Steel Flanged/Spigot pipe 1900 mm long with IPF 880 from flange	NO	2	157,392.66	-	-	-	-	157,392.66	314,785.32	
6.31.5	DN 2200 x DN 1400 mm Steel all flanged unequal Tee	NO	2	275,437.15	-	-	-	-	275,437.15	550,874.30	
6.31.6	DN 1400mm BV with extension spindle	NO	2	-	169,351.74	-	-	-	169,351.74	338,703.48	
6.31.7	DN 1400mm dismantling joint	NO	2	20,335.69	-	-	-	-	20,335.69	40,671.38	
6.31.8	DN 1400 DI Flanged/Spigot pipe 2260 mm long with Integral Puddle flange 1310 from flange.	NO	2	57,904.08	-	-	-	-	57,904.08	115,808.16	
6.31.9	DN 1400 DI Socket Collar	NO	4	40,873.47	-	-	-	-	40,873.47	163,493.88	
6.31.10	DN 1400 DI Rocker Pipe (Double spigot pipe 2100 long)	NO	2	37,467.35	-	-	-	-	37,467.35	74,934.70	
6.31.11	Motorized Actuator Pillar with extension spindle.	NO	2	-	-	-	-	-	-	Included	
<b>Subtotal for 6.31</b>										<b>2,401,973.82</b>	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT  (7)=(2)+(3)+(4) +(5)+(6)		
6.32	Combined outgoing Valve chamber for three pipes (2xDN1600 and 1xDN1200 ). Reference drawing No. MQ174-R1-DH-CI-6516										
6.32.1	DN 1200 DI Socket Collar	NO	4	23,850.35	-	-	-	-	23,850.35	95,401.40	
6.32.2	DN 1200 DI Rocker Pipe (Double spigot pipe 1800 mm long)	NO	2	26,538.64	-	-	-	-	26,538.64	53,077.28	
6.32.3	DN 1200 DI Flanged/Spigot pipe 2395 mm long with Integral Puddle flange 2320 from flange.	NO	2	50,786.60	-	-	-	-	50,786.60	101,573.20	
6.32.4	DN1200mm dismantling joint	NO	1	14,589.23	-	-	-	-	14,589.23	14,589.23	
6.32.5	DN 1200mm BV with extension spindle	NO	1	-	104,579.81	-	-	-	104,579.81	104,579.81	
6.32.6	DN 1600 DI Socket Collar	NO	8	45,635.52	-	-	-	-	45,635.52	365,084.16	
6.32.7	DN 1600 DI Rocker Pipe (Double spigot pipe 2400 long)	NO	4	78,553.59	-	-	-	-	78,553.59	314,214.36	
6.32.8	DN 1600 DI Flanged/Spigot pipe 2170 mm long with Integral Puddle flange 1090 from flange.	NO	4	89,846.77	-	-	-	-	89,846.77	359,387.08	
6.32.9	DN1600mm dismantling joint	NO	2	27,746.26	-	-	-	-	27,746.26	55,492.52	
6.32.10	DN 1600mm BV with extension spindle	NO	2	-	191,986.82	-	-	-	191,986.82	383,973.64	
6.32.11	Motorized Actuator Pillar with extension spindle.	NO	3	-	-	-	-	-	-	Included	
	<b>Subtotal for 6.32</b>									<b>1,847,372.68</b>	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$	
6.33	Outgoing By-Pass Valve chamber for single DN1600 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6517 (2 nr Chambers)									
6.33.1	DN 1600 DI Socket Collar	NO	12	45,635.52	-	-	-	-	45,635.52	547,626.24
6.33.2	DN 1600 DI Rocker Pipe (Double spigot pipe 2400 long)	NO	6	78,553.59	-	-	-	-	78,553.59	471,321.54
6.33.3	DN 1600 DI Flanged/Spigot pipe 2593 mm long with Integral Puddle flange	NO	2	51,466.14	-	-	-	-	51,466.14	102,932.28
6.33.4	DN 1600 DI Flanged/Spigot pipe 1800 mm long with Integral Puddle flange	NO	2	84,749.15	-	-	-	-	84,749.15	169,498.30
6.33.5	DN 1600 DI Flanged/Spigot pipe 2513 mm long with Integral Puddle flange 1582 from flange.	NO	2	92,208.66	-	-	-	-	92,208.66	184,417.32
6.33.6	DN 1600 mm DI all flanged equal Tee	NO	2	104,848.95	-	-	-	-	104,848.95	209,697.90
6.33.7	DN 1600 mm DI flanged 90° Elbow.	NO	2	113,246.13	-	-	-	-	113,246.13	226,492.26
6.33.8	DN1600mm dismantling joint	NO	2	27,746.26	-	-	-	-	27,746.26	55,492.52
6.33.9	DN1600 DI double Flanged pipe 1600 mm long with 1 nr Boss.	NO	2	81,692.91	-	-	-	-	81,692.91	163,385.82
6.33.10	DN1600 DI double Flanged pipe 477 mm long.	NO	2	67,195.18	-	-	-	-	67,195.18	134,390.36
<b>Subtotal for 6.33</b>										<b>2,265,254.54</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)	
6.34	Outgoing By-Pass Valve chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6518									
6.34.1	DN1200 DI Socket Collar	NO	6	23,850.35	-	-	-	-	23,850.35	143,102.10
6.34.2	DN1200 DI Rocker Pipe (Double spigot pipe 1800 long)	NO	3	26,538.64	-	-	-	-	26,538.64	79,615.92
6.34.3	DN1200 DI Flanged/Spigot pipe 1819 mm long with puddle flange	NO	1	31,220.87	-	-	-	-	31,220.87	31,220.87
6.34.4	DN1200 DI Flanged/Spigot pipe 2297 mm long with puddle flange	NO	1	54,273.40	-	-	-	-	54,273.40	54,273.40
6.34.5	DN1200 DI Flanged/Spigot pipe 2095 mm long with puddle flange	NO	1	34,146.53	-	-	-	-	34,146.53	34,146.53
6.34.6	DN1200mm dismantling joint	NO	1	14,589.23	-	-	-	-	14,589.23	14,589.23
6.34.7	DN 1200 mm DI all flanged equal Tee	NO	1	31,131.84	-	-	-	-	31,131.84	31,131.84
6.34.8	DN 1200 mm DI flanged 90° bend.	NO	1	54,281.89	-	-	-	-	54,281.89	54,281.89
6.34.9	DN1200 DI double Flanged pipe 1200 mm long with 1nr Boss.	NO	1	27,772.98	-	-	-	-	27,772.98	27,772.98
6.34.10	DN1200 DI double Flanged pipe 700 mm long.	NO	1	20,865.32	-	-	-	-	20,865.32	20,865.32
<b>Subtotal for 6.34</b>										<b>491,000.08</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.35	Flow Control Valve chamber for single DN1600 mm pipe with By-Pass arrangement. Reference drawing No. MQ174-R1-DH-CI-6519 (2nr Chambers)										
6.35.1	DN 1600 DI Socket Collar	NO	8	45,635.52	-	-	-	-	45,635.52	365,084.16	
6.35.2	DN 1600 DI Rocker Pipe (Double spigot pipe 2400 long)	NO	4	78,553.59	-	-	-	-	78,553.59	314,214.36	
6.35.3	DN 1600 DI Flanged/Spigot pipe 1800 mm long with Integral Puddle flange 870 from flange.	NO	4	84,749.15	-	-	-	-	84,749.15	338,996.60	
6.35.4	DN 1600x1000 mm DI all flanged unequal Tee	NO	4	95,603.13	-	-	-	-	95,603.13	382,412.52	
6.35.5	DN1600mm dismantling joint	NO	4	27,746.26	-	-	-	-	27,746.26	110,985.04	
6.35.6	DN 1600mm BV with extension spindle	NO	2	-	191,986.82	-	-	-	191,986.82	383,973.64	
6.35.7	DN1600 DI double Flanged pipe 1600 mm long.	NO	2	81,692.91	-	-	-	-	81,692.91	163,385.82	
6.35.8	DN 1600 mm Flow Control Valve.	NO	2	-	1,401,574.75	-	-	-	1,401,574.75	2,803,149.50	
6.35.9	DN 1000x900 mm DI Flanged Concentric Reducer	NO	4	12,290.15	-	-	-	-	12,290.15	49,160.60	
6.35.10	DN900 DI double Flanged pipe 900 mm long.	NO	4	15,619.33	-	-	-	-	15,619.33	62,477.32	
6.35.11	DN900 DI double Flanged pipe 5060 mm long.	NO	2	35,677.61	-	-	-	-	35,677.61	71,355.22	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.35.12	DN 900 mm DI flanged 90° Elbow.	NO	4	23,862.22	-	-	-	-	23,862.22	95,448.88	
6.35.13	DN900mm dismantling joint	NO	2	7,048.36	-	-	-	-	7,048.36	14,096.72	
6.35.14	DN 900mm BV with extension spindle	NO	2	-	55,654.02	-	-	-	55,654.02	111,308.04	
6.35.15	Motorized Actuator Pillar with extension spindle.	NO	6	-	-	-	-	-	-	Included	
<b>Subtotal for 6.35</b>											5,266,048.42

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT  (7)=(2)+(3)+(4) +(5)+(6)		
6.36	Flow Control Valve chamber for single DN1200 mm pipe with By-Pass arrangement. Reference drawing No. MQ174-R1-DH-Cl-6520										
6.36.1	DN1200 DI Socket Collar	NO	4	23,850.35	-	-	-	-	23,850.35	95,401.40	
6.36.2	DN1200 DI Rocker Pipe (Double spigot pipe 1800 long)	NO	2	26,538.64	-	-	-	-	26,538.64	53,077.28	
6.36.3	DN1200 DI Flanged/Spigot pipe 1818 mm long with puddle flange 888 from flange	NO	2	31,220.87	-	-	-	-	31,220.87	62,441.74	
6.36.4	DN 1200x700 mm DI all flanged unequal Tee	NO	2	31,571.00	-	-	-	-	31,571.00	63,142.00	
6.36.5	DN 1200 mm DI double flanged 1200 mm long.	NO	1	27,903.53	-	-	-	-	27,903.53	27,903.53	
6.36.6	DN1200mm dismantling joint	NO	2	14,589.23	-	-	-	-	14,589.23	29,178.46	
6.36.7	DN 1200mm BV with extension spindle	NO	1	-	104,579.81	-	-	-	104,579.81	104,579.81	
6.36.8	DN 1200 mm Flow Control Valve.	NO	1	-	563,898.25	-	-	-	563,898.25	563,898.25	
6.36.9	DN 700x600 mm DI Flanged Concentric Reducer	NO	2	8,367.49	-	-	-	-	8,367.49	16,734.98	
6.36.10	DN600 DI double Flanged pipe 900 mm long.	NO	2	10,899.59	-	-	-	-	10,899.59	21,799.18	
6.36.11	DN600 DI double Flanged pipe 3813 mm long.	NO	1	21,458.59	-	-	-	-	21,458.59	21,458.59	
6.36.12	DN 600 mm DI flanged 90° Elbow.	NO	2	8,082.65	-	-	-	-	8,082.65	16,165.30	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.36.13	DN600mm dismantling joint	NO	1	3,753.31	-	-	-	-	-	3,753.31	3,753.31
6.36.14	DN 600mm BV with extension spindle	NO	1	-	34,558.30	-	-	-	-	34,558.30	34,558.30
6.36.15	Motorized Actuator Pillar with extension spindle.	NO	3	-	-	-	-	-	-	-	Included
<b>Subtotal for 6.36</b>											1,114,092.13

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT	
6.37	Combined Flow Meter Valve chamber for twin DN1600 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6521									
6.37.1	DN 1600 DI Socket Collar	NO	8	45,635.52	-	-	-	-	45,635.52	365,084.16
6.37.2	DN 1600 DI Rocker Pipe (Double spigot pipe 2400 long)	NO	4	78,553.59	-	-	-	-	78,553.59	314,214.36
6.37.3	DN 1600 DI Flanged/Spigot pipe 2115 mm long with Integral Puddle flange 1035 from flange.	NO	4	89,846.77	-	-	-	-	89,846.77	359,387.08
6.37.4	DN1600 mm Flow Meter	NO	2	-	176,723.56	-	-	-	176,723.56	353,447.12
6.37.5	DN1600mm dismantling joint	NO	2	27,746.26	-	-	-	-	27,746.26	55,492.52
<b>Subtotal for 6.37</b>										<b>1,447,625.24</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)	
6.38	Valve chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6522									
6.38.1	DN1200 DI Socket Collar	NO	6	23,850.35	-	-	-	-	23,850.35	143,102.10
6.38.2	DN1200 DI Rocker Pipe (Double spigot pipe 1800 long)	NO	3	26,538.64	-	-	-	-	26,538.64	79,615.92
6.38.3	DN1200 DI Flanged/Spigot pipe 2128 mm long with puddle flange 1202 from flange	NO	1	34,146.53	-	-	-	-	34,146.53	34,146.53
6.38.4	DN1200 DI Flanged/Spigot pipe 1847 mm long with puddle flange 921 from flange	NO	1	31,220.87	-	-	-	-	31,220.87	31,220.87
6.38.5	DN1200 DI Flanged/Spigot pipe 2451 mm long with puddle flange 1525 from flange	NO	1	55,000.01	-	-	-	-	55,000.01	55,000.01
6.38.6	DN 1200 mm DI all flanged equal Tee	NO	1	31,131.84	-	-	-	-	31,131.84	31,131.84
6.38.7	DN1200mm dismantling joint	NO	2	14,589.23	-	-	-	-	14,589.23	29,178.46
6.38.8	DN 1200mm BV with extension spindle	NO	2	-	104,579.81	-	-	-	104,579.81	209,159.62
6.38.9	Motorized Actuator Pillar with extension spindle.	NO	2	-	-	-	-	-	-	Included
Subtotal for 6.38										612,555.35

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.39	Valve chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6523										
6.39.1	DN1200 DI Socket Collar	NO	6	23,850.35	-	-	-	-	23,850.35	143,102.10	
6.39.2	DN1200 DI Rocker Pipe (Double spigot pipe 1800 long)	NO	3	26,538.64	-	-	-	-	26,538.64	79,615.92	
6.39.3	DN1200 DI Flanged/Spigot pipe 2751 mm long with puddle flange 1821 from flange	NO	1	55,000.01	-	-	-	-	55,000.01	55,000.01	
6.39.4	DN1200 DI Flanged/Spigot pipe 2351 mm long with puddle flange 1421 from flange	NO	1	55,000.01	-	-	-	-	55,000.01	55,000.01	
6.39.5	DN1200 DI Flanged/Spigot pipe 1858 mm long with puddle flange 928 from flange	NO	1	31,220.87	-	-	-	-	31,220.87	31,220.87	
6.39.6	DN 1200 mm DI all flanged equal Tee	NO	1	31,131.84	-	-	-	-	31,131.84	31,131.84	
6.39.7	DN1200mm dismantling joint	NO	3	14,589.23	-	-	-	-	14,589.23	43,767.69	
6.39.8	DN 1200mm BV with extension spindle	NO	3	-	104,579.81	-	-	-	104,579.81	313,739.43	
6.39.9	Motorized Actuator Pillar with extension spindle.	NO	3	-	-	-	-	-	-	Included	
	Subtotal for 6.39									752,577.87	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.40	Valve chamber for twin DN1400 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6524										
6.40.1	DN1400 DI Socket Collar	NO	8	40,873.47	-	-	-	-	40,873.47	326,987.76	
6.40.2	DN1400 DI Rocker Pipe (Double spigot pipe 2100 long)	NO	4	34,061.23	-	-	-	-	34,061.23	136,244.92	
6.40.3	DN1400 DI Flanged/Spigot pipe 3454 mm long with integral puddle flange 2525 from flange.	NO	1	68,122.45	-	-	-	-	68,122.45	68,122.45	
6.40.4	DN1400 DI Flanged/Spigot pipe 1850 mm long with integral puddle flange 922 from flange.	NO	3	47,685.72	-	-	-	-	47,685.72	143,057.16	
6.40.5	DN 1400 mm DI double flanged 1600 mm long.	NO	1	44,279.59	-	-	-	-	44,279.59	44,279.59	
6.40.6	DN 1400x600 mm DI all flanged unequal Tee	NO	2	40,873.47	-	-	-	-	40,873.47	81,746.94	
6.40.7	DN 600 mm DI flanged 90° Elbow.	NO	1	8,082.65	-	-	-	-	8,082.65	8,082.65	
6.40.8	DN 600 mm dismantling joint	NO	2	3,753.31	-	-	-	-	3,753.31	7,506.62	
6.40.9	DN 600 mm BV with extension spindle	NO	2	-	35,105.53	-	-	-	35,105.53	70,211.06	
6.40.10	DN 600 mm DI Flanged/Spigot pipe 2061 mm long with puddle flange 1145 from flange.	NO	1	20,117.62	-	-	-	-	20,117.62	20,117.62	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.40.11	DN 600 mm DI Flanged/Spigot pipe 1800 mm long with puddle flange 884 from flange.	NO	1	18,556.89	-	-	-	-	-	18,556.89	18,556.89
6.40.12	DN 600 DI Double flanged pipe 3515 mm long.	NO	1	21,921.70	-	-	-	-	-	21,921.70	21,921.70
6.40.13	DN 600 DI Double spigot pipe 900 mm long.	NO	2	4,717.84	-	-	-	-	-	4,717.84	9,435.68
6.40.14	DN 600 mm DI Socket Collar	NO	4	5,251.94	-	-	-	-	-	5,251.94	21,007.76
6.40.15	Motorized Actuator Pillar with extension spindle.	NO	2	-	-	-	-	-	-	-	Included
<b>Subtotal for 6.40</b>											<b>977,278.80</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.41	Valve chamber for single DN800 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6525										
6.41.1	DN 800 mm DI Socket Collar	NO	4	10,634.40	-	-	-	-	10,634.40	42,537.60	
6.41.2	DN 800 DI Double spigot pipe 1200 mm long.	NO	2	10,901.46	-	-	-	-	10,901.46	21,802.92	
6.41.3	DN 800 mm DI Flanged/Spigot pipe 1813 mm long with puddle flange 894 from flange.	NO	2	16,212.78	-	-	-	-	16,212.78	32,425.56	
6.41.4	DN 800 mm DI all flanged equal Tee	NO	1	15,304.80	-	-	-	-	15,304.80	15,304.80	
6.41.5	DN 800 mm dismantling joint	NO	1	5,659.23	-	-	-	-	5,659.23	5,659.23	
6.41.6	DN 800 mm BV with extension spindle	NO	1	-	48,260.00	-	-	-	48,260.00	48,260.00	
6.41.7	DN 800x450 mm DI flanged eccentric Reducer	NO	1	7,886.81	-	-	-	-	7,886.81	7,886.81	
6.41.8	DN 250 mm DI Socket Collar	NO	2	1,412.36	-	-	-	-	1,412.36	2,824.72	
6.41.9	DN 250 DI Double spigot pipe 800 mm long.	NO	1	1,204.68	-	-	-	-	1,204.68	1,204.68	
6.41.10	DN 250 mm DI Flanged/Spigot pipe 1970 mm long with puddle flange 1060 from flange.	NO	1	3,898.89	-	-	-	-	3,898.89	3,898.89	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)	
6.41.11	DN 450x250 mm DI flanged eccentric Reducer	NO	1	3,287.65	-	-	-	-	3,287.65	3,287.65
6.41.12	DN 250 mm dismantling joint	NO	1	1,026.91	-	-	-	-	1,026.91	1,026.91
6.41.13	DN 250 mm BV with extension spindle	NO	1	-	21,124.44	-	-	-	21,124.44	21,124.44
6.41.14	Motorized Actuator Pillar with extension spindle.	NO	2	-	-	-	-	-	-	Included
<b>Subtotal for 6.41</b>										207,244.21

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$	
6.42	Flow Meter chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6526 (3 nr Chambers)									
6.42.1	DN1200 DI Socket Collar	NO	12	23,850.35	-	-	-	-	23,850.35	286,204.20
6.42.2	DN1200 DI Rocker Pipe (Double spigot pipe 1800 long)	NO	6	26,538.64	-	-	-	-	26,538.64	159,231.84
6.42.3	DN1200 DI Flanged/Spigot pipe 1811 mm long with integral puddle flange 885 from flange.	NO	6	31,220.87	-	-	-	-	31,220.87	187,325.22
6.42.4	DN1200mm dismantling joint	NO	3	14,589.23	-	-	-	-	14,589.23	43,767.69
6.42.5	DN1200mm Flow Meter	NO	3	-	64,257.73	-	-	-	64,257.73	192,773.19
<b>Subtotal for 6.42</b>										<b>869,302.14</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)	
6.43	Valve chamber for single DN 600 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6527									
6.43.1	DN 600 DI Socket Collar	NO	4	5,251.94	-	-	-	-	5,251.94	21,007.76
6.43.2	DN 600 DI Double spigot pipe 900 mm long.	NO	2	4,717.84	-	-	-	-	4,717.84	9,435.68
6.43.3	DN 600 DI Flanged/Spigot pipe 1500 mm long with puddle flange	NO	2	7,038.21	-	-	-	-	7,038.21	14,076.42
6.43.4	DN 600 x 150 mm DI all flanged level invert Tee	NO	2	9,845.18	-	-	-	-	9,845.18	19,690.36
6.43.5	DN 150 mm dismantling joint	NO	2	569.78	-	-	-	-	569.78	1,139.56
6.43.6	DN 150 mm BV with extension spindle	NO	2	-	18,310.82	-	-	-	18,310.82	36,621.64
6.43.7	DN 150 mm DI Flanged/Spigot pipe 746 mm long with puddle flange	NO	2	884.24	-	-	-	-	884.24	1,768.48
6.43.8	DN 150 DI Double spigot pipe 500 mm long.	NO	2	445.08	-	-	-	-	445.08	890.16
6.43.9	DN 150 mm DI Socket Collar	NO	4	842.68	-	-	-	-	842.68	3,370.72
6.43.10	Motorized Actuator Pillar with extension spindle.	NO	2	-	-	-	-	-	-	Included
	Subtotal for 6.43									108,000.78

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.44	Outgoing Combined Sampling chamber for twin DN1600 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6528										
6.44.1	DN 1600 DI Socket Collar	NO	8	45,635.52	-	-	-	-	45,635.52	365,084.16	
6.44.2	DN 1600 DI Rocker Pipe (Double spigot pipe 2400 long)	NO	4	78,553.59	-	-	-	-	78,553.59	314,214.36	
6.44.3	DN 1600 DI Flanged/Spigot pipe 1805 mm long with Integral Puddle flange 905 from flange.	NO	4	84,749.15	-	-	-	-	84,749.15	338,996.60	
6.44.4	DN 1600 DI double Flanged pipe 1634 mm long with 1 Nr Boss	NO	2	81,692.91	-	-	-	-	81,692.91	163,385.82	
6.44.5	DN 80 DI double Flanged pipe 5670 mm long	NO	1	2,160.13	-	-	-	-	2,160.13	2,160.13	
6.44.6	DN 80 DI double Flanged pipe 3370 mm long	NO	1	1,643.85	-	-	-	-	1,643.85	1,643.85	
6.44.7	DN 80 DI Flanged/Spigot pipe 1520 mm long with Integral Puddle flange	NO	1	1,403.61	-	-	-	-	1,403.61	1,403.61	
6.44.8	DN 80 DI Flanged Sluice Valve	NO	2	-	738.64	-	-	-	738.64	1,477.28	
6.44.9	DN 80 DI Flanged equal Tee	NO	1	302.66	-	-	-	-	302.66	302.66	
6.44.10	DN 80 mm DI flanged 90° Elbow.	NO	3	213.63	-	-	-	-	213.63	640.89	
6.44.11	DN 80 DI double spigot pipe 600 mm long	NO	1	800.45	-	-	-	-	800.45	800.45	
6.44.12	DN 80 DI Socket Collar	NO	2	378.10	-	-	-	-	378.10	756.20	
	<b>Subtotal for 6.44</b>									<b>1,190,866.01</b>	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.45	Outgoing Combined Sampling chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6529										
6.45.1	DN 1200 DI Socket Collar	NO	4	23,850.35	-	-	-	-	23,850.35	95,401.40	
6.45.2	DN 1200 DI Rocker Pipe (Double spigot pipe 2400 long)	NO	2	26,538.64	-	-	-	-	26,538.64	53,077.28	
6.45.3	DN 1200 DI Flanged/Spigot pipe 1819 mm long with Integral Puddle flange 918 from flange.	NO	2	31,220.87	-	-	-	-	31,220.87	62,441.74	
6.45.4	DN 1200 DI double Flanged pipe 1506 mm long with 1 Nr Boss	NO	1	32,358.18	-	-	-	-	32,358.18	32,358.18	
6.45.5	DN 80 DI Flanged/Spigot pipe 1530 mm long with Integral Puddle flange	NO	1	1,430.58	-	-	-	-	1,430.58	1,430.58	
6.45.6	DN 80 DI Flanged Sluice Valve	NO	1	-	738.64	-	-	-	738.64	738.64	
6.45.7	DN 80 mm DI flanged 90° Elbow.	NO	2	213.63	-	-	-	-	213.63	427.26	
6.45.8	DN 80 DI double Flanged pipe 1064 mm long	NO	1	1,890.39	-	-	-	-	1,890.39	1,890.39	
6.45.9	DN 80 DI double Flanged pipe 3525 mm long	NO	1	2,827.09	-	-	-	-	2,827.09	2,827.09	
6.45.10	DN 80 DI double spigot pipe 600 mm long	NO	1	800.45	-	-	-	-	800.45	800.45	
6.45.11	DN 80 DI Socket Collar	NO	2	378.10	-	-	-	-	378.10	756.20	
	<b>Subtotal for 6.45</b>									<b>252,149.21</b>	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.46	Emergency Tanker Filling Station - Double Arm Filling Point. Reference drawing No. MQ174-R1-DH-Cl-6394 (5 nr Points)										
6.46.1	DN 150/100 DI all flanged Cross Tee	NO	5	866.42	-	-	-	-	866.42	4,332.10	
6.46.2	DN 150 mm DI Blank Flange	NO	5	112.73	-	-	-	-	112.73	563.65	
6.46.3	DN 100 mm DI Flanged 90° long radius bend	NO	40	1,554.82	-	-	-	-	1,554.82	62,192.80	
6.46.4	DN 100 mm DI Flanged Ball Valve	NO	10	-	952.23	-	-	-	952.23	9,522.30	
6.46.5	DN 100 mm DI Double Flanged pipe 255 mm long.	NO	10	581.55	-	-	-	-	581.55	5,815.50	
6.46.6	DN 100 mm Flanged Electromagnetic Flow meter.	NO	10	-	9,384.67	-	-	-	9,384.67	93,846.70	
6.46.7	DN 100 mm DI Flanged Adaptor	NO	10	970.76	-	-	-	-	970.76	9,707.60	
6.46.8	DN 100 mm DI Flange spigot pipe 240 mm long.	NO	10	243.28	-	-	-	-	243.28	2,432.80	
6.46.9	DN 100 mm Flanged Solenoid Valve.	NO	10	2,009.72	-	-	-	-	2,009.72	20,097.20	
6.46.10	DN 100 mm DI Double Flanged pipe 2450 mm long.	NO	20	1,335.23	-	-	-	-	1,335.23	26,704.60	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.46.11	DN 100/80 mm DI Flanged Concentric Taper.	NO	10	795.17	-	-	-	-	795.17	7,951.70	
6.46.12	DN 80 mm DI Flange spigot pipe 300 mm long.	NO	10	516.29	-	-	-	-	516.29	5,162.90	
6.46.13	DN 80 mm Flanged Ball Valve	NO	10	-	526.11	-	-	-	526.11	5,261.10	
6.46.14	DN 80 mm Clamp	NO	10	238.44	-	-	-	-	238.44	2,384.40	
6.46.15	DN 80 mm Flexible Hose.	NO	10	340.63	-	-	-	-	340.63	3,406.30	
<b>Subtotal for 6.46</b>											<b>259,381.65</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
6.47	Valve chamber for single DN2000 mm pipe (at any depth). Reference drawing No. MQ174-R1-DH-Cl-6513 (2 nr Chambers)										
6.47.1	DN 2000 Steel Flexible Coupling	NO	8	25,576.31	-	-	-	-	25,576.31	204,610.48	
6.47.2	DN 2000 Steel spigot pipe 1800 long	NO	4	66,891.88	-	-	-	-	66,891.88	267,567.52	
6.47.3	DN 2000 Steel Flanged/Spigot pipe 1825 mm long with IPF 892 from flange	NO	2	137,718.58	-	-	-	-	137,718.58	275,437.16	
6.47.4	DN 2000 Steel Flanged/Spigot pipe 1913 mm long with IPF 980 from flange	NO	2	137,718.58	-	-	-	-	137,718.58	275,437.16	
6.47.5	DN 2000 Steel all flanged Equal Tee	NO	2	393,481.65	-	-	-	-	393,481.65	786,963.30	
6.47.6	DN 2000mm BV with extension spindle	NO	2	-	328,042.85	-	-	-	328,042.85	656,085.70	
6.47.7	DN 2000mm dismantling joint	NO	2	60,289.32	-	-	-	-	60,289.32	120,578.64	
6.47.8	DN 2000mm Steel Blind Flange	NO	2	74,687.18	-	-	-	-	74,687.18	149,374.36	
6.47.9	Motorized Actuator Pillar with extension spindle.	NO	2	3,860.49	-	-	-	-	3,860.49	7,720.98	
<b>Subtotal for 6.47</b>										<b>2,743,775.30</b>	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT  (7)=(2)+(3)+(4) +(5)+(6)		
6.48	Surge Vessel Pipe works. Reference drawing No. MQ174-R1-DH-CI-6340 - 6341										
6.48.1	DN 900 mm BV with extension spindle	NO	11	-	55,654.02	-	-	-	55,654.02	612,194.22	
6.48.2	DN 900 mm DI dismantling joint	NO	11	7,048.36	-	-	-	-	7,048.36	77,531.96	
6.48.3	DN 900 mm DI Flanged 90° Elbow	NO	26	19,074.29	-	-	-	-	19,074.29	495,931.54	
6.48.4	DN 1600 x 900 mm DI flanged unequal tee	NO	10	93,383.66	-	-	-	-	93,383.66	933,836.60	
6.48.5	DN 1200 x 900 mm DI flanged unequal tee	NO	5	28,847.11	-	-	-	-	28,847.11	144,235.55	
6.48.6	DN 900 mm DI flanged equal tee	NO	11	18,714.98	-	-	-	-	18,714.98	205,864.78	
6.48.7	DN 900 mm DI Blank Flange	NO	4	5,790.39	-	-	-	-	5,790.39	23,161.56	
6.48.8	DN 900 mm DI double flange pipes (length varies)	NO	37	20,366.82	-	-	-	-	20,366.82	753,572.34	
6.48.9	DN 900 mm DI double flange pipes with IPF (length varies)	NO	11	20,436.74	-	-	-	-	20,436.74	224,804.14	
6.48.10	Motorised actuated Headstocks	NO	11	-	-	-	-	-	-	Included	
	<b>Subtotal for 6.48</b>										<b>3,471,132.69</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$	
6.49	Air Valve chamber for single DN1400 mm pipe (at any depth). Reference drawing No. MQ174-R1-DH-CI-6530									
6.49.1	DN1400 DI Socket Collar	NO	4	40,873.47	-	-	-	-	40,873.47	163,493.88
6.49.2	DN1400 DI Rocker Pipe (Double spigot pipe 2100 mm long)	NO	2	34,061.23	-	-	-	-	34,061.23	68,122.46
6.49.3	DN1400 DI Flanged/Spigot pipe 1800 mm long with integral puddle flange.	NO	2	47,685.72	-	-	-	-	47,685.72	95,371.44
6.49.4	DN1400 x 600 mm DI flanged unequal tee.	NO	1	40,873.47	-	-	-	-	40,873.47	40,873.47
6.49.5	DN600 x 200 mm DI reducing flange.	NO	1	14,646.34	-	-	-	-	14,646.34	14,646.34
6.49.6	DN 200 mm Gate valve with bevel gear and spindle.	NO	1	-	2,269.27	-	-	-	2,269.27	2,269.27
6.49.7	DN 200 mm Air release valve	NO	1	7,590.21	-	-	-	-	7,590.21	7,590.21
	Subtotal for 6.49									392,367.07

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
6.50	<b>Land and Under Floor Drainage Pump Station Pipe Work.</b> <b>Reference drawing No. MQ174-R1-DH-CI-6450</b>										
6.50.1	DN 100x50mm DI flanged eccentric Reducer	NO	3	953.73	-	-	-	-	953.73	2,861.19	
6.50.2	DN 100 mm DI double flange pipes 545 mm long	NO	3	581.55	-	-	-	-	581.55	1,744.65	
6.50.3	DN 100 mm DI dismantling joint	NO	3	569.78	-	-	-	-	569.78	1,709.34	
6.50.4	DN 100, PN16 Non Return Valve	NO	3	-	694.02	-	-	-	694.02	2,082.06	
6.50.5	DN 100 mm DI double flange pipes 3000 mm long	NO	9	1,335.23	-	-	-	-	1,335.23	12,017.07	
6.50.6	DN 100 mm DI double flange pipes 2240 mm long	NO	3	1,335.23	-	-	-	-	1,335.23	4,005.69	
6.50.7	DN 100 mm DI double flanged 90° Elbow.	NO	3	1,554.82	-	-	-	-	1,554.82	4,664.46	
6.50.8	DN 100 DI double Flanged pipe 1020 mm long with IPF	NO	3	1,335.23	-	-	-	-	1,335.23	4,005.69	
6.50.9	DN 100 PN16 Flap Valve	NO	3	1,089.26	-	-	-	-	1,089.26	3,267.78	
6.50.10	Stepped coupling to suit DN 500 VC to DN 500 DI pipes	NO	1	6,812.25	-	-	-	-	6,812.25	6,812.25	
6.50.11	DN 500 DI double Flanged pipe 1350 mm long with IPF	NO	1	23,161.63	-	-	-	-	23,161.63	23,161.63	
6.50.12	DN 500 PN16 Flap Valve	NO	1	2,695.96	-	-	-	-	2,695.96	2,695.96	
	<b>Subtotal for 6.50</b>									69,027.77	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT	
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)
	COLLECTION									
	Subtotal for 6.1									17,405,918.11
	Subtotal for 6.2									5,381,591.52
	Subtotal for 6.3									1,130,391.73
	Subtotal for 6.4									318,264.68
	Subtotal for 6.5									31,462,829.64
	Subtotal for 6.6									44,456,554.32
	Subtotal for 6.7									5,227,211.64
	Subtotal for 6.8									1,894,800.78
	Subtotal for 6.9									1,129,790.92
	Subtotal for 6.10									17,509,973.56
	Subtotal for 6.11									3,139,147.96

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR						AMOUNT (QR)	
				USD PART	EUR PART	GBP PART	JPY PART	QAR PART	UNIT		
			(1)	(2)	(3)	(4)	(5)	(6)	(7)=(2)+(3)+(4) +(5)+(6)	(8)=(7)x(1)	
	Subtotal for 6.12									1,769,335.80	
	Subtotal for 6.13									2,346,572.52	
	Subtotal for 6.14									106,366.91	
	Subtotal for 6.15									164,743.88	
	Subtotal for 6.16									101,933.93	
	Subtotal for 6.17									10,591,273.32	
	Subtotal for 6.18									4,112,685.14	
	Subtotal for 6.19									2,475,517.74	
	Subtotal for 6.20									5,358,514.28	
	Subtotal for 6.21									3,172,725.75	
	Subtotal for 6.22									2,406,326.92	
	Subtotal for 6.23									1,177,231.16	
	Subtotal for 6.24									658,925.12	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$	
	Subtotal for 6.25									2,099,381.16
	Subtotal for 6.26									1,176,637.16
	Subtotal for 6.27									359,249.88
	Subtotal for 6.28									1,578,815.80
	Subtotal for 6.29									2,144,765.85
	Subtotal for 6.30									1,937,435.23
	Subtotal for 6.31									2,401,973.82
	Subtotal for 6.32									1,847,372.68
	Subtotal for 6.33									2,265,254.54
	Subtotal for 6.34									491,000.08
	Subtotal for 6.35									5,266,048.42
	Subtotal for 6.36									1,114,092.13
	Subtotal for 6.37									1,447,625.24

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 6 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Pipes, Fittings, Valves and Accessories					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT	
	Subtotal for 6.38									612,555.35
	Subtotal for 6.39									752,577.87
	Subtotal for 6.40									977,278.80
	Subtotal for 6.41									207,244.21
	Subtotal for 6.42									869,302.14
	Subtotal for 6.43									108,000.78
	Subtotal for 6.44									1,190,866.01
	Subtotal for 6.45									252,149.21
	Subtotal for 6.46									259,381.65
	Subtotal for 6.47									2,743,775.30
	Subtotal for 6.48									3,471,132.69
	Subtotal for 6.49									392,367.07
	Subtotal for 6.50									69,027.77
	Carried Forward to General Summary									199,533,938.17

<b>PROJECT: WATER SECURITY MEGA RESERVOIR</b>	<b>BILL OF QUANTITIES</b>	<b>BILL NO: 7</b> <b>Materials Supply</b>
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A	Supply of Instrumentation & Control Equipment	Rev. 03

**Bill No.7**  
**Supply of Instrumentation & Control Equipment**

**WATER SECURITY MEGARESERVOIR: PRPS 1**

**GTC/626A/2014**

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 7 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Instrumentation & Control Equipment					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT	
	<b>Supply of Instrumentation &amp; Control Equipment</b>  Supply of the following I&C Equipment including cabling and all related equipment and ancillary items required for a complete installation. Scope includes the supply of all other equipment in accordance with KAHARAMAA requirements and standards.									
7.1	<u>Reservoirs</u>									
7.1.1	Chlorine Analyser (0 – 2 mg/l)	NO	24		20,173.92				20,173.92	484,174.08
7.1.2	Chlorine dioxide Analyser (0 – 2 mg/l)	NO	24		13,126.64				13,126.64	315,039.36
7.1.3	Level Transmitter - Radar type (0-20m)	NO	28		12,905.88				12,905.88	361,364.64
	<b>Subtotal for 7.1</b>									1,160,578.08

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 7 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Instrumentation & Control Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
7.2	<u>Main Pump Station</u>										
7.2.1	<u>Main Pumps</u>										
7.2.1.1	Pressure Transmitter - Suction (-1 to 2 bar)	NO	13		2,649.10					2,649.10	34,438.30
7.2.1.2	Pressure Transmitter - Discharge (0 to 15 Bar)	NO	13		2,649.10					2,649.10	34,438.30
7.2.1.3	Pressure Switch - Suction (-1 to 2 bar)	NO	9		4,754.80					4,754.80	42,793.20
7.2.1.4	Pressure Gauge - Suction (-1 to 2 bar)	NO	9		4,754.80					4,754.80	42,793.20
7.2.1.5	Pressure Switch - Discharge (0 to 15 Bar)	NO	9		4,754.80					4,754.80	42,793.20
7.2.1.6	Pressure Gauge - Discharge (0 to 15 Bar)	NO	9		4,754.80					4,754.80	42,793.20
7.2.1.7	Level Switch	NO	6		6,113.31					6,113.31	36,679.86
7.2.1.8	Pressure Gauge - Discharge (0 to 2 Bar)	NO	8		4,415.17					4,415.17	35,321.36
7.2.2	<u>Inlet &amp; Bypass</u>										
7.2.2.1	pH Analyser (0 -14)	NO	6		8,660.52					8,660.52	51,963.12
7.2.2.2	Chlorine Analyser (0 – 2 mg/l)	NO	6		20,173.92					20,173.92	121,043.52
7.2.2.3	Oxidising Reducing Potential (-1500 mv to + 1500 mv)	NO	6		8,674.10					8,674.10	52,044.60
7.2.2.4	Turbidity Analyser (0 – 5 NTU)	NO	6		12,311.52					12,311.52	73,869.12

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 7 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Instrumentation & Control Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
7.2.2.5	Conductivity Analyser (50 µS/m to 500 µS/m)	NO	6		9,611.48				9,611.48	57,668.88	
7.2.2.6	Temparature Transmeter	NO	6		2,886.84				2,886.84	17,321.04	
7.2.2.7	Chlorine dioxide Analyser (0 – 2 mg/l)	NO	6		13,126.64				13,126.64	78,759.84	
7.2.2.8	Pressure Transmitter (0 to 15 Bar)	NO	6		2,649.10				2,649.10	15,894.60	
<b>Subtotal for 7.2</b>											<b>780,615.34</b>

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 7 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Instrumentation & Control Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
7.3	<b>Auxiliary Pumping Station</b>										
7.3.1	<b>Drain Down Pumps</b>										
7.3.1.1	Pressure Transmitter - Suction (-1 to 2 bar)	NO	3		2,649.10					2,649.10	7,947.30
7.3.1.2	Pressure Transmitter - Discharge (0 to 2 Bar)	NO	3		2,649.10					2,649.10	7,947.30
7.3.1.3	Pressure Switch - Suction (-1 to 2 bar)	NO	2		4,754.80					4,754.80	9,509.60
7.3.1.4	Pressure Switch - Discharge (0 to 2 Bar)	NO	2		4,754.80					4,754.80	9,509.60
7.3.1.5	Pressure Gauge - Suction (-1 to 2 bar)	NO	2		4,754.80					4,754.80	9,509.60
7.3.1.6	Pressure Gauge - Discharge (0 to 2 Bar)	NO	2		4,754.80					4,754.80	9,509.60
7.3.2	<b>Scour Pumps</b>										
7.3.2.1	Pressure Transmitter - Suction (-1 to 2 bar)	NO	3		2,649.10					2,649.10	7,947.30
7.3.2.2	Pressure Transmitter - Discharge (0 to 1.5 Bar)	NO	3		2,649.10					2,649.10	7,947.30
7.3.2.3	Pressure Switch - Suction (-1 to 2 bar)	NO	2		4,754.80					4,754.80	9,509.60
7.3.2.4	Pressure Switch - Discharge (0 to 1.5 Bar)	NO	2		4,754.80					4,754.80	9,509.60
7.3.2.5	Pressure Gauge - Suction (-1 to 2 bar)	NO	2		4,754.80					4,754.80	9,509.60
7.3.2.6	Pressure Gauge - Discharge (0 to 1.5 Bar)	NO	2		4,754.80					4,754.80	9,509.60
7.3.2.7	Level Transmitter - Ultrasonic type	NO	2		3,752.90					3,752.90	7,505.80

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 7 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Instrumentation & Control Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
7.3.3	<b>Recirculation Pumps</b>										
7.3.3.1	Pressure Transmitter - Suction (-1 to 2 bar)	NO	6		2,649.10					2,649.10	15,894.60
7.3.3.2	Pressure Transmitter - Discharge (0 to 2 Bar)	NO	6		2,649.10					2,649.10	15,894.60
7.3.3.3	Pressure Switch - Suction (-1 to 2 bar)	NO	4		4,754.80					4,754.80	19,019.20
7.3.3.4	Pressure Switch - Discharge (0 to 2 Bar)	NO	4		4,754.80					4,754.80	19,019.20
7.3.3.5	Pressure Gauge - Suction (-1 to 2 bar)	NO	4		4,754.80					4,754.80	19,019.20
7.3.3.6	Pressure Gauge - Discharge (0 to 2 Bar)	NO	4		4,754.80					4,754.80	19,019.20
<b>Subtotal for 7.3</b>											223,237.80

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 7 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Instrumentation & Control Equipment					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$	
7.4	<b>TFS Pumping Station</b>									
7.4.1	Pressure Transmitter - Suction (-1 to 2 bar)	NO	1		2,649.10				2,649.10	2,649.10
7.4.2	Pressure Transmitter - Discharge (0 to 2 Bar)	NO	1		2,649.10				2,649.10	2,649.10
7.4.3	Level Switch	NO	10		6,113.31				6,113.31	61,133.10
	<b>Subtotal for 7.4</b>									66,431.30

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 7 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Instrumentation & Control Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT (7)=(2)+(3)+(4) +(5)+(6)		
7.5	<u>Utility Pumping Station</u>										
7.5.1	<u>Potable Water and Irrigation</u>										
7.5.1.1	Pressure Transmitter - Suction (-1 to 2 bar)	NO	4		2,649.10				2,649.10	10,596.40	
7.5.1.2	Pressure Transmitter - Discharge (0 - 6 bar)	NO	4		2,649.10				2,649.10	10,596.40	
7.5.1.3	Pressure Switch - Suction (-1 to 2 bar)	NO	4		4,754.80				4,754.80	19,019.20	
7.5.1.4	Pressure Switch - Discharge (0 - 6 bar)	NO	4		4,754.80				4,754.80	19,019.20	
7.5.1.5	Pressure Gauge - Suction (-1 to 2 bar)	NO	4		4,754.80				4,754.80	19,019.20	
7.5.1.6	Pressure Gauge - Discharge (0 - 6 bar)	NO	4		4,754.80				4,754.80	19,019.20	
7.5.2	<u>Fire Pump</u>										
7.5.2.1	Pressure Transmitter (0 - 14 bar)	NO	1		4,727.62				4,727.62	4,727.62	
7.5.2.2	Deleted (Included in Bill 6)										
7.5.2.3	Pressure Gauge - Suction (-1 to 2 bar)	NO	3		4,754.80				4,754.80	14,264.40	
7.5.2.4	Pressure Gauge - Discharge (0 to 14 Bar)	NO	2		4,754.80				4,754.80	9,509.60	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 7 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Instrumentation & Control Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
7.5.3	<u>Potable Water, Irrigation and Fire Fighting</u> <u>Overall</u>										
7.5.3.1	Level Transmitter - Ultrasonic type (0-10m)	NO	5		12,905.88					12,905.88	64,529.40
7.5.3.2	Pressure Transmitter - (0 - 6 bar)	NO	2		4,727.63					4,727.63	9,455.26
7.5.3.3	Level Gauge (0-5m)	NO	5		4,415.17					4,415.17	22,075.85
7.5.3.4	Pressure Transmitter - Suction (-1 to 2 bar)	NO	2		2,649.10					2,649.10	5,298.20
7.5.3.5	Pressure Transmitter - (0 - 10 bar)	NO	2		4,727.63					4,727.63	9,455.26
7.5.3.6	Pressure Gauge (0 - 6 bar)	NO	1		4,415.17					4,415.17	4,415.17
7.5.3.7	Pressure Gauge (0 - 10 bar)	NO	1		4,415.17					4,415.17	4,415.17
<b>Subtotal for 7.5</b>											245,415.53

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES						BILL NO: 7 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Instrumentation & Control Equipment						Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)	
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT $(7)=(2)+(3)+(4)+(5)+(6)$		
7.6	<b>Compressor Building</b>										
7.6.1	Pressure Transmitter	NO	6		4,727.62				4,727.62	28,365.72	
7.6.2	Pressure Gauge	NO	6		4,415.17				4,415.17	26,491.02	
	<b>Subtotal for 7.6</b>									54,856.74	

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 7 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Instrumentation & Control Equipment					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT	
7.7	<u>Land and Under Floor Drainage Lift Station</u>	NO	3		6,113.31					6,113.31
7.7.1	Level Switch									18,339.93
	<b>Subtotal for 7.7</b>									18,339.93

PROJECT: WATER SECURITY MEGA RESERVOIR				BILL OF QUANTITIES					BILL NO: 7 Materials Supply	
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A				Supply of Instrumentation & Control Equipment					Rev. 03	
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY. (1)	RATE QR						AMOUNT (QR) (8)=(7)x(1)
				USD PART (2)	EUR PART (3)	GBP PART (4)	JPY PART (5)	QAR PART (6)	UNIT	
	<b>BILL NO. 7 - COLLECTION</b>									
	Subtotal for 7.1									1,160,578.08
	Subtotal for 7.2									780,615.34
	Subtotal for 7.3									223,237.80
	Subtotal for 7.4									66,431.30
	Subtotal for 7.5									245,415.53
	Subtotal for 7.6									54,856.74
	Subtotal for 7.7									18,339.93
	<b>Carried Forward to General Summary</b>									<b>2,549,474.72</b>

PROJECT: WATER SECURITY MEGA RESERVOIR	BILL OF QUANTITIES	BILL NO: 8 Civil Works
G/ V626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A		Rev 03

**Bill No. 8 - PRPS 1**

**WATER SECURITY MEGARESERVOIR:  
Construction of Mega reservoir**

**GTC/626A/2014**

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 8 Civil Works
C/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.1	<b>Items shall include for all necessary works in accordance with the drawings and specification</b>				
8.1.1	Site Grading - Cut and fill for proper levels and lines, including disposal of surplus material away from site.	LS		-	Included
8.1.2	Removing of stockpiles away from site.	LS		16,144,341.74	16,144,341.74
8.1.3	Supply and Construct new Boundary wall around the perimeter of the new site.	LM	4,600	4,091.58	18,821,268.00
8.1.4	11.5 m wide 4 m high electrically operated gates at main entrance/exit.	NO	2	60,733.29	121,466.58
8.1.5	11.5 m wide 4 m high electrically operated gates at tanker filling station entrance/exit.	NO	2	60,733.29	121,466.58
8.2	<b><u>Construction of reinforced concrete reservoirs (4 Nr.)</u></b>				
	<b>Scope shall include initial tests, swabbing, sterilizing, flushing , draining and all other works required for a complete installation.</b>				
8.2.1	Reservoir No. 1 complete	NO	1	244,594,532.68	244,594,532.68
8.2.2	Reservoir No. 2 complete	NO	1	245,130,665.69	245,130,665.69
8.2.3	Reservoir No. 3 complete	NO	1	241,285,831.97	241,285,831.97
8.2.4	Reservoir No. 4 complete	NO	1	238,664,765.43	238,664,765.43
8.3	<b><u>Construction of Pumping Stations</u></b>				
	<b>Scope shall include all works required for a complete installation.</b>				
8.3.1	<b>Main Pump Station/ Control Building</b>				
8.3.1.1	Excavation and Earthworks	LS		6,083,085.72	6,083,085.72
8.3.1.2	Design and construct piles	LS		6,652,397.19	6,652,397.19
8.3.1.3	Mass concrete blinding	LS		1,268,901.50	1,268,901.50
8.3.1.4	RC Base slab	LS		8,326,243.44	8,326,243.44
8.3.1.5	RC slab at grade	LS		432,780.83	432,780.83
8.3.1.6	Isolated column footings and strip/raft foundation	LS		227,381.37	227,381.37
8.3.1.7	RC Columns	LS		7,216,158.61	7,216,158.61
8.3.1.8	Subgrade concrete protection	LS		-	Included
8.3.1.9	Pre-tendon concrete beams	LS		2,248,588.23	2,248,588.23
8.3.1.10	RC pre-cast hollow core roof slab	LS		1,506,918.67	1,506,918.67
	<b>Carried Forward to Collection</b>				1,038,846,794.23

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 8 Civil Works
C/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.3.1.11	RC Beams and Roof Slab	LS		1,898,302.11	1,898,302.11
8.3.1.12	Roof Slabs (other suspended slabs)	LS		3,818,169.73	3,818,169.73
8.3.1.13	Roof Finishes (Protection/ Insulation)	LS		971,783.92	971,783.92
8.3.1.14	RC Pre-cast concrete stairs	LS		671,127.80	671,127.80
8.3.1.15	Block work walls	LS		1,811,830.05	1,811,830.05
8.3.1.16	Floor finishes	LS		1,049,964.79	1,049,964.79
8.3.1.17	Wall and ceiling finishes	LS		4,423,099.25	4,423,099.25
8.3.1.18	Doors,	LS		909,706.33	909,706.33
8.3.1.19	Windows	LS		407,514.50	407,514.50
8.3.1.20	Architectural cladding	LS		-	Included
8.3.1.21	Structural steel beams for overhead crane	LS		139,331.94	139,331.94
8.3.1.22	Structural steel for stairs and walkways	LS		1,482,889.98	1,482,889.98
8.3.1.23	Metalwork ( Walkways, stairs, ladders, Handrails etc.)	LS		5,396,257.77	5,396,257.77
8.3.1.24	Trench/chamber covers	LS		286,731.73	286,731.73
8.3.1.25	Sealing of joints and pipe penetration	LS		-	Included
8.3.1.26	All other works where not included above.	LS		2,926,686.43	2,926,686.43
8.3.2	<b>Auxiliary Pumping Station</b>				
8.3.2.1	Excavation and Earthworks	LS		1,953,006.21	1,953,006.21
8.3.2.2	Mass concrete blinding	LS		576,694.93	576,694.93
8.3.2.3	RC Base slab	LS		1,552,203.09	1,552,203.09
8.3.2.4	Slab at grade	LS		20,607.12	20,607.12
8.3.2.5	Isolated column footings and strip/raft foundation	LS		24,071.26	24,071.26
8.3.2.6	RC Columns	LS		1,701,858.75	1,701,858.75
8.3.2.7	Subgrade concrete protection	LS		-	Included
8.3.2.8	RC Beams and Roof Slab	LS		326,088.75	326,088.75
8.3.2.9	RC Pre-cast concrete roof parapet	LS		31,380.00	31,380.00
8.3.2.10	Roof Slabs (other suspended slabs)	LS		206,190.16	206,190.16
	<b>Carried Forward to Collection</b>				32,585,496.60

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 8 Civil Works
C/626A/2014, Construction of Mega Reservoir PRPS at Umm Birkha - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.3.2.11	Roof Finishes (Protection/ Insulation)	LS		12,593.67	12,593.67
8.3.2.12	Block work walls	LS		54,000.17	54,000.17
8.3.2.13	Floor finishes	LS		5,404.94	5,404.94
8.3.2.14	Wall and ceiling finishes	LS		39,599.94	39,599.94
8.3.2.15	Doors	LS		5,880.25	5,880.25
8.3.2.16	Windows	LS		-	Included
8.3.2.17	Architectural cladding	LS		89,236.75	89,236.75
8.3.2.18	Metalwork ( Walkways, stairs, ladders, Handrails etc.)	LS		193,939.09	193,939.09
8.3.2.19	Trench/chamber covers	LS		7,758.62	7,758.62
8.3.2.20	Sealing of joints and pipe penetration	LS		-	Included
8.3.2.21	All other works where not included above.	LS		431,496.55	431,496.55
8.3.3	<b>Tanker Filling Pump Station</b>	LS			
8.3.3.1	Excavation and Earthworks	LS		422,598.61	422,598.61
8.3.3.2	Slab at grade	LS		255,491.10	255,491.10
8.3.3.3	Isolated column footings and strip/raft foundation	LS		355,595.50	355,595.50
8.3.3.4	RC Columns	LS		462,690.46	462,690.46
8.3.3.5	Subgrade concrete protection	LS		-	Included
8.3.3.6	RC Beams and Roof Slab	LS		152,240.93	152,240.93
8.3.3.7	RC Pre-cast concrete roof parapet	LS		23,448.34	23,448.34
8.3.3.8	Roof Finishes (Protection/ Insulation)	LS		6,957.64	6,957.64
8.3.3.9	Block work walls	LS		43,506.18	43,506.18
8.3.3.10	Floor finishes	LS		2,460.32	2,460.32
8.3.3.11	Wall and ceiling finishes	LS		29,610.80	29,610.80
8.3.3.12	Doors	LS		5,880.25	5,880.25
8.3.3.13	Windows	LS		-	Included
8.3.3.14	Architectural cladding	LS		50,933.53	50,933.53
8.3.3.15	Metalwork ( Handrails etc.)	LS		18,668.15	18,668.15
8.3.3.16	Trench/chamber covers	LS		5,534.34	5,534.34
8.3.3.17	Sealing of joints and pipe penetration	LS		-	Included
8.3.3.18	All other works where not included above.	LS		160,542.81	160,542.81
<b>Carried Forward to Collection</b>					2,836,068.94

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 8 Civil Works
GCC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.3.4	<b>Utility Pump Station (Fire/Potable/Irrigation), all water tanks, valve chambers and related pipe works</b>				
8.3.4.1	<b>Pump Station</b>				
8.3.4.1.1	Excavation and Earthworks	LS		31,335.50	31,335.50
8.3.4.1.2	Slab at grade	LS		55,572.74	55,572.74
8.3.4.1.3	Isolated column footings and strip/raft foundation	LS		50,837.48	50,837.48
8.3.4.1.4	RC Columns	LS		79,777.49	79,777.49
8.3.4.1.5	Subgrade concrete protection	LS		-	Included
8.3.4.1.6	RC Beams and Roof Slab	LS		86,684.50	86,684.50
8.3.4.1.7	RC Pre-cast concrete roof parapet	LS		52,277.55	52,277.55
8.3.4.1.8	Roof Finishes (Protection/ Insulation)	LS		19,574.94	19,574.94
8.3.4.1.9	Block work walls	LS		103,021.52	103,021.52
8.3.4.1.10	Floor finishes	LS		6,124.06	6,124.06
8.3.4.1.11	Wall and ceiling finishes	LS		94,905.49	94,905.49
8.3.4.1.12	Doors	LS		20,258.42	20,258.42
8.3.4.1.13	Windows	LS		-	Included
8.3.4.1.14	Architectural cladding	LS		103,913.58	103,913.58
8.3.4.1.15	Structural steel beams for overhead crane	LS		7,464.21	7,464.21
8.3.4.1.16	Metalwork ( Handrails etc.)	LS		43,252.72	43,252.72
8.3.4.1.17	Trench/chamber covers	LS		7,816.60	7,816.60
8.3.4.1.18	Sealing of joints and pipe penetration	LS		-	Included
8.3.4.1.19	All other works where not included above.	LS		133,262.38	133,262.38
	<b>Utility Storage Tanks</b>				
8.3.4.2	145 m <sup>3</sup> capacity Fire Water Tank and Valve chambers including all related pipe works	LS		403,217.97	403,217.97
8.3.4.3	30 m <sup>3</sup> capacity Irrigation Water Tank and Valve chambers including all related pipe works	LS		145,121.58	145,121.58
8.3.4.4	10 m <sup>3</sup> capacity Potable Water Tank and Valve chambers including all related pipe works	LS		64,808.91	64,808.91
	<b>Carried Forward to Collection</b>				1,509,227.64

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 8 Civil Works
C/626A/2014, Construction of Mega Reservoir PRPS at Umm Birkha - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.4	<b><u>Site Buildings</u></b>  Supply materials and construct site buildings.				
8.4.1	<b>Chlorination Building</b>				
8.4.1.1	Excavation and Earthworks	LS	100,320.54	100,320.54	
8.4.1.2	Slab at grade	LS	144,424.97	144,424.97	
8.4.1.3	Isolated column footings and strip/raft foundation	LS	172,797.60	172,797.60	
8.4.1.4	RC Columns	LS	200,286.07	200,286.07	
8.4.1.5	Subgrade concrete protection	LS	-		Included
8.4.1.6	RC Beams and Roof Slab	LS	362,887.17	362,887.17	
8.4.1.7	RC Pre-cast concrete roof parapet	LS	131,542.84	131,542.84	
8.4.1.8	Roof Finishes (Protection/ Insulation)	LS	75,472.71	75,472.71	
8.4.1.9	Block work walls	LS	429,722.80	429,722.80	
8.4.1.10	Floor finishes	LS	34,930.55	34,930.55	
8.4.1.11	Wall and ceiling finishes	LS	380,434.25	380,434.25	
8.4.1.12	Doors	LS	198,977.08	198,977.08	
8.4.1.13	Windows	LS	11,922.67	11,922.67	
8.4.1.14	Architectural cladding	LS	264,510.74	264,510.74	
8.4.1.15	Metalwork ( Handrails etc.)	LS	109,818.24	109,818.24	
8.4.1.16	Trench/chamber covers	LS	12,286.24	12,286.24	
8.4.1.17	Structural steel beams for overhead crane	LS	67,974.08	67,974.08	
8.4.1.18	All other works where not included above.	LS	483,993.40	483,993.40	
8.4.2	<b>Air Compressor Building</b>				
8.4.2.1	Excavation and Earthworks	LS	60,014.41	60,014.41	
8.4.2.2	Slab at grade	LS	94,176.90	94,176.90	
	<b>Carried Forward to Collection</b>				3,336,493.26

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 8 Civil Works
C/626A/2014, Construction of Mega Reservoir PRPS at Umm Birkha - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.4.2.3	Isolated column footings and strip/raft foundation	LS		98,797.02	98,797.02
8.4.2.4	RC Columns	LS		126,044.39	126,044.39
8.4.2.5	Subgrade concrete protection	LS		-	Included
8.4.2.6	RC Beams and Roof Slab	LS		169,253.65	169,253.65
8.4.2.7	RC Pre-cast concrete roof parapet	LS		63,579.66	63,579.66
8.4.2.8	Roof Finishes (Protection/ Insulation)	LS		40,165.07	40,165.07
8.4.2.9	Block work walls	LS		116,552.32	116,552.32
8.4.2.10	Floor finishes	LS		11,137.57	11,137.57
8.4.2.11	Wall and ceiling finishes	LS		120,863.08	120,863.08
8.4.2.12	Doors	LS		218,000.09	218,000.09
8.4.2.13	Windows	LS		7,969.56	7,969.56
8.4.2.14	Architectural cladding	LS		84,051.79	84,051.79
8.4.2.15	Metalwork ( Handrails etc.)	LS		36,860.78	36,860.78
8.4.2.16	Trench/chamber covers	LS		12,713.18	12,713.18
8.4.2.17	All other works where not included above.	LS		221,802.56	221,802.56
8.4.3	<b>Water Testing Facility Building</b>				
8.4.3.1	Excavation and Earthworks	LS		44,439.69	44,439.69
8.4.3.2	Slab at grade	LS		32,044.84	32,044.84
8.4.3.3	Isolated column footings and strip/raft foundation	LS		144,284.60	144,284.60
8.4.3.4	RC Columns	LS		41,791.45	41,791.45
8.4.3.5	Subgrade concrete protection	LS		-	Included
8.4.3.6	RC Beams and Roof Slab	LS		138,323.71	138,323.71
8.4.3.7	RC Pre-cast concrete roof parapet	LS		50,766.81	50,766.81
	<b>Carried Forward to Collection</b>				1,779,441.82

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 8 Civil Works
C/626A/2014, Construction of Mega Reservoir PRPS at Umm Birkha - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.4.3.8	Roof Finishes (Protection/ Insulation)	LS		28,085.39	28,085.39
8.4.3.9	Block work walls	LS		125,000.70	125,000.70
8.4.3.10	Floor finishes	LS		133,024.51	133,024.51
8.4.3.11	Wall and ceiling finishes	LS		203,506.13	203,506.13
8.4.3.12	Doors	LS		94,001.17	94,001.17
8.4.3.13	Windows	LS		26,087.86	26,087.86
4.3.14	Architectural cladding	LS		121,316.48	121,316.48
8.4.3.15	Metalwork ( Handrails etc.)	LS		32,809.89	32,809.89
8.4.3.16	All other works where not included above.	LS		220,409.17	220,409.17
3.4.4	<b>MV and Generator Building</b>				
8.4.4.1	Excavation and Earthworks	LS		618,639.24	618,639.24
8.4.4.2	Mass concrete blinding	LS		73,298.67	73,298.67
8.4.4.3	RC Base slab	LS		495,912.51	495,912.51
8.4.4.4	Slab at grade	LS		181,652.16	181,652.16
8.4.4.5	Isolated column footings and strip/raft foundation	LS		264,416.30	264,416.30
8.4.4.6	RC Columns	LS		730,177.19	730,177.19
8.4.4.7	Subgrade concrete protection	LS		-	Included
8.4.4.8	RC Beams and Roof Slab	LS		394,085.10	394,085.10
8.4.4.9	Roof Slabs (others suspended slabs)	LS		711,870.00	711,870.00
8.4.4.10	RC Pre-cast concrete roof parapet	LS		180,289.07	180,289.07
8.4.4.11	Roof Finishes (Protection/ Insulation)	LS		181,871.81	181,871.81
8.4.4.12	Block work walls	LS		492,883.13	492,883.13
8.4.4.13	Floor finishes	LS		76,213.64	76,213.64
	<b>Carried Forward to Collection</b>				5,385,550.12

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 8 Civil Works
C/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.4.4.14	Wall and ceiling finishes	LS		550,803.38	550,803.38
8.4.4.15	Doors	LS		114,094.44	114,094.44
8.4.4.16	Windows	LS		172,447.11	172,447.11
8.4.4.17	Architectural cladding	LS		361,307.37	361,307.37
8.4.4.18	Metalwork ( Handrails etc.)	LS		145,516.03	145,516.03
8.4.4.19	Trench/chamber covers	LS		48,497.92	48,497.92
4.4.20	All other works where not included above.	LS		517,292.22	517,292.22
8.4.5	<b>Maintenance workshop Building</b>				
8.4.5.1	Excavation and Earthworks	LS		98,602.22	98,602.22
8.4.5.2	Slab at grade	LS		138,746.56	138,746.56
8.4.5.3	Isolated column footings and strip/raft foundation	LS		157,581.33	157,581.33
8.4.5.4	RC Columns	LS		126,466.70	126,466.70
8.4.5.5	Subgrade concrete protection	LS		-	Included
8.4.5.6	RC Beams and Roof Slab	LS		343,182.65	343,182.65
8.4.5.7	RC Pre-cast concrete roof parapet	LS		120,982.09	120,982.09
8.4.5.8	Roof Finishes (Protection/ Insulation)	LS		70,825.44	70,825.44
8.4.5.9	Block work walls	LS		316,076.20	316,076.20
8.4.5.10	Floor finishes	LS		71,142.77	71,142.77
8.4.5.11	Wall and ceiling finishes	LS		416,401.04	416,401.04
8.4.5.12	Doors	LS		270,605.47	270,605.47
8.4.5.13	Windows	LS		24,569.48	24,569.48
8.4.5.14	Architectural cladding	LS		179,458.61	179,458.61
8.4.5.15	Structural steel beams for overhead crane	LS		32,743.02	32,743.02
	<b>Carried Forward to Collection</b>				4,277,342.05

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.4.5.16	Metalwork ( Handrails etc.)	LS		82,358.78	82,358.78
8.4.5.17	All other works where not included above.	LS		272,781.99	272,781.99
8.4.6	<b>Main Guard House Building</b>				
8.4.6.1	Excavation and Earthworks	LS		26,098.55	26,098.55
8.4.6.2	Slab at grade	LS		18,381.80	18,381.80
8.4.6.3	Isolated column footings and strip/raft foundation	LS		84,950.30	84,950.30
8.4.6.4	RC Columns	LS		103,560.97	103,560.97
8.4.6.5	Subgrade concrete protection	LS		-	Included
8.4.6.6	RC Beams and Roof Slab	LS		416,393.58	416,393.58
8.4.6.7	RC Pre-cast concrete roof parapet	LS		-	Included
8.4.6.8	Roof Finishes (Protection/ Insulation)	LS		79,982.08	79,982.08
8.4.6.9	Block work walls	LS		75,368.16	75,368.16
8.4.6.10	Floor finishes	LS		13,079.52	13,079.52
8.4.6.11	Wall and ceiling finishes	LS		140,323.43	140,323.43
8.4.6.12	Doors	LS		25,759.21	25,759.21
8.4.6.13	Windows	LS		23,662.93	23,662.93
8.4.6.14	Architectural cladding	LS		69,840.80	69,840.80
8.4.6.15	Metalwork ( Handrails etc.)	LS		29,428.83	29,428.83
8.4.6.16	All other works where not included above.	LS		76,317.94	76,317.94
8.4.7	<b>Tanker Filling Station Guard House (2 No. Buildings)</b>				
8.4.7.1	Excavation and Earthworks	LS		22,371.19	22,371.19
8.4.7.2	Slab at grade	LS		18,692.60	18,692.60
8.4.7.3	Isolated column footings and strip/raft foundation	LS		40,315.70	40,315.70
	<b>Carried Forward to Collection</b>				1,619,668.36

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GCC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.4.7.4	RC Columns	LS		22,922.40	22,922.40
8.4.7.5	Subgrade concrete protection	LS		-	Included
8.4.7.6	RC Beams and Roof Slab	LS		42,213.55	42,213.55
8.4.7.7	RC Pre-cast concrete roof parapet	LS		33,736.80	33,736.80
8.4.7.8	Roof Finishes (Protection/ Insulation)	LS		7,238.93	7,238.93
8.4.7.9	Block work walls	LS		67,540.94	67,540.94
8.4.7.10	Floor finishes	LS		11,170.81	11,170.81
8.4.7.11	Wall and ceiling finishes	LS		57,269.87	57,269.87
8.4.7.12	Doors	LS		11,088.27	11,088.27
8.4.7.13	Windows	LS		18,834.05	18,834.05
8.4.7.14	Architectural cladding	LS		86,151.76	86,151.76
8.4.7.15	Metalwork ( Handrails etc.)	LS		20,521.07	20,521.07
8.4.7.16	All other works where not included above.	LS		96,250.29	96,250.29
8.4.8	<b>Remote Generator Building</b>				
8.4.8.1	Excavation and Earthworks	LS		36,716.85	36,716.85
8.4.8.2	Slab at grade	LS		42,591.50	42,591.50
8.4.8.3	Isolated column footings and strip/raft foundation	LS		42,420.40	42,420.40
8.4.8.4	RC Columns	LS		42,192.71	42,192.71
8.4.8.5	Subgrade concrete protection	LS		-	Included
8.4.8.6	RC Beams and Roof Slab	LS		78,658.54	78,658.54
8.4.8.7	RC Pre-cast concrete roof parapet	LS		37,001.55	37,001.55
8.4.8.8	Roof Finishes (Protection/ Insulation)	LS		14,381.84	14,381.84
8.4.8.9	Block work walls	LS		78,550.36	78,550.36
8.4.8.10	Floor finishes	LS		4,483.09	4,483.09
8.4.8.11	Wall and ceiling finishes	LS		55,711.18	55,711.18
<b>Carried Forward to Collection</b>					907,646.76

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.4.8.12	Doors	LS		8,186.24	8,186.24
8.4.8.13	Windows	LS		20,125.94	20,125.94
8.4.8.14	Architectural cladding	LS		97,590.80	97,590.80
8.4.8.15	Trench/chamber covers	LS		31,940.18	31,940.18
8.4.8.16	Metalwork ( Handrails etc.)	LS		30,673.39	30,673.39
8.4.8.17	All other works where not included above.	LS		80,543.26	80,543.26
8.4.9	<b>Remote Substation Building ( 2 No. Buildings)</b>				
8.4.9.1	Excavation and Earthworks	LS		68,168.17	68,168.17
8.4.9.2	Slab at grade	LS		103,541.57	103,541.57
8.4.9.3	Isolated column footings and strip/raft foundation	LS		78,059.35	78,059.35
8.4.9.4	RC Columns	LS		96,436.17	96,436.17
8.4.9.5	Subgrade concrete protection	LS		-	Included
8.4.9.6	RC Beams and Roof Slab	LS		146,338.13	146,338.13
8.4.9.7	RC Pre-cast concrete roof parapet	LS		66,004.27	66,004.27
8.4.9.8	Roof Finishes (Protection/ Insulation)	LS		32,727.03	32,727.03
8.4.9.9	Block work walls	LS		175,848.22	175,848.22
8.4.9.10	Floor finishes	LS		10,076.56	10,076.56
8.4.9.11	Wall and ceiling finishes	LS		125,898.42	125,898.42
8.4.9.12	Doors	LS		20,988.63	20,988.63
8.4.9.13	Windows	LS		-	Included
8.4.9.14	Architectural cladding	LS		184,307.61	184,307.61
8.4.9.15	Trench/chamber covers	LS		94,370.48	94,370.48
8.4.9.16	Metalwork ( Handrails etc.)	LS		69,359.48	69,359.48
8.4.9.17	All other works where not included above.	LS		187,350.58	187,350.58
	<b>Carried Forward to Collection</b>				1,728,534.48

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.4.10	<b>Remote Substation Building at Reservoirs (2 No. Buildings)</b>				
8.4.10.1	Excavation and Earthworks	LS		109,210.59	109,210.59
8.4.10.2	Slab at grade	LS		148,160.36	148,160.36
8.4.10.3	Isolated column footings and strip/raft foundation	LS		134,657.21	134,657.21
8.4.10.4	RC Columns	LS		169,576.35	169,576.35
8.4.10.5	Subgrade concrete protection	LS		-	Included
8.4.10.6	RC Beams and Roof Slab	LS		214,273.31	214,273.31
8.4.10.7	RC Pre-cast concrete roof parapet	LS		102,133.66	102,133.66
8.4.10.8	Roof Finishes (Protection/ Insulation)	LS		40,055.10	40,055.10
8.4.10.9	Block work walls	LS		245,981.46	245,981.46
8.4.10.10	Floor finishes	LS		13,387.81	13,387.81
8.4.10.11	Wall and ceiling finishes	LS		175,287.07	175,287.07
8.4.10.12	Doors	LS		69,576.83	69,576.83
8.4.10.13	Windows	LS		6,833.11	6,833.11
8.4.10.14	Architectural cladding	LS		262,395.50	262,395.50
8.4.10.15	Trench/chamber covers	LS		145,004.48	145,004.48
8.4.10.16	Metalwork ( Handrails etc.)	LS		99,074.87	99,074.87
8.4.10.17	All other works where not included above.	LS		211,347.44	211,347.44
8.4.11	<b>Water Quality Monitoring Building (4 No. Buildings)</b>				
8.4.11.1	Excavation and Earthworks	LS		24,489.45	24,489.45
8.4.11.2	Slab at grade	LS		12,119.26	12,119.26
8.4.11.3	Isolated column footings and strip/raft foundation	LS		36,524.99	36,524.99
8.4.11.4	RC Columns	LS		185,774.79	185,774.79
8.4.11.5	Subgrade concrete protection	LS		-	Included
	<b>Carried Forward to Collection</b>				2,405,863.64

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.4.11.6	RC Beams and Roof Slab	LS		41,350.53	41,350.53
8.4.11.7	RC Pre-cast concrete roof parapet	LS		28,203.03	28,203.03
8.4.11.8	Roof Finishes (Protection/ Insulation)	LS		5,765.47	5,765.47
8.4.11.9	Block work walls	LS		70,385.45	70,385.45
8.4.11.10	Floor finishes	LS		1,965.97	1,965.97
8.4.11.11	Wall and ceiling finishes	LS		62,040.05	62,040.05
4.11.12	Doors	LS		12,288.68	12,288.68
8.4.11.13	Windows	LS		17,402.98	17,402.98
8.4.11.14	Architectural cladding	LS		125,921.12	125,921.12
8.4.11.15	Metalwork ( Handrails etc.)	LS		56,303.27	56,303.27
8.4.11.16	All other works where not included above.	LS		93,473.37	93,473.37
8.4.12	<b>KIOSK Buildings at Scour drain down valve, Surge Vessel and Inlet Chamber locations. ( 7 No. Buildings)</b>				
8.4.12.1	Excavation and Earthworks	LS		34,285.18	34,285.18
8.4.12.2	Slab at grade	LS		16,966.97	16,966.97
8.4.12.3	Isolated column footings and strip/raft foundation	LS		51,134.97	51,134.97
8.4.12.4	RC Columns	LS		260,084.73	260,084.73
8.4.12.5	Subgrade concrete protection	LS		-	Included
8.4.12.6	RC Beams and Roof Slab	LS		57,890.71	57,890.71
8.4.12.7	RC Pre-cast concrete roof parapet	LS		39,484.27	39,484.27
8.4.12.8	Roof Finishes (Protection/ Insulation)	LS		8,071.75	8,071.75
8.4.12.9	Block work walls	LS		98,539.65	98,539.65
8.4.12.10	Floor finishes	LS		2,752.36	2,752.36
8.4.12.11	Wall and ceiling finishes	LS		86,856.11	86,856.11
	<b>Carried Forward to Collection</b>				1,171,166.62

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.4.12.12	Doors	LS		17,204.15	17,204.15
8.4.12.13	Windows	LS		24,364.17	24,364.17
8.4.12.14	Architectural cladding	LS		176,289.57	176,289.57
8.4.12.15	Metalwork ( Handrails etc.)	LS		78,824.59	78,824.59
8.4.12.16	All other works where not included above.	LS		160,044.80	160,044.80
8.5	<b><u>Other Structures</u></b> <b>Supply materials and construct supporting structures</b>				
8.5.1	Main Bulk fuel storage Facility	NO	1	1,079,176.55	1,079,176.55
8.5.2	Single Bulk fuel storage Facility	NO	2	274,036.77	548,073.54
8.5.3	<b>Drainage Lagoons maximum 6.5 m deep as shown on drawings. The work shall include civil, structural and miscellaneous works as shown on drawing. hydraulic tests to be preformed by the contractor.</b>				
8.5.3.1	Lagoon No 1	NO	1	67,287,802.01	67,287,802.01
8.5.3.2	Lagoon No 2	NO	1	40,379,083.22	40,379,083.22
8.5.3.3	Lagoon No 3 (Standby)	NO	1	16,710,840.03	16,710,840.03
8.5.4	Surge suppression plant as per contractor's design	LS		3,089,415.66	3,089,415.66
8.5.5	Tanker Filling Station area including necessary civil works for tanker fill stations	LS		2,447,930.60	2,447,930.60
8.5.6	Cable Gallery between Main Pump Station and MV /Generator Building	LS		833,671.72	833,671.72
8.6	<b><u>Site Works</u></b> <b>Supply materials and construct integrated permanent site facilities as per drawings and specifications with all necessary miscellaneous works.</b>				
8.6.1	Internal road network and parking areas including curbing, shall include shaded parking, road markings and road signs etc.	LS		35,047,637.01	35,047,637.01
8.6.2	Main access road to PRPS site and external parking areas including paving, shall include shaded parking, road markings and road signs etc.	LS		12,232,137.17	12,232,137.17
	<b>Carried Forward to Collection</b>				180,112,494.79

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.6.3	<b>Landscaping</b>				
8.6.3.1	Hard Landscaping	LS		4,476,428.63	4,476,428.63
8.6.3.2	Soft Landscaping	LS		418,812.38	418,812.38
8.6.4	Irrigation system	LS		1,283,334.61	1,283,334.61
8.6.5	<b>Storm water system-Flood relief channel</b>				
8.6.5.1	Storm water system consisting of combination of VC for dia. below 1000 mm and Concrete pipes for dia. above 1000 mm	LS		25,943,513.01	25,943,513.01
8.6.5.2	Flood relief channel /overflow collector consisting of RC 2.5 m wide flood relief channel and RC 3-4.5 m wide over flow channel at variable depths.	LS		30,433,298.54	30,433,298.54
8.6.6	Reservoir under floor drainage collecting system and Leak detection system. Scope shall include supply and installation of perforated ESVC pipes as specified. (Approximately 56,000 m ESVC Pipes ) housed in non fine concrete channel and placed at each constriction joints as shown on the drawings	LS		48,977,815.71	48,977,815.71
8.6.7	Potable water system	LS		927,005.61	927,005.61
8.6.8	Foul sewage collecting system and septic tanks	LS		1,953,948.53	1,953,948.53
8.6.9	Waste water (Oil Interceptor) System	LS		526,817.67	526,817.67
8.6.10	Civil Defense approved External fire fighting system	LS		886,882.17	886,882.17
8.6.11	Electrical and instrumentation Cable duct	LS		2,334,404.77	2,334,404.77
8.6.12	Street Lighting	LS		1,942,057.31	1,942,057.31
8.6.13	Security System	LS		1,571,875.49	1,571,875.49
8.6.14	Land Drainage system comprising of 300 mm perforated VC pipes surrounded in 14 mm single size rounded gravel as shown on drawing.	LS		5,751,003.82	5,751,003.82
<b>Carried Forward to Collection</b>					127,427,198.25

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.7	<p><b><u>Interconnection process pipe works and chambers</u></b></p> <p>Laying and jointing and testing (all tests required) of DI/Carbon Steel pipes and fittings in trenches including Excavation, Backfilling, disposal, laying, bedding and surrounds. The scope shall include required supports for pipes and fitting, anchorage system, Polyethylene sleeve, wrapping of couplings and flanges outside chambers and any other works necessary to complete the installation. The work shall also include initial tests, swabbing, flushing , draining and blanking of ends at connection points to keep pipe in a clean condition until connecting pipes become available. The scope shall include design, supply and installation cathodic protection of CS and also any additional works required to suit site requirements.</p> <p><b><u>Pipes</u></b></p> <p><b>2400 mm dia. Carbon Steel Pipes</b></p> <p>8.7.1.1 Depth to invert up to 3.5 m</p> <p><b>2200 mm dia. Carbon Steel Pipes</b></p> <p>8.7.2.1 Deleted</p> <p>3.7.2.2 Depth to invert 3.5 -5 m</p> <p>8.7.2.3 Depth to invert 5- 6.5 m</p> <p>8.7.2.4 Depth to invert 6.5 - 8 m</p> <p>8.7.2.5 Depth to invert 8 - 10 m</p> <p><b>2000 mm dia. Carbon Steel Pipes</b></p> <p>8.7.3.1 Depth to invert 5- 6.5 m</p> <p>8.7.3.2 Depth to invert 8 - 10 m</p>				
	<b>Carried Forward to Collection</b>				23,239,358.38

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
	<u>Interconnection process pipe works and chambers</u> <u>cont'd</u>				
8.7.4	<b>1600 mm dia. DI Pipe</b>				
8.7.4.1	Depth to invert up to 3.5 m	LM	150	3,177.40	476,610.00
8.7.4.2	Depth to invert 3.5 -5 m	LM	825	3,758.41	3,100,688.25
8.7.4.3	Depth to invert 5- 6.5 m	LM	1,600	4,871.73	7,794,768.00
8.7.4.4	Depth to invert 6.5 - 8 m	LM	1,615	6,058.52	9,784,509.80
8.7.5	<b>1400 mm dia. DI Pipe</b>				
8.7.5.1	Depth to invert 3.5 -5 m	LM	160	3,740.48	598,476.80
8.7.5.2	Depth to invert 5- 6.5 m	LM	50	4,495.17	224,758.50
8.7.5.3	Depth to invert 8 - 10 m	LM	100	7,552.17	755,217.00
8.7.6	<b>1200 mm dia. DI Pipe</b>				
8.7.6.1	Depth to invert up to 3.5 m	LM	170	2,690.15	457,325.50
8.7.6.2	Depth to invert 3.5 -5 m	LM	695	3,094.00	2,150,330.00
8.7.6.3	Depth to invert 5- 6.5 m	LM	860	4,063.79	3,494,859.40
8.7.6.4	Depth to invert 6.5 - 8 m	LM	1,500	5,133.44	7,700,160.00
8.7.6.5	Depth to invert 8 - 10 m	LM	500	6,949.90	3,474,950.00
8.7.6.6	Depth to invert exceeding 10 m	LM	125	9,407.56	1,175,945.00
8.7.7	<b>900 mm dia. DI Pipe</b>				
8.7.7.1	Depth to invert up to 3.5 m	LM	100	2,225.21	222,521.00
8.7.7.2	Depth to invert 5- 6.5 m	LM	-		
	<b>Carried Forward to Collection</b>				41,411,119.25

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR	
	<u>Interconnection process pipe works and chambers cont'd</u>					
8.7.8	<b>800 mm dia. DI Pipe</b>					
8.7.8.1	Depth to invert to 3.5 m	LM	460	1,973.07	907,612.20	
8.7.8.2	Depth to invert 3.5 -5 m	LM	68	2,295.67	156,105.56	
8.7.8.3	Depth to invert 5- 6.5 m	LM	9	3,091.13	27,820.17	
8.7.8.4	Depth to invert 6.5 - 8 m	LM	45	3,997.31	179,878.95	
8.7.8.5	Depth to invert 8 - 10 m	LM	1,193	5,551.23	6,622,617.39	
8.7.8.6	Depth to invert exceeding 10 m	LM	190	7,695.19	1,462,086.10	
8.7.9	<b>600 mm dia. DI Pipe</b>					
8.7.9.1	Depth to invert 3.5 -5 m	LM	30	2,446.15	73,384.50	
8.7.9.2	Average Depth to invert 5- 6.5 m	LM	300	2,844.37	853,311.00	
8.7.9.3	Depth to invert 6.5 - 8 m	LM	450	3,372.96	1,517,832.00	
8.7.9.4	Depth to invert 8 - 10 m	LM	150	3,972.00	595,800.00	
8.7.10	<b>500 mm dia. DI Pipe</b>					
8.7.10.1	Depth to invert to 3.5 m	LM	270	1,672.03	451,448.10	
8.7.11	<b>350 mm dia. DI Pipe</b>					
8.7.11.1	Depth to invert up to 3.5 m	LM	160	1,463.20	234,112.00	
8.7.12	<b>300 mm dia. DI Pipe</b>					
8.7.12.1	Depth to invert 8 - 10 m	LM	-			
8.7.13	<b>250 mm dia. DI Pipe</b>					
8.7.13.1	Depth to invert 8 - 10 m	LM	15	3,087.01	46,305.15	
8.7.14	<b>200 mm dia. DI Pipe</b>					
8.7.14.1	Depth to invert 8 - 10 m	LM	70	2,778.29	194,480.30	
	<b>Carried Forward to Collection</b>					13,322,793.42

PROJECT: WATER SECURITY MEGA RESERVOIR			BILL OF QUANTITIES			BILL NO: 8 Civil Works
C/626A/2014, Construction of Mega Reservoir PRPS at Umm Birkha - Package A						Rev 03
ITEM REF.	ITEM DESCRIPTION		UNIT	QTY.	RATE QR	AMOUNT QR
	<u>Interconnection process pipe works and chambers</u> <u>cont'd</u>					
8.7.15	<b>150 mm dia. DI Pipe</b>					
8.7.15.1	Depth to invert 5- 6.5 m	LM	66	2,347.66	154,945.56	
8.7.16	<b>Inline Fittings</b>					
8.7.16.1	2400x2200mm dia. Carbon Steel Reducer	NO	-			
8.7.16.2	2200 mm dia. Carbon Steel welded 90° bends	NO	4	36,976.66	147,906.64	
8.7.16.3	2200 mm dia. Carbon Steel welded 45° bends	NO	2	36,976.66	73,953.32	
8.7.16.4	2200 mm dia. Carbon Steel welded 11.25° bends	NO	2	36,976.66	73,953.32	
8.7.16.5	2200x1200mm dia. Carbon Steel unequal Tee	NO	16	25,802.27	412,836.32	
8.7.16.6	2200x2000mm dia. Carbon Steel Reducer	NO	4	14,858.36	59,433.44	
8.7.16.7	2000 mm dia. Carbon Steel Equal tee	NO	5	25,857.99	129,289.95	
8.7.16.8	2000x1200mm dia. Carbon Steel unequal Tee	NO	16	24,924.34	398,789.44	
8.7.16.9	2000 mm dia. Steel Blind Flange	NO	1	14,355.45	14,355.45	
8.7.16.10	1600mm dia. DI socketed 45° bends	NO	34	30,161.15	1,025,479.10	
8.7.16.11	1600mm dia. DI socketed 22.5° bends	NO	2	30,161.15	60,322.30	
8.7.16.12	1600mm dia. DI socketed 11.25° bends	NO	4	30,161.15	120,644.60	
8.7.16.13	1600mm dia. DI equal Tee	NO	2	23,103.19	46,206.38	
8.7.16.14	1600x900mm dia. DI unequal Tee (Included with Surge Vessel Bill No.9)	NO	-	22,684.93	-	
8.7.16.15	1400mm dia. DI socketed 45° bends	NO	11	28,146.49	309,611.39	
8.7.16.16	1400mm dia. DI socketed 22.5° bends	NO	1	28,146.49	28,146.49	
8.7.16.17	1400x1200 mm dia. Reducer	NO	2	13,162.27	26,324.54	
	<b>Carried Forward to Collection</b>					3,082,198.24

PROJECT: WATER SECURITY MEGA RESERVOIR			BILL OF QUANTITIES			BILL NO: 8 Civil Works
C/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A						Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR	
	<u>Interconnection process pipe works and chambers</u> <u>cont'd</u>					
8.7.16.18	1200mm dia. DI socketed 90° bends	NO	16	25,268.92	404,302.72	
8.7.16.19	1200mm dia. DI socketed 45° bends	NO	35	25,268.92	884,412.20	
8.7.16.20	1200mm dia. DI socketed 22.5° bends	NO	12	25,268.92	303,227.04	
8.7.16.21	1200 mm dia. DI socketed 11.25° bends	NO	5	25,268.92	126,344.60	
8.7.16.22	1200 mm dia. DI equal Tee	NO	12	20,660.15	247,921.80	
8.7.16.23	1200x900 mm dia. unequal Tee (Included with Surge Vessel Bill No.9)	NO	-			
8.7.16.24	1200 mm dia. Flange Socket	NO	16	12,030.23	192,483.68	
8.7.16.25	800 mm dia. DI socketed 90° bends	NO	4	21,202.40	84,809.60	
8.7.16.26	800 mm dia. DI socketed 45° bends	NO	12	21,202.40	254,428.80	
8.7.16.27	800mm dia. socketed 11.25° bends	NO	2	21,202.40	42,404.80	
8.7.16.28	800 mm dia. DI equal Tee	NO	16	14,991.39	239,862.24	
8.7.16.29	800 mm dia. Endcap	NO	2	14,991.39	29,982.78	
8.7.16.30	600mm dia. DI socketed 90° bends	NO	3	19,450.84	58,352.52	
8.7.16.31	600mm dia. DI socketed 45° bends	NO	5	19,450.84	97,254.20	
8.7.16.32	600mm dia. DI socketed 22.5° bends	NO	3	19,450.84	58,352.52	
8.7.16.33	600 mm dia. DI socketed 11.25° bends	NO	1	19,450.84	19,450.84	
8.7.16.34	600 mm dia. DI equal Tee	NO	1	14,331.64	14,331.64	
8.7.16.35	500mm dia. socketed 90° bends	NO	2	19,178.52	38,357.04	
8.7.16.36	500mm dia. socketed 45° bends	NO	2	19,178.52	38,357.04	
8.7.16.37	350 mm dia. DI socketed 90° bends	NO	2	18,682.02	37,364.04	
8.7.16.38	350 mm dia. DI equal Tee	NO	2	13,459.59	26,919.18	
8.7.16.39	300mm dia. DI socketed 90° bends	NO	-			
8.7.16.40	300mm dia. DI socketed 45° bends	NO	-			
8.7.16.41	250mm dia. DI socketed 45° bends	NO	2	18,418.13	36,836.26	
	<b>Carried Forward to Collection</b>					3,235,755.54

PROJECT: WATER SECURITY MEGA RESERVOIR			BILL OF QUANTITIES			BILL NO: 8 Civil Works
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A						Rev 03
ITEM REF.	ITEM DESCRIPTION		UNIT	QTY.	RATE QR	AMOUNT QR
	<u>Interconnection process pipe works and chambers</u> <u>cont'd</u>					
8.7.16.42	200 mm dia. socketed 90° bends		NO	1	18,299.51	18,299.51
8.7.16.43	200mm dia. DI socketed 45° bends		NO	1	18,299.51	18,299.51
8.7.16.44	150 mm dia. socketed 90° bends		NO	4	18,182.77	72,731.08
8.7.16.45	150 mm dia. equal Tee		NO	3	12,843.41	38,530.23
8.7.16.46	1200 mm dia. Steel Blind Flange		NO	16	13,424.09	214,785.44
8.7.17	<b>Thrust Blocks</b>					
8.7.17.1	RC thrust blocks for bends, reducers, and tees as shown drawings.		LS			Included
8.7.17.2	Design and build piling system for each RC thrust block as shown on drawing.		LS		15,510,312.41	15,510,312.41
	<b>Carried Forward to Collection</b>					15,872,958.18

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 8 Civil Works
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birkha - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
8.7.18	<b><u>Chambers</u></b>  Supply materials and Construction of reinforced concrete Chambers as detailed on drawings and as specified. Scope of works shall include all necessary works required to suit site requirements. The work shall also include installation, testing and commissioning of all pipes, fittings and valves inside the chamber and all works required for a complete installation.				
8.7.18.1	Reservoir Distribution Inlet chamber for Eight pipes (4xDN1600, 2xDN1200 and 2xDN800) Reference drawing No. MQ174-R1-DH-CI-6020	NO	2	705,486.20	1,410,972.40
8.7.18.2	Reservoir Distribution outlet chamber for single DN2200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6021	NO	2	127,427.85	254,855.70
8.7.18.3	Reservoir Inlet chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6022	NO	4	191,913.56	767,654.24
8.7.18.4	Reservoir Scour, Outlet & Inlet chamber Reference drawing No. MQ174-R1-DH-CI-6023- 6025	NO	4	3,185,608.08	12,742,432.32
8.7.18.5	Reservoir Scour & Inlet chamber. Reference drawing No. MQ174-R1-DH-CI-6026	NO	4	567,708.10	2,270,832.40
8.7.18.6	Reservoir Distribution Overflow chamber. Reference drawing No. MQ174-R1-DH-CI-6027	NO	2	1,037,918.89	2,075,837.78
8.7.18.7	Reservoir Overflow arrangement, Reference drawing No. MQ174-R1-DH-CI-6028	NO	12	20,559.40	246,712.80
8.7.18.8	Valve chamber for single DN600 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6391	NO	1	102,216.02	102,216.02
8.7.18.9	Valve chamber for single DN 500 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6392	NO	1	87,790.55	87,790.55
8.7.18.10	Valve chamber for single DN350 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6393	NO	1	57,374.89	57,374.89
8.7.18.11	Emergency Tanker Filling Station - Double Arm Filling Point. Reference drawing No. MQ174-R1-DH-CI-6394	NO	5	73,550.70	367,753.50
	<b>Carried Forward to Collection</b>				20,384,432.60

PROJECT: WATER SECURITY MEGA RESERVOIR			BILL OF QUANTITIES			BILL NO: 8 Civil Works
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birkha - Package A						Rev 03
ITEM REF.	ITEM DESCRIPTION		UNIT	QTY.	RATE QR	AMOUNT QR
	<u>Interconnection process pipe works and chambers</u> <u>cont'd</u>					
8.7.18.12	Incoming By-Pass Valve chamber for Five pipes (4xDN 1600 and 1xDN1200 mm) . Reference drawing No. MQ174-R1-DH-CI-6500	NO	2	1,847,162.22	3,694,324.44	
8.7.18.13	Incoming By-Pass Valve chamber for Five pipes (4xDN 1600 and 1xDN1200 mm) . Reference drawing No. MQ174-R1-DH-CI-6501	NO	1	2,667,212.93	2,667,212.93	
8.7.18.14	Incoming Flow Meter chamber for Five pipes (4xDN 1600 and 1xDN1200 mm) . Reference drawing No. MQ174-R1-DH-CI-6502	NO	1	1,269,949.89	1,269,949.89	
8.7.18.15	Incoming Flow Control Valve chamber for Five pipes (4xDN 1600 and 1xDN1200 mm) . Reference drawing No. MQ174-R1-DH-CI-6503	NO	1	1,258,629.07	1,258,629.07	
8.7.18.16	Valve chamber for single DN 2200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6504	NO	1	425,926.60	425,926.60	
8.7.18.17	Valve chamber for single DN 2200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6505	NO	1	602,477.80	602,477.80	
8.7.18.18	Valve chamber for twin DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6506	NO	2	240,309.43	480,618.86	
8.7.18.19	Flow Meter chamber for twin DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6507	NO	2	233,346.34	466,692.68	
8.7.18.20	Flow Control Valve chamber for twin pipe DN1200. Reference drawing No. MQ174-R1-DH-CI-6508	NO	2	265,558.98	531,117.96	
8.7.18.21	Valve chamber for twin DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6509	NO	2	261,327.71	522,655.42	
8.7.18.22	Flow Meter chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6510	NO	2	168,144.56	336,289.12	
8.7.18.23	Flow Control Valve chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6511	NO	2	185,161.19	370,322.38	
8.7.18.24	Valve chamber for single DN2000 mm pipe (at any depth). Reference drawing No. MQ174-R1-DH-CI-6512	NO	3	318,804.47	956,413.41	
	<b>Carried Forward to Collection</b>					13,582,630.56

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 8 Civil Works
G.T.C/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
	<u>Interconnection process pipe works and chambers cont'd</u>				
8.7.18.25	Valve chamber for single DN2000 mm pipe (at any depth). Reference drawing No. MQ174-R1-DH-CI-6513	NO	2	571,786.06	1,143,572.12
8.7.18.26	Valve chamber for single DN2000 mm pipe (at any depth). Reference drawing No. MQ174-R1-DH-CI-6514	NO	1	447,346.79	447,346.79
8.7.18.27	Valve chamber for single DN2200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6515	NO	2	674,704.78	1,349,409.56
7.18.28	Combined outgoing Valve chamber for three pipes (2xDN1600 and 1xDN1200 ). Reference drawing No. MQ174-R1-DH-CI-6516	NO	1	520,213.07	520,213.07
8.7.18.29	Outgoing By-Pass Valve chamber for single DN1600 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6517	NO	2	546,615.28	1,093,230.56
8.7.18.30	Outgoing By-Pass Valve chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6518	NO	1	379,096.19	379,096.19
8.7.18.31	Flow Control Valve chamber for single DN1600 mm pipe with By-Pass arrangement. Reference drawing No. MQ174-R1-DH-CI-6519	NO	2	1,917,556.68	3,835,113.36
8.7.18.32	Flow Control Valve chamber for single DN1200 mm pipe with By-Pass arrangement. Reference drawing No. MQ174-R1-DH-CI-6520	NO	1	522,272.23	522,272.23
8.7.18.33	Combined Flow Meter Valve chamber for twin DN1600 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6521	NO	1	665,228.70	665,228.70
8.7.18.34	Valve chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6522	NO	1	216,619.46	216,619.46
8.7.18.35	Valve chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6523	NO	1	318,488.07	318,488.07
8.7.18.36	Valve chamber for twin DN1400 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6524	NO	1	505,034.80	505,034.80
8.7.18.37	Valve chamber for single DN800 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6525	NO	1	341,046.43	341,046.43
	<b>Carried Forward to Collection</b>				11,336,671.34

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 8 Civil Works
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
	<u>Interconnection process pipe works and chambers</u> <u>cont'd</u>				
8.7.18.38	Flow Meter chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6526	NO	3	199,489.74	598,469.22
8.7.18.39	Valve chamber for single DN 600 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6527	NO	1	155,397.21	155,397.21
8.7.18.40	Outgoing Combined Sampling chamber for twin DN1600 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6528	NO	1	511,202.58	511,202.58
8.7.18.41	Outgoing Combined Sampling chamber for single DN1200 mm pipe. Reference drawing No. MQ174-R1-DH-CI-6529	NO	1	172,460.99	172,460.99
8.7.18.42	Air Valve chamber for single DN1400 mm pipe (at any depth). Reference drawing No. MQ174-R1-DH-CI-6530	NO	1	182,649.42	182,649.42
8.7.19	<b>Land and Under Floor Drainage Lift Station</b>				
8.7.19.1	Excavation and Earthworks	LS		23,396.13	23,396.13
8.7.19.2	Mass concrete blinding	LS		439.63	439.63
8.7.19.3	RC Base slab	LS		38,880.07	38,880.07
8.7.19.4	Subgrade concrete protection	LS		9,551.66	9,551.66
8.7.19.5	Cover Slabs	LS		526.04	526.04
8.7.19.6	Metalwork ( Handrails etc.)	LS		32,677.94	32,677.94
8.7.19.7	Metal covers	LS		3,680.06	3,680.06
8.7.19.8	Sealing of joints and pipe penetration	LS		-	Included
8.7.19.9	All other works where not included above.	LS		209,317.07	209,317.07
<b>Carried Forward to Collection</b>					1,938,648.02

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 8 Civil Works
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birkha - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
	<b>BILL NO 8 - Civil Works</b>				
	<b>COLLECTION</b>				
	Total from page 8/26/1R				1,038,846,794.23
	Total from page 8/26/2R				32,585,496.60
	Total from page 8/26/3R				2,836,068.94
	Total from page 8/26/4R				1,509,227.64
	Total from page 8/26/5R				3,336,493.26
	Total from page 8/26/6R				1,779,441.82
	Total from page 8/26/7R				5,385,550.12
	Total from page 8/26/8R				4,277,342.05
	Total from page 8/26/9R				1,619,668.36
	Total from page 8/26/10R				907,646.76
	Total from page 8/26/11R				1,728,534.48
	Total from page 8/26/12R				2,405,863.64
	Total from page 8/26/13R				1,171,166.62
	Total from page 8/26/14R				180,112,494.79
	Total from page 8/26/15R				127,427,198.25
	Total from page 8/26/16R				23,239,358.38
	Total from page 8/26/17R				41,411,119.25
	Total from page 8/26/18R				13,322,793.42
	Total from page 8/26/19R				3,082,198.24
	Total from page 8/26/20R				3,235,755.54
	Total from page 8/26/21R				15,872,958.18
	Total from page 8/26/22R				20,384,432.60
	Total from page 8/26/23R				13,582,630.56
	Total from page 8/26/24R				11,336,671.34
	Total from page 8/26/25R				1,938,648.02
	<b>Carried Forward to General Summary</b>				1,553,335,553.09

<b>PROJECT: WATER SECURITY MEGA RESERVOIR</b>	<b>BILL OF QUANTITIES</b>	<b>BILL NO: 9 MEICA Works</b>
<b>G1C/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A</b>		<b>Rev 03</b>

**Bill No. 9 - PRPS 1**

**WATER SECURITY MEGARESERVOIR:  
Construction of Mega reservoir**

**GTC/626A/2014**

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 9 MEICA Works
JTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
	MEICA works procurement (where not included in the supply BOQ) and installation of the works detailed in the contract and specifications. The cost for the required works is to be divided into the following sections				
9.1	<b>Mechanical</b> <b>Pumps</b> Install test and commissioning of Pumps and related ancillaries in following Pumping Stations, including all the works required for complete installation.				
9.1.1	<b>Main Pump Station</b>				
9.1.1.1	Pump Set-Sub System 1A	NO	4	189,647.65	758,590.60
9.1.1.2	Pump Set-Sub System 1B	NO	5	474,119.13	2,370,595.65
9.1.1.3	Flood Pumps	NO	4	189,647.65	758,590.60
9.1.1.4	Drain Pumps	NO	4	9,482.38	37,929.52
9.1.2	<b>Auxiliary Pumping Station</b>				
9.1.2.1	Recirculation Pumps	NO	4	284,471.48	1,137,885.92
9.1.2.2	Drain Down Return Pumps	NO	2	189,647.65	379,295.30
9.1.2.3	Scour Pumps	NO	2	28,447.15	56,894.30
9.1.2.4	Drain Pumps	NO	2	9,482.38	18,964.76
9.1.3	<b>Tanker Filling Pump Station</b>				
9.1.3.1	Main Pumps	NO	4	37,929.53	151,718.12
9.1.3.2	Drain Pumps	NO	2	7,111.79	14,223.58
9.1.4	<b>Utility Pump Station</b>				
9.1.4.1	Fire water Pumps (Electrical & Engine driven)	NO	2	37,929.53	75,859.06
9.1.4.2	Jockey Pump	NO	2	4,741.19	9,482.38
9.1.4.3	Potable water Pumps	NO	2	14,223.58	28,447.16
9.1.4.4	Irrigation Pumps	NO	2	9,482.38	18,964.76
9.1.5	<b>Land and Under Floor Drainage Lift Station</b>				
9.1.5.1	Electrically driven, Submersible Pump	NO	3	11,379.77	34,139.31
	<b>Carried Forward to Collection</b>				5,851,581.02

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 9 MEICA Works
JTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
	<b>Pumping Station Pipe works</b> Install test and commissioning of pipe works in following Pumping Stations/Pumps, including all the works required for complete installation. Note: Contractor to supply all the pipes, fittings, valves and accessories where not included in the supply BOQ.				
9.1.6	<b>Main Pump Station</b>				
9.1.6.1	Pump Set-Sub System 1A and Pump Set-Sub System 1B	LS		4,128,439.73	4,128,439.73
9.1.6.2	Flood Pumps	LS		114,926.49	114,926.49
9.1.6.3	Drain Pumps	LS		-	Included
9.1.7	<b>Auxiliary Pumping Station</b>				
9.1.7.1	Recirculation Pumps	LS		1,052,923.76	1,052,923.76
9.1.7.2	Drain Down Pumps	LS		-	Included
9.1.7.3	Scour Pumps	LS		-	Included
9.1.7.4	Drain Pumps	LS		-	Included
9.1.8	<b>Tanker Filling Pump Station</b>				
9.1.8.1	Main Pumps	LS		223,689.40	223,689.40
9.1.8.2	Drain Pumps	LS		-	Included
9.1.9	<b>Utility Pump Station</b>				
9.1.9.1	Fire water Pumps and Jockey Pump	LS		89,608.51	89,608.51
9.1.9.2	Potable water Pumps	LS		19,533.70	19,533.70
9.1.9.3	Irrigation Pumps	LS		-	Included
9.1.10	<b>Land and Under Floor Drainage Lift Station</b>				
9.1.10.1	Submersible Pumps	LS		45,515.44	45,515.44
	<b>Carried Forward to Collection</b>				5,674,637.03

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.1.11	<b><u>Surge System</u></b>  <b>Design, Supply install test and commissioning of Surge system including but not limited to listed below.</b>				
9.1.11.1	Surge analysis to be carried out by the contractor and a comprehensive report to be submitted to the engineer for approval.	LS		614,779.73	614,779.73
9.1.11.2	Surge Vessels (8 nr 3000Øx19000 mm, and 3 nr 3000Øx15800 mm) including procurement (where not included in supply BOQ) and installation of connection pipes, fittings, valves as detailed and supply and install, all instrumentation and ancillary items required for complete installation.	LS		28,558,165.49	28,558,165.49
9.1.12	<b><u>Compressed Air System</u></b>  <b>Install test and commissioning of following equipment including all the works required for complete installation.</b>				
9.1.12.1	Air Compressors, Oil Free Rotary Screw type	NO	5	118,529.78	592,648.90
9.1.12.2	Air Receiver	NO	3	18,964.77	56,894.31
9.1.12.3	Supply and install air pipe work including fittings, valves and all equipment and miscellaneous works.	LS		311,406.48	311,406.48
9.1.13	<b><u>Fire Protection and Fire Alarm System</u></b>  <b>Design, Supply, install test and commissioning of complete Fire Fighting/Fire Suppression/Fire Alarm system deemed necessary for the purpose.</b>				
9.1.13.1	Fire detection and alarm System	LS		2,426,861.55	2,426,861.55
9.1.13.2	Internal fire protection system for buildings where required	LS		13,150,209.17	13,150,209.17
9.1.13.3	External fire fighting system.	LS		4,570,510.66	4,570,510.66
9.1.14	<b><u>Tanker Filling Station</u></b>				
9.1.14.1	Install test and commission of Double arm tanker filling points including supply of all necessary mechanical and miscellaneous works as required to complete installation.	NO	5	182,102.70	910,513.50
	<b>Carried Forward to Collection</b>				51,191,989.79

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.1.15	<b><u>Chlorination System</u></b>  Design, install test and commissioning of Chlorination system including and not limited to the items listed below including all the works required for complete installation.				
9.1.15.1	Chlorination equipment including chlorinator ,ejectors, variable area flow meter, gas leak detection equipment, ventilation, emergency breathing apparatus, chlorine scrubber units, dosing pumps, all instrumentation and required storage.	LS		948,238.26	948,238.26
9.1.15.2	Motive water pumps	LS		18,964.77	18,964.77
9.1.15.3	Gas Chlorine system to include injection and PE 80 OD 90 PN16 dosing pipe lines and sampling pipes	LS		923,350.94	923,350.94
9.1.15.4	Safety showers and eye wash	LS		7,044.69	7,044.69
9.1.16	<b><u>Lifting Equipment</u></b>  Supply, install test and commissioning of lifting equipment at following locations including all the works required for complete installation.				
9.1.16.1	Main Pump Station - Electrically operated Over Head Travelling Gantry crane SWL 20T	LS		1,040,699.36	1,040,699.36
9.1.16.2	Utility Pump Station - Mono Rail Crane, Capacity 3Ton	LS		193,270.48	193,270.48
9.1.16.3	Chlorination Building - Mono Rail Crane, Capacity 3Ton	LS		331,095.81	331,095.81
9.1.16.4	Workshop Building Mono Rail Crane, Capacity 3Ton	LS		220,835.55	220,835.55
9.1.16.5	Auxiliary Pump Station - 10 Ton Electrically operated outdoor Overhead travelling crane.	LS		748,982.21	748,982.21
9.1.16.6	Tanker Filling Pump Station - 1.5 Ton Electrically operated outdoor Overhead travelling crane.	LS		94,666.31	94,666.31
9.1.16.7	Land and Under Floor Drainage Lift Station - 500 kg Portable Davit Crane and socket	LS		38,654.10	38,654.10
9.1.17	<b><u>Heating, Ventilation and Air Conditioning</u></b>  Supply, install test and commissioning of suitable HVAC system/units for following locations including all the works required for complete installation.				
9.1.17.1	Main Pump Station/ Control Building	LS		25,932,946.05	25,932,946.05
9.1.17.2	Auxiliary Pumping Station	LS		2,523,459.88	2,523,459.88
9.1.17.3	Tanker Filling Pump Station	LS		450,980.23	450,980.23
9.1.17.4	Utility Pump Station (Fire/Potable/Irrigation)	LS		849,890.82	849,890.82
9.1.17.5	Chlorination Building	LS		33,425.40	33,425.40
	<b>Carried Forward to Collection</b>				34,356,504.86

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
	<u>Air Conditioning cont'd</u>				
9.1.17.6	Air Compressor Building	LS		1,020,316.97	1,020,316.97
9.1.17.7	Water Testing Facility Building	LS		705,599.51	705,599.51
9.1.17.8	MV and Generator Building	LS		4,458,846.27	4,458,846.27
9.1.17.9	Maintenance workshop Building	LS		1,119,548.04	1,119,548.04
9.1.17.10	Main Guard House Building	LS		341,170.47	341,170.47
9.1.17.11	Tanker Filling Station Guard House (2 nr)	LS		55,136.43	55,136.43
9.1.17.12	Remote Generator Building	LS		381,516.26	381,516.26
9.1.17.13	Remote Substation Building (2 Nr )	LS		1,660,560.53	1,660,560.53
9.1.17.14	Remote Substation Building at Reservoirs (2 Nr )	LS		1,845,523.69	1,845,523.69
9.1.17.15	Water Quality Monitoring Building (4 nr)	LS		171,923.34	171,923.34
9.1.17.16	KIOSK Buildings total 7 NO at Scour drain down valve, Surge Vessel and Inlet Chamber locations.	LS		135,308.10	135,308.10
9.1.17.17	Cable Gallery	LS			Included
9.1.18	<u>Internal Plumbing</u>				
	Supply, install test and commissioning of plumbing works (Potable water/Hot water/sewage/drainage) for following locations including all the works required for complete installation.				
9.1.18.1	Main Pump Station/ Control Building	LS		6,242,274.52	6,242,274.52
9.1.18.2	Auxiliary Pumping Station	LS		77,701.98	77,701.98
9.1.18.3	Tanker Filling Pump Station	LS		172,368.30	172,368.30
9.1.18.4	Utility Pump Station (Fire/Potable/Irrigation)	LS		143,606.12	143,606.12
9.1.18.5	Chlorination Building	LS		473,410.32	473,410.32
9.1.18.6	Air Compressor Building	LS		197,649.40	197,649.40
9.1.18.7	Water Testing Facility Building	LS		201,587.26	201,587.26
9.1.18.8	MV and Generator Building	LS		713,525.66	713,525.66
9.1.18.9	Maintenance workshop Building	LS		486,105.99	486,105.99
9.1.18.10	Main Guard House Building	LS		150,228.03	150,228.03
9.1.18.11	Tanker Filling Station Guard House (2 nr)	LS		121,024.81	121,024.81
9.1.18.12	Water Quality Monitoring Building (4 nr)	LS		246,984.57	246,984.57
	<b>Carried Forward to Collection</b>				21,121,916.57

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.1.19	<b>Chilled water pipes</b>  Supply, install test and commissioning of chilled water pipe network and equipment for following locations including all the works required for complete installation.				
9.1.19.1	Main Pump Station including control and admin building and pump hall.	LS		8,117,551.15	8,117,551.15
	<b>Carried Forward to Collection</b>				8,117,551.15

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.2	<b>Electrical</b>				
9.2.1	<b>Cabling</b>  Supply install test and commissioning of all power cables, the works shall include excavation and earthworks, cable tiles, warning tapes, cable ducts if not measured elsewhere, cable trays, draw pits where required and cable termination, penetration of structures/buildings.  Note - Tenderers shall provide the unit rates in addition to the Lump Sum amount				
9.2.1.1	MV (11 kV) Cables from site boundary to switchgear, directly buried and ducts to be provided at road crossing locations and where required.	LS		996,345.50	996,345.50
9.2.1.2	MV (11 kV) Cables from switchgear to Transformers, directly buried and ducts to be provided at road crossing locations and where required.	LS		2,069,788.94	2,069,788.94
9.2.1.3	LV (415 V) Cable network	LS		3,243,794.38	3,243,794.38
9.2.1.4	From MCC to all equipment and distribution board locations (Power Distribution network) (415 V)	LS		321,816.02	321,816.02
9.2.1.5	3.3 kV cabling	LS		1,055,746.60	1,055,746.60
9.2.1.6	Earthing System	LS		1,697,550.29	1,697,550.29
9.2.2	<b>Switchgear</b>  Install test and commission the following Switchgears/Panels including termination of incoming cable, Switch boards, all metering and all other works required for a complete installation.				
9.2.2.1	Medium Voltage Switchgear Panel R1-MVSG-01 - Voltage: 11 kV - Busbar Rating: 800 A - Incomers: 5No. 400 A - Outgoing Ways: 8No. - Busbar Couplers: 2 No.	NO	1	671,214.35	671,214.35
9.2.2.2	Medium Voltage Switchgear Panel R1-MVSG-02 - Voltage: 11 kV - Busbar Rating: 800 A - Incomers: 5 No. 400 A - Outgoing Ways: 7 No. - Busbar Couplers: 2 No.	NO	1	670,298.56	670,298.56
9.2.2.3	Medium Voltage Generator Synchronization Panel BB-R1-GEN-01 - Voltage: 11 kV - Busbar Rating: 1200 A - Incomers: 3No. 400 A - Outgoing Ways: 4No. 400 A - Busbar Coupler: 1 No.	NO	1	679,761.67	679,761.67
	<b>Carried Forward to Collection</b>				11,406,316.31

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.2.2.4	Medium Voltage Switchgear Panels R1-RS1-MVP-01 and R1-RS2-MVP-01 - Voltage: 11 kV - Busbar Rating: 800 A - Incomers: 2No. 400 A - Outgoing Ways: 1No. 400 A	NO	2	91,626.99	183,253.98
9.2.2.5	Medium Voltage Switchgear Panels R1-RS3-MVP-01 and R1-RS4-MVP-01 - Voltage: 11 kV - Busbar Rating: 800 A - Incomers: 2No. 400 A - Outgoing Ways: 1No. 400 A	NO	2	91,626.99	183,253.98
9.2.2.6	Low Voltage Switchgear	NO	7	91,550.68	640,854.76
9.2.2.7	1400KW, MV Variable frequency drive unit including 11/3.3kV 2MVA Phase Shift Transformer, Frequency converter with 24 pulse (minimum) rectifier, Harmonic filter unit, IGBT/IGCT inverter and all other ancillary equipment and works required for complete installation	NO	5	216,596.85	1,082,984.25
9.2.2.8	400KW LV Variable frequency drive unit of PWM design including Frequency converter having full wave diode bridge rectifier, DC links, inverters, Harmonic filter units and all other ancillary equipment and works required for complete installation	NO	4	117,248.14	468,992.56
9.2.2.9	Supply and install LV Capacitor Bank <u>Generators</u> Install test and commission of following Generator sets including generator controls, changeovers, switchgears and fuel system including all the works required for complete installation.	LS		-	Included
9.2.3	<b>Main Generator Station</b>				
9.2.3.1	Medium Voltage Prime-rated Generator Sets R1-MVG-GEN-01A, R1-MVG-GEN-02A and R1-MVG-GEN-03A including generator controls. - Fuel: Diesel - Voltage: 11 kV - Rating: 2.6 MVA	NO	3	1,164,988.56	3,494,965.68
9.2.3.2	Low Voltage Prime-rated Generator Set R1-MVG-GEN-04 including generator controls. - Fuel: Diesel - Voltage: 415 V - Rating: 2 MVA	NO	1	91,023.41	91,023.41
	<b>Carried Forward to Collection</b>				6,145,328.62

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.2.4	<b>Remote Substation RS 3&amp;4</b>				
9.2.4.1	Low Voltage Prime-rated Generator Sets R1-RS3-GEN-02 and R1-RS4-GEN-03 including generator controls. - Fuel: Diesel - Voltage: 415 V - Rating: 1.275 MVA	NO	2	74,234.03	148,468.06
9.2.5	<b>Remote Generator Station</b>				
9.2.5.1	Low Voltage Prime-rated Generator Set R1-RG1-GEN-02 including generator controls. - Fuel: Diesel - Voltage: 415 V - Rating: 1 MVA	NO	1	75,760.33	75,760.33
	<b>Carried Forward to Collection</b>				224,228.39

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.2.6	<b><u>Bulk Fuel Tanks and Fuel system</u></b>  Supply and install test and commission of following Bulk fuel systems including power supply and all the works required for complete installation.				
9.2.6.1	55 m3 capacity Bulk fuel tanks at main bulk fuel storage location, including design and installation all miscellaneous metal works and pipe works.	NO	9	492,627.10	4,433,643.90
9.2.6.2	30 m3 capacity Bulk fuel tank at main bulk fuel storage location, including design and installation all miscellaneous metal works and pipe works.	NO	1	370,474.48	370,474.48
9.2.6.3	42 m3 capacity Bulk fuel tank at remote single bulk fuel storage locations, including design and installation all miscellaneous metal works and pipe works.	NO	2	370,474.48	740,948.96
9.2.6.4	300 gallons capacity fuel day tank including all necessary supply and return fuel pipework at utility pump station.	NO	1	48,861.05	48,861.05
9.2.6.5	200 gallons capacity fuel day tank including all necessary fuel pipework at substation and generator buildings.	NO	7	40,985.32	286,897.24
9.2.6.6	Fuel Pumps for main bulk fuel storage tanks	LS		194,272.30	194,272.30
9.2.6.7	Fuel Pumps for 2 NO single bulk fuel storage tanks	LS		29,316.65	29,316.65
9.2.6.8	Fuel pipes from main bulk fuel tanks to generator day tanks	LS		1,060,388.70	1,060,388.70
9.2.6.9	Fuel pipes from single bulk fuel tanks to generator day tanks	LS		272,027.82	272,027.82
9.2.7	<b><u>MCCs</u></b>  Supply and install test and commission of following MCCs/Control Panels/DBs including all the works required for complete installation.				
9.2.7.1	MCC for main Pump station/ Control room	LS		4,786,278.75	4,786,278.75
9.2.7.2	MCC for Auxiliary Pump station	LS		902,935.51	902,935.51
9.2.7.3	MCC for Tanker Filling Pump station	LS		260,526.74	260,526.74
9.2.7.4	MCC for Utility Control Pump station	LS		246,054.58	246,054.58
9.2.7.5	MCC for Air Compressors	LS		307,772.89	307,772.89
	<b>Carried Forward to Collection</b>				13,940,399.57

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.2.8	<b><u>Control Panels and Distribution Boards</u></b>  Supply, install test and commission of following Control Panels/DBs not included elsewhere including all the works required for complete installation.				
9.2.8.1	Main Pump Station/ Control Building	LS	-	-	Included
9.2.8.2	Auxiliary Pumping Station	LS	-	-	Included
9.2.8.3	Tanker Filling Pump Station	LS	-	-	Included
9.2.8.4	Utility Pump Station (Fire/Potable/Irrigation)	LS	-	-	Included
9.2.8.5	Chlorination Building	LS	-	-	Included
9.2.8.6	Air Compressor Building	LS	-	-	Included
9.2.8.7	Water Testing Facility Building	LS	-	-	Included
9.2.8.8	MV and Generator Building	LS	-	-	Included
9.2.8.9	Maintenance workshop Building	LS	-	-	Included
9.2.8.10	Main Guard House Building	LS	-	-	Included
9.2.8.11	Tanker Filling Station Guard House (2 nr)	LS	-	-	Included
9.2.8.12	Remote Generator Building	LS	-	-	Included
9.2.8.13	Remote Substation Building (2 Nr )	LS	-	-	Included
9.2.8.14	Remote Substation Building at Reservoirs (2 Nr )	LS	-	-	Included
9.2.8.15	Water Quality Monitoring Building (4 Nr )	LS	-	-	Included
9.2.8.16	KIOSK Buildings total 7 NO at Scour drain down valve, Surge Vessel and Inlet Chamber locations.	LS	-	-	Included
	<b>Carried Forward to Collection</b>				-

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.2.9	<b>Small Power &amp; Lighting and Emergency Lighting</b>  Supply install test and commissioning of small power and lighting cables, fixtures and fittings including all the works required for complete installation. Scope shall include emergency light cabling, battery packs and fixtures and fittings.				
9.2.9.1	Main Pump Station/ Control Building	LS		2,225,881.87	2,225,881.87
9.2.9.2	Auxiliary Pumping Station	LS		244,239.10	244,239.10
9.2.9.3	Tanker Filling Pump Station	LS		111,541.97	111,541.97
9.2.9.4	Utility Pump Station (Fire/Potable/Irrigation)	LS		107,695.12	107,695.12
9.2.9.5	Chlorination Building	LS		240,118.63	240,118.63
9.2.9.6	Air Compressor Building	LS		205,629.64	205,629.64
9.2.9.7	Water Testing Facility Building	LS		272,710.56	272,710.56
9.2.9.8	MV and Generator Building	LS		460,859.27	460,859.27
9.2.9.9	Maintenance workshop Building	LS		269,488.66	269,488.66
9.2.9.10	Main Guard House Building	LS		132,154.32	132,154.32
9.2.9.11	Tanker Filling Station Guard House (2 nr)	LS		221,985.99	221,985.99
9.2.9.12	Remote Generator Building	LS		94,595.51	94,595.51
9.2.9.13	Remote Substation Building (2 Nr )	LS		225,436.10	225,436.10
9.2.9.14	Remote Substation Building at Reservoirs (2 Nr )	LS		225,550.66	225,550.66
9.2.9.15	Water Quality Monitoring Building (4 Nr )	LS		231,687.31	231,687.31
9.2.9.16	KIOSK Buildings total 7 NO at Scour drain down valve, Surge Vessel and Inlet Chamber locations.	LS		141,061.86	141,061.86
9.2.9.17	Reservoirs (4 NO)	LS		-	Included
9.2.9.18	Cable Gallery	LS		-	Included
	<b>Carried Forward to Collection</b>				5,410,636.57

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.2.10	<b>Street Lighting and Security Lighting</b>  Supply install test and commissioning of street lighting and security lighting cables, lighting posts, Feeder Pillars, fixtures and fittings including all the works required for complete installation.				
9.2.10.1	Street Lights	LS		3,286,710.80	3,286,710.80
9.2.10.2	Security Lights	LS		791,560.61	791,560.61
9.2.11	<b>Telecommunication</b>  Supply install test and commissioning of Telecommunication system for all buildings including but not limited to the following items and all other ancillary equipment and works required for complete installation.				
9.2.11.1	Industrial Ethernet Switches	LS		7,032,459.84	7,032,459.84
9.2.11.2	Fiber Optical Patch Panels MMF OM3 1000 Base SX	LS		1,918,928.75	1,918,928.75
9.2.11.3	42 U Racks	LS		893,139.40	893,139.40
9.2.11.4	24 Port UPOE Switches 1440W maximum Output power, 60Watts per port	LS		116,970.62	116,970.62
9.2.11.5	IPoDWDM switches and Amplifiers	LS		134,426.03	134,426.03
9.2.11.6	MPLS PE Switches , IPoDWDM Cards, capable of supporting Network Virtualization	LS		378,316.02	378,316.02
9.2.11.7	Firewalls 10Gbps interfaces , Capable of supporting Virtualized Firewall	LS		633,250.93	633,250.93
9.2.11.8	Aggregation/ Distribution Switches	LS		23,421.88	23,421.88
9.2.11.9	Network Storage Switches Fiber Channel and iSCSI interfaces	LS		3,294,117.55	3,294,117.55
9.2.11.10	Network Management Software,	LS		4,501,842.71	4,501,842.71
9.2.11.11	Fiber Optical Cabling 850nm Wavelength OM3 1000 Base SX protocol 12 cores Pretrium 300	LS		47,454.27	47,454.27
9.2.11.12	Multiservice Platform ( Dedicated I/O and OPC Servers)	LS		584,001.71	584,001.71
9.2.11.13	Universal Connectivity Server ( Shared I/O OPC servers and CCTV Media Services)	LS		16,942.01	16,942.01
9.2.11.14	24 port 1Gbps Access Switches POE, Stackable, Layer 3 capability	LS		2,203,224.26	2,203,224.26
<b>Carried Forward to Collection</b>					25,856,767.39

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.2.12	<u><b>Lightning Protection System</b></u>  Supply install test and commissioning of Lightning Protection System including all the works required for complete installation.				
9.2.12.1	Reservoirs No 1	LS	494,628.94	494,628.94	
9.2.12.2	Reservoirs No 2	LS	494,628.94	494,628.94	
9.2.12.3	Reservoirs No 3	LS	494,628.94	494,628.94	
9.2.12.4	Reservoirs No 4	LS	494,628.94	494,628.94	
9.2.12.5	Main Pump Station/ Control Building	LS	293,467.22	293,467.22	
9.2.12.6	Auxiliary Pumping Station	LS	32,576.94	32,576.94	
9.2.12.7	Tanker Filling Pump Station	LS	113,521.17	113,521.17	
9.2.12.8	Utility Pump Station (Fire/Potable/Irrigation)	LS	37,469.73	37,469.73	
9.2.12.9	Chlorination Building	LS	60,472.28	60,472.28	
9.2.12.10	Air Compressor Building	LS	63,522.13	63,522.13	
9.2.12.11	Water Testing Facility Building	LS	31,174.96	31,174.96	
9.2.12.12	MV and Generator Building	LS	125,671.68	125,671.68	
9.2.12.13	Maintenance workshop Building	LS	75,002.73	75,002.73	
9.2.12.14	Main Guard House Building	LS	32,968.79	32,968.79	
9.2.12.15	Tanker Filling Station Guard House (2 nr)	LS	13,737.43	13,737.43	
9.2.12.16	Remote Generator Building	LS	40,347.24	40,347.24	
9.2.12.17	Remote Substation Building (2 Nr )	LS	81,683.80	81,683.80	
9.2.12.18	Remote Substation Building at Reservoirs (2 Nr )	LS	115,463.75	115,463.75	
9.2.12.19	Water Quality Monitoring Building (4 Nr )	LS	12,245.15	12,245.15	
9.2.12.20	KIOSK Buildings total 7 nr at Scour drain down valve, Surge Vessel and Inlet Chamber locations.	LS	188,165.91	188,165.91	
	<b>Carried Forward to Collection</b>				3,296,006.67

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 9 MEICA Works
JTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.2.13	<b>Uninterrupted Power Supply system</b>				
9.2.13.1	Supply install test and commissioning of UPS system including In rack Ruggedized 6000W Output Power UPS invertor and 2 hour extendable batteries and all other ancillary works required for complete installation.  <i>Deleted</i>	LS			
9.2.14	<b>Electrical Vehicle Charging Points</b>				
9.2.14.1	Supply install test and commissioning of Electrical Vehicle Charging Points including all the works required for complete installation. ( 2Nr )	LS			
<b>Carried Forward to Collection</b>					-

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 9 MEICA Works
JTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.3	<b>Instrumentation</b>				
9.3.1	<u>Cabling</u> <b>Supply install test and commissioning of all power and Fiber Optic / Data cables for instrumentation , the works shall include excavation and earthworks, cable tiles, warning tapes, cable ducts if not measured elsewhere, cable trays, draw pits where required and cable termination, penetration of structures/buildings.</b> <b>Note - Tenderers shall provide the unit rate in addition to the Lump Sum amount</b>				
9.3.1.1	Fiber Optic cable network (24 core, 50 micro meters 1Gbps 850nm Multi Mode Fiber OM3 specifications with reachability of 1kM with 1000BASE -SX Transceivers)	LS		413,851.22	413,851.22
9.3.1.2	CAT 6A cabling to all field devices	LS		121,022.27	121,022.27
9.3.1.3	Profibus DP cabling to all field instrumentation	LS		532,542.41	532,542.41
9.3.1.4	CCTV/Security system cable network	LS		240,629.25	240,629.25
9.3.1.5	Signal Cables	LS		-	Included
9.3.1.6	RTD Cables	LS		-	Included
9.3.1.7	0-10v and 4-20mA cabling	LS		-	Included
9.3.1.8	Fiber Optic leak Detection Cable	LS		-	Included
9.3.2	<u>AUTOMATION</u> <b>Supply install test and commissioning of complete SCADA/Automation system including and but not limited to the following, all software and hardware and all other works required for complete installation.</b>				
9.3.2.1	UPS system with 220VAC-240VAC input voltage , 240VAC Output voltage, 6000W Output Power 50Hz UPS invertor and 2 hours extendable batteries as specified.	LS		9,565,907.57	9,565,907.57
9.3.2.2	PLC Power Supply 24 V DC 10Amps	LS		428,545.40	428,545.40
9.3.2.3	PLC Interface Module Industrial Ethernet - Management interface	LS		1,001,694.52	1,001,694.52
9.3.2.4	PLC CPU Performance PN, DP, HART	LS		313,406.35	313,406.35
9.3.2.5	PLC Analog Input Module 8 AI U, I PT	LS		950,750.55	950,750.55
9.3.2.6	PLC Analog Output Module 8 AO , U, I	LS		1,263,088.48	1,263,088.48
9.3.2.7	Digital Input Module 32 DI 24V DC	LS		444,155.36	444,155.36
9.3.2.8	Digital Output Module 32 DO , 24V DC	LS		444,155.36	444,155.36
<b>Carried Forward to Collection</b>					15,719,748.74

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 9 MEICA Works
JTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.3.2.9	Digital Input/output 16 DI 24v DC 16 DO Relay	LS		444,155.36	444,155.36
9.3.2.10	Porifibus DP PA Coupler	LS		744,837.85	744,837.85
9.3.2.11	Pipework PLC (Field)	LS		263,412.86	263,412.86
9.3.2.12	Master Controller PLC	LS		290,442.36	290,442.36
9.3.2.13	SCADA HMI Touch Panel	LS		483,201.07	483,201.07
9.3.2.14	Operator Panel for Motor Control Module	LS		408,467.52	408,467.52
9.3.2.15	Isolation Amplifier for 2 wire Transducer HART	LS		-	Included
9.3.2.16	Module Racks 9 Slots - PLC Chassis Size	LS		109,852.48	109,852.48
<b><u>Computer and Peripherals</u></b>					
9.3.2.17	SCADA HMI OS Servers	LS		3,951,262.12	3,951,262.12
9.3.2.18	LCD Monitors 24 inch Table top	LS		-	Included
9.3.2.19	LCD Touch Monitor 24 inch	LS		-	Included
9.3.2.20	Engineering Workstation	LS		1,309,432.71	1,309,432.71
9.3.2.21	IP Video Wall Controller	LS		-	Included
9.3.2.22	Large Video Wall Panel	LS		867,663.95	867,663.95
9.3.2.23	Telephone Weather Proof VOIP	LS		25,381.10	25,381.10
9.3.2.24	Database Server ( Historian)	LS		737,206.31	737,206.31
9.3.2.25	Licensed software	LS		1,110,041.51	1,110,041.51
9.3.3	<b><u>Physical Security System</u></b>				
	<b><u>Physical Access Gateway</u></b>				
	Supply install test and commissioning of complete site wide security system including all software and hardware and all other works required for complete installation.				
9.3.3.1	Physical Access Gateway Power Splitter - for Controller (15W) and Door Keep (30W)	LS		1,471,537.63	1,471,537.63
9.3.3.2	CCTV Fixed Dome IP Camera	NO	152	13,243.27	2,012,977.04
9.3.3.3	CCTV PTZ Dome IP Camera	NO	283	31,135.78	8,811,425.74
9.3.3.4	Physical Security - Software and Hardware	LS		126,156.21	126,156.21
9.3.3.5	50 ID Access Cards	LS		152.63	152.63
9.3.3.6	Access Readers	LS		265,882.69	265,882.69
9.3.3.7	Door Keeps	LS		1,443,095.59	1,443,095.59
	<b>Carried Forward to Collection</b>				24,876,584.73

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 9 MEICA Works
JTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.3.4	<b>Lifts/Escalators</b>				
9.3.4.1	Install, test and commissioning of complete passenger Lift for Main Pump Station/Control Building including all other works required for complete installation.	LS		142,235.74	142,235.74
9.3.5	<b>Instrumentation and Controls</b>				
9.3.5.1	Install, test and commissioning of all the Instrumentations and Control equipment listed in Bill No. 7 and supply, install, test and commission of other instrumentations, controls and ancillary items where not listed in the supply bill but required for complete installation.	LS		9,305,061.69	9,305,061.69
	<b>Supply and install all ancillary items for above Instrumentation and controls required for a complete installation.</b>				
	<b>Note - Tenderers shall provide the unit rate in addition to the Lump Sum amount</b>				
9.3.5.2	Tubing and fittings	LS		109,649.90	109,649.90
9.3.5.3	Erection hardware	LS		72,707.72	72,707.72
9.3.5.4	Cable glands,	LS		131,054.27	131,054.27
9.3.5.5	Cable trays	LS		36,353.85	36,353.85
9.3.5.6	Junction Boxes	LS		46,864.57	46,864.57
	<b>Carried Forward to Collection</b>				9,843,927.74

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 9 MEICA Works
JTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.4	<b>Transformers</b>  Install test and commissioning of Transformers including all the works required for complete installation.				
9.4.1	Transformer R1-MVG-TX-20 - Type: Dry Type - Voltage: 11/0.415 kV - Rating: 1.6 MVA - Impedance: 6%	NO	1	23,033.36	23,033.36
9.4.2	Transformers R1-RS1-TX-21 and R1-RS1-TX-22 - Type: Dry Type - Voltage: 11/0.415 kV - Rating: 0.5 MVA - Impedance: 4.75%	NO	2	22,117.58	44,235.16
9.4.3	Transformers R1-RS3-TX-23 and R1-RS4-TX-24 - Type: Dry Type - Voltage: 11/0.415 kV - Rating: 1.6 MVA - Impedance: 6%	NO	2	23,033.36	46,066.72
9.4.4	Transformers - Type: Oil Filled - Voltage: 11/0.415 kV - Rating: 1.6 MVA - Impedance: 6%	NO	5	23,033.36	115,166.80
<b>Carried Forward to Collection</b>					228,502.04

<b>PROJECT: WATER SECURITY MEGA RESERVOIR</b>		<b>BILL OF QUANTITIES</b>			<b>BILL NO: 9</b> <b>MEICA Works</b>
JTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
9.5	<b><u>Service Connection Fees</u></b>				
9.5.1	Permanent Electrical Power supply connection	LS		6,971,060.67	6,971,060.67
9.5.2	Permanent Telephone and internet connection	LS		1,110,041.51	1,110,041.51
9.5.3	Permanent Water connection	LS			Included
<b>Carried Forward to Collection</b>					8,081,102.18

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 9 MEICA Works
JTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A					Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT QR
	<b>BILL NO 9 - MEICA Works</b>				
	<b>COLLECTION</b>				
	Total from page 9/21/1R				5,851,581.02
	Total from page 9/21/2R				5,674,637.03
	Total from page 9/21/3R				51,191,989.79
	Total from page 9/21/4R				34,356,504.86
	Total from page 9/21/5R				21,121,916.57
	Total from page 9/21/6R				8,117,551.15
	Total from page 9/21/7R				11,406,316.31
	Total from page 9/21/8R				6,145,328.62
	Total from page 9/21/9R				224,228.39
	Total from page 9/21/10R				13,940,399.57
	Total from page 9/21/11R				-
	Total from page 9/21/12R				5,410,636.57
	Total from page 9/21/13R				25,856,767.39
	Total from page 9/21/14R				3,296,006.67
	Total from page 9/21/15R				-
	Total from page 9/21/16R				15,719,748.74
	Total from page 9/21/17R				24,876,584.73
	Total from page 9/21/18R				9,843,927.74
	Total from page 9/21/19R				228,502.04
	Total from page 9/21/20R				8,081,102.18
	<b>Carried Forward to General Summary</b>				<b>251,343,729.37</b>

<b>PROJECT: WATER SECURITY MEGA RESERVOIR</b>	<b>BILL OF QUANTITIES</b>	<b>BILL NO: 10 Materials - Spares</b>
GTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A	Supply of Spare Parts for MEICA Equipment	Rev. 03

**Bill No. 10  
Materials supply – Spare Parts**

**WATER SECURITY MEGARESERVOIR: PRPS 1**

**GTC/626C/2014**

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 10 Materials - Spares
GTC/626C/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A		Supply of Spare Parts for MEICA Equipment			Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
	<b>Supply of Spare Parts</b>  Spare parts, tools and consumable as recommended by the manufacturer to cover two years operations (Detailed Annexure to be provided with the tender )				
10.1.1	<b>For following Generators, Switchgears and panels</b>				
10.1.1.1	3 Nr., 2.6 MVA Medium Voltage Prime-rated Generator Sets R1-MVG-GEN-01A, R1-MVG-GEN-02A and 15-MVG-GEN-03A including generator controls. - Fuel: Diesel - Voltage: 11 kV	LS		2,289.47	2,289.47
10.1.1.2	1 Nr. 2 MVA Low Voltage Prime-rated Generator Set R1-MVG-GEN-04 including generator controls. - Fuel: Diesel - Voltage: 415 V	LS		73,332.12	73,332.12
10.1.1.3	2 Nr., 1.275MVA Low Voltage Prime-rated Generator Sets R1-RS3-GEN-02 and R1-RS4-GEN-03 including generator controls. - Fuel: Diesel - Voltage: 415 V	LS		2,289.47	2,289.47
10.1.1.4	1 Nr. 1 MVA Low Voltage Prime-rated Generator Set R1-RG1-GEN-02 including generator controls. - Fuel: Diesel - Voltage: 415 V	LS		55,571.45	55,571.45
10.1.1.5	Medium Voltage Switchgear Panel R1-MVSG-01 - Voltage: 11 kV - Busbar Rating: 800 A - Incomers: 5No. 400 A - Outgoing Ways: 8No. - Busbar Couplers: 2 No.	LS		113,293.62	113,293.62
10.1.1.6	Medium Voltage Switchgear Panel R1-MVSG-02 - Voltage: 11 kV - Busbar Rating: 800 A - Incomers: 5 No. 400 A - Outgoing Ways: 7 No. - Busbar Couplers: 2 No.	LS		113,293.62	113,293.62
10.1.1.7	Medium Voltage Generator Synchronization Panel BB-R1-GEN-01 - Voltage: 11 kV - Busbar Rating: 1200 A - Incomers: 3No. 400 A - Outgoing Ways: 4No. 400 A - Busbar Coupler: 1 No.	LS		37,810.79	37,810.79

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 10 Materials - Spares
GTC/626C/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A		Supply of Spare Parts for MEICA Equipment			Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.1.1.8	Low Voltage Switchgear Panel R1-MVG-MDB-01 - Voltage: 415 V - Busbar Rating: 2500 A - Incomers: 2No. 2500 A - Outgoing Ways: 16No. Various Ratings	LS		44,471.04	44,471.04
10.1.1.9	Low Voltage Generator Switchgear Panel R1-MVG-GMDB-01 - Voltage: 415 V - Busbar Rating: 3200 A - Incomers: 1No. 3200 A - Outgoing Ways: 4No. 2500 A	LS		44,471.04	44,471.04
10.1.1.10	2 Nr. Medium Voltage Switchgear Panels R1-RS1-MVP-01 and R1-RS2-MVP-01 - Voltage: 11 kV - Busbar Rating: 800 A - Incomers: 2No. 400 A - Outgoing Ways: 1No. 400 A	LS		30,706.52	30,706.52
10.1.1.11	2 Nr. Low Voltage Switchgear Panels R1-RS1-MDB-01 and R1-RS2-MDB-01 - Voltage: 415 V - Busbar Rating: 1000 A - Incomers: 2No. - Outgoing Ways: Various	LS		20,050.12	20,050.12
10.1.1.12	2 Nr. Medium Voltage Switchgear Panels R1-RS3-MVP-01 and R1-RS4-MVP-01 - Voltage: 11 kV - Busbar Rating: 800 A - Incomers: 2No. 400 A - Outgoing Ways: 1No. 400 A	LS		30,706.52	30,706.52
10.1.1.13	2 Nr. Low Voltage Switchgear Panels R1-RS3-MDB-01 and R1-RS4-MDB-01 - Voltage: 415 V - Busbar Rating: 2500 A - Incomers: 2No. 2500 A - Outgoing Ways: Various	LS		55,571.45	55,571.45
10.1.1.14	Low Voltage Generator Switchgear Panel R1-RG1-GMDB-01 - Voltage: 415 V - Busbar Rating: 3000 A - Incomers: 1No. 3200 A - Outgoing Ways: 2No. 1200 A	LS		29,818.49	29,818.49

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 10 Materials - Spares
GTC/626C/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A		Supply of Spare Parts for MEICA Equipment			Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.1.2	Supply of additional equipment consist but not limited to following (Detailed Annexure to be provided with the tender)				
10.1.2.1	VFD 1400 Kw Panel (Assembled and tested at VFD's manufacturer factory)	NO	1	377,414.11	377,414.11
10.1.2.2	VFD 400 Kw Panel (Assembled and tested at VFD's manufacturer factory)	NO	1	199,807.47	199,807.47
10.1.2.3	MCB ( 2 nr. in each sizes)	LS		11,100.42	11,100.42
10.1.2.4	MCCB (1 nr. in each sizes)	LS		39,961.50	39,961.50
10.1.2.5	Selector Switches (2 nr. in each model)	LS		39,961.50	39,961.50
10.1.2.6	Circuit Breaker Handles (2 nr. in each model)	LS		6,660.25	6,660.25
10.1.2.7	Volt Meter	NO	2	3,115.06	6,230.12
10.1.2.8	Power Monitoring Unit in each type (2 nr. for each)	LS		6,889.20	6,889.20
10.1.2.9	Current Transducers	NO	2	11,329.36	22,658.72
10.1.2.10	Voltage transducers	NO	2	11,329.36	22,658.72
10.1.2.11	Indication Lamp in each type & colour (2 nr. for each type)	LS		2,005.02	2,005.02
10.1.2.12	Timers in each type (2 nr. for each type)	LS		7,999.24	7,999.24
10.1.2.13	Trolley for ACB removable	NO	1	8,221.25	8,221.25
<b>Subtotal for 10.1</b>					1,405,243.24

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 10 Materials - Spares
GTC/626C/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A		Supply of Spare Parts for MEICA Equipment			Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.2	<b>For Following Pumps.</b>				
10.2.1	Flood Pumps - Main Pump Station (4 Nr) Electrically driven, vertical Submersible water pumps. Capacity: 242.1 l/s @ 10.5 m Head	LS		362,126.20	362,126.20
10.2.1.1	Supply of following additional Spare Parts for above Pump in addition to manufacturer recommended spare parts				
10.2.1.1.1	Impeller	NO	2	-	Included
10.2.1.1.2	Rolling Element Bearing Motor end	NO	2	-	Included
10.2.1.1.3	Rolling Element Bearing Pump end	NO	2	-	Included
10.2.1.1.4	Mechanical seals (pump end)	NO	4	-	Included
10.2.1.1.5	Mechanical seals (Motor end)	NO	4	-	Included
10.2.1.1.6	Set of sealing elements	NO	8	-	Included
10.2.2	Drain Pumps - Main Pump Station (4 Nr) Electrically driven, vertical Submersible water pumps. Capacity: 9.72 l/ Sec @ 16.4 m Head Drive Motor-4.2kW	LS		53,161.20	53,161.20
10.2.2.1	Supply of following additional Spare Parts for above Pump in addition to manufacturer recommended spare parts				
10.2.2.1.1	Impeller	NO	2	-	Included
10.2.2.1.2	Rolling Element Bearing Motor end	NO	2	-	Included
10.2.2.1.3	Rolling Element Bearing Pump end	NO	2	-	Included
10.2.2.1.4	Mechanical seals (pump end)	NO	4	-	Included
10.2.2.1.5	Mechanical seals (Motor end)	NO	4	-	Included
10.2.2.1.6	Set of sealing elements	NO	8	-	Included
10.2.3	Recirculation Pumps - Auxiliary Pump Station (4 Nr) Submersible pump, Capacity: 1260 l/sec @ 8.06 m Head	LS		476,481.85	476,481.85
10.2.3.1	Supply of following additional Spare Parts for above Pump in addition to manufacturer recommended spare parts				
10.2.3.1.1	Impeller	NO	2	-	Included
10.2.3.1.2	Rolling Element Bearing Motor end	NO	2	-	Included

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 10 Materials - Spares
GTC/626C/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A		Supply of Spare Parts for MEICA Equipment			Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.2.3.1.3	Rolling Element Bearing Pump end	NO	2	-	Included
10.2.3.1.4	Mechanical seals (pump end)	NO	4	-	Included
10.2.3.1.5	Mechanical seals (Motor end)	NO	4	-	Included
10.2.3.1.6	Set of sealing elements	NO	8	-	Included
10.2.4	Drain Down Pumps - Auxiliary Pump Station (2 Nr) Electrically driven, Single or Multi Channel Impeller pumps With large through lets and single volute pump casing. Capacity: 900 l/sec @ 10 m Head.	LS		685,035.23	685,035.23
10.2.4.1	Supply of following additional Spare Parts for above Pump in addition to manufacturer recommended spare parts				
10.2.4.1.1	Impeller (each)	NO	1	-	Included
10.2.4.1.2	Impeller wear ring(set)	NO	2	-	Included
10.2.4.1.3	Casing wear rings (set)	NO	2	-	Included
10.2.4.1.4	Shaft with key and nut (set)	NO	1	-	Included
10.2.4.1.5	Shaft protection sleeves (set)	NO	2	-	Included
10.2.4.1.6	Pumps bearings & washers (set)	NO	2	-	Included
10.2.4.1.7	Mechanical seals (each)	NO	2	-	Included
10.2.4.1.8	O-rings, V-rings , and gaskets (set)	NO	4	-	Included
10.2.4.1.9	Pump/motor coupling	NO	1	-	Included
10.2.4.1.10	Bearing housing	NO	1	-	Included
10.2.5	Scour Pumps - Auxiliary Pump Station (2 Nr) Electrically driven, Multi Channel Impeller pumps. Capacity: 54 l/ Sec @ 7m Head Drive Motor	LS		35,440.80	35,440.80
10.2.5.1	Supply of following additional Spare Parts for above Pump in addition to manufacturer recommended spare parts				
10.2.5.1.1	Impeller (each)	NO	1	-	Included
10.2.5.1.2	Impeller wear ring(set)	NO	2	-	Included
10.2.5.1.3	Casing wear rings (set)	NO	2	-	Included
10.2.5.1.4	Shaft with key and nut (set)	NO	1	-	Included
10.2.5.1.5	Shaft protection sleeves (set)	NO	2	-	Included

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 10 Materials - Spares
GTC/626C/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A		Supply of Spare Parts for MEICA Equipment			Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.2.5.1.6	Pumps bearings & washers (set)	NO	2	-	Included
10.2.5.1.7	Mechanical seals (each)	NO	2	-	Included
10.2.5.1.8	O-rings, V-rings , and gaskets (set)	NO	4	-	Included
10.2.5.1.9	Pump/motor coupling	NO	1	-	Included
10.2.5.1.10	Bearing housing	NO	1	-	Included
10.2.6	Drain Pumps - Auxiliary Pump Station (2 Nr) Electrically driven, Vortex Impeller type Submersible water pumps. Capacity: 10 l/ Sec @ 11.7 m Head Drive Motor- 3.1kW	LS		27,565.07	27,565.07
10.2.6.1	Supply of following additional Spare Parts for above Pump in addition to manufacturer recommended spare parts				
10.2.6.1.1	Impeller	NO	1	-	Included
10.2.6.1.2	Rolling Element Bearing Motor end	NO	1	-	Included
10.2.6.1.3	Rolling Element Bearing Pump end	NO	1	-	Included
10.2.6.1.4	Mechanical seals (pump end)	NO	2	-	Included
10.2.6.1.5	Mechanical seals (Motor end)	NO	2	-	Included
10.2.6.1.6	Set of sealing elements	NO	4	-	Included
10.2.7	Main Pump - TFS Pump Station (4 Nr) Submersible pump. Capacity: 100 l / Sec @ 9.96 m Head	LS		142,747.66	142,747.66
10.2.7.1	Supply of following additional Spare Parts for above Pump in addition to manufacturer recommended spare parts				
10.2.7.1.1	Impeller	NO	2	-	Included
10.2.7.1.2	Rolling Element Bearing Motor end	NO	2	-	Included
10.2.7.1.3	Rolling Element Bearing Pump end	NO	2	-	Included
10.2.7.1.4	Mechanical seals (pump end)	NO	4	-	Included
10.2.7.1.5	Mechanical seals (Motor end)	NO	4	-	Included
10.2.7.1.6	Set of sealing elements	NO	8	-	Included

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.2.8	Drain Pump - TFS Pump Station (2 Nr) Electrically driven, Submersible water pumps. Capacity: 10 l/ Sec @ 11.7 m Head	LS		27,565.07	27,565.07
10.2.8.1	Supply of following additional Spare Parts for above Pump in addition to manufacturer recommended spare parts				
10.2.8.1.1	Impeller	NO	1	-	Included
10.2.8.1.2	Rolling Element Bearing Motor end	NO	1	-	Included
10.2.8.1.3	Rolling Element Bearing Pump end	NO	1	-	Included
10.2.8.1.4	Mechanical seals (pump end)	NO	2	-	Included
10.2.8.1.5	Mechanical seals (Motor end)	NO	2	-	Included
10.2.8.1.6	Set of sealing elements	NO	4	-	Included
10.2.9	Fire Pump Electrically driven, Horizontal pumps as per NFPA requirement.	LS		35,440.80	35,440.80
10.2.9.1	Supply of following additional Spare Parts for above Pump in addition to manufacturer recommended spare parts				
10.2.9.1.1	Impeller (each)	NO	1	-	Included
10.2.9.1.2	Impeller wear ring(set)	NO	1	-	Included
10.2.9.1.3	Casing wear rings (set)	NO	1	-	Included
10.2.9.1.4	Shaft with key and nut (set)	NO	1	-	Included
10.2.9.1.5	Shaft protection sleeves (set)	NO	1	-	Included
10.2.9.1.6	Pumps bearings & washers (set)	NO	1	-	Included
10.2.9.1.7	Mechanical seals (each)	NO	1	-	Included
10.2.9.1.8	O-rings, V-rings , and gaskets (set)	NO	4	-	Included
10.2.9.1.9	Pump/motor coupling	NO	1	-	Included
10.2.9.1.10	Bearing housing	NO	1	-	Included
10.2.10	Jockey Pump (2 Nr) Electrical driven pumps as per NFPA requirement.	LS		3,937.87	3,937.87
10.2.11	Potable Water Pumps (2 Nr) Electrical driven Booster pumps. Capacity: 10 l/s @3 bar	LS		27,565.07	27,565.07

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.2.11.1	Supply of following additional Spare Parts for above Pump in addition to manufacturer recommended spare parts				
10.2.11.1.1	Impeller (each)	NO	1	-	Included
10.2.11.1.2	Impeller wear ring(set)	NO	2	-	Included
10.2.11.1.3	Casing wear rings (set)	NO	2	-	Included
10.2.11.1.4	Shaft with key and nut (set)	NO	1	-	Included
10.2.11.1.5	Shaft protection sleeves (set)	NO	2	-	Included
10.2.11.1.6	Pumps bearings & washers (set)	NO	2	-	Included
10.2.11.1.7	Mechanical seals (each)	NO	2	-	Included
10.2.11.1.8	O-rings, V-rings , and gaskets (set)	NO	4	-	Included
10.2.11.1.9	Pump/motor coupling	NO	1	-	Included
10.2.11.1.10	Bearing housing	NO	1	-	Included
10.2.12	Irrigation Pumps (2 Nr)  Electrical driven Booster pumps. Capacity: 2.6 l/s @6.5 bar	LS		19,689.33	19,689.33
10.2.12.1	Supply of following additional Spare Parts for above Pump in addition to manufacturer recommended spare parts				
10.2.12.1.1	Impeller (each)	NO	1	-	Included
10.2.12.1.2	Impeller wear ring(set)	NO	2	-	Included
10.2.12.1.3	Casing wear rings (set)	NO	2	-	Included
10.2.12.1.4	Shaft with key and nut (set)	NO	1	-	Included
10.2.12.1.5	Shaft protection sleeves (set)	NO	2	-	Included
10.2.12.1.6	Pumps bearings & washers (set)	NO	2	-	Included
10.2.12.1.7	Mechanical seals (each)	NO	2	-	Included
10.2.12.1.8	O-rings, V-rings , and gaskets (set)	NO	4	-	Included
10.2.12.1.9	Pump/motor coupling	NO	1	-	Included
10.2.12.1.10	Bearing housing	NO	1	-	Included
10.2.13	Diesel Engine Driven Pump  Diesel Engine driven, Horizontal pump as per NFPA requirement.	LS		47,254.40	47,254.40
10.2.13.1	Supply of following additional Spare Parts for above Pump in addition to manufacturer recommended spare parts				
10.2.13.1.1	Impeller with integral rings	NO	1	-	Included
10.2.13.1.2	Casing Rings (Sets)	NO	2	-	Included

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.2.13.1.3	Standard Grease lube bearing	NO	1	-	Included
10.2.13.1.4	Outboard bearing	NO	1	-	Included
10.2.13.1.5	Inboard bearing	NO	1	-	Included
10.2.13.1.6	Shaft sleeves	NO	2	-	Included
10.2.13.1.7	Standard packing	NO	2	-	Included
10.2.13.1.8	Mechanical seals (each)	NO	1	-	Included
10.2.13.1.9	Casing Gasket	NO	1	-	Included
10.2.14	Drain Pump - Land and Under Floor Drainage Pump Station (3 Nr)  Electrically driven, Submersible water pumps. Capacity: 9.72 l/ Sec @ 16.4 m Head	LS		-	Included
10.2.14.1	Supply of following additional Spare Parts for above Pump in addition to manufacturer recommended spare parts				
10.2.14.1.1	Impeller	NO	1	-	Included
10.2.14.1.2	Rolling Element Bearing Motor end	NO	1	-	Included
10.2.14.1.3	Rolling Element Bearing Pump end	NO	1	-	Included
10.2.14.1.4	Mechanical seals (pump end)	NO	2	-	Included
10.2.14.1.5	Mechanical seals (Motor end)	NO	2	-	Included
10.2.14.1.6	Set of sealing elements	NO	4	-	Included
<b>Subtotal for 10.2</b>					1,944,010.55

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.3	Spare parts, tools and consumable as recommended by the manufacturer to cover two years operations (Detailed Annexure to be provided with the tender ) <b>For Following</b>				
10.3.1	1400KW, MV Variable frequency drive unit including 11/3.3kV 3MVA Phase Shift Transformer, Frequency converter with 24 pulse (minimum) rectifier, Harmonic filter unit, IGBT/IGCT inverter and all other ancillary equipment (5 Nr.)	LS		139,934.61	139,934.61
10.3.2	400KW LV Variable frequency drive unit of PWM design including Frequency converter having full wave diode bridge rectifier, DC links, inverters, Harmonic filter units and all other ancillary equipment and works required for complete installation (4 Nr.)	LS		82,198.57	82,198.57
10.3.3	Passenger / Goods Lift.	LS		23,627.20	23,627.20
10.3.4	5 nr. Air Compressors - Oil Free Rotary Screw type, Delivery Capacity -10.61 m <sup>3</sup> / min, Nominal Pressure -10 bar, Drive Motor- 75kW, complete with 3 nr. Air receivers.	LS		23,627.20	23,627.20
10.3.5	Fire detection and alarm system	LS		53,510.93	53,510.93
10.3.6	Fire protection system	LS		118,136.00	118,136.00
10.3.7	Complete chlorination system including pumps	LS		177,203.99	177,203.99
10.3.8	Low voltage MCCs	LS		155,634.76	155,634.76
10.3.9	Control Panels and distribution boards	LS			
10.3.10	CCTV and Access control system	LS		377,643.06	377,643.06
10.3.11	Street lighting and security lighting	LS		177,835.59	177,835.59
10.3.12	FM200 Fire Suppression system (Electrical & Mechanical)	LS		-	Included
10.3.13	Internal fire protection system	LS		492,233.32	492,233.32
10.3.14	UPS and emergency power lighting	LS		35,750.28	35,750.28
10.3.15	Electrically powered six seater passenger vehicles. (3 Nr)	LS		9,844.67	9,844.67
10.3.16	Electrically powered four seater vehicle with cargo bed at the rear.(2 Nr)	LS		9,844.67	9,844.67

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.3.17	Electrically operated Over Head Travelling Gantry crane SWL 20T	LS		-	Included
10.3.18	3 Nr. Mono Rail Cranes, Capacity 3Ton	LS		-	Included
10.3.19	10 Ton Electrically operated outdoor Overhead travelling crane.	LS		-	Included
10.3.20	1.5 Ton Electrically operated outdoor Overhead travelling crane.	LS		-	Included
10.3.21	HVAC Equipment	LS		-	Included
<b>Subtotal for 10.3</b>					1,877,024.85

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.4	<b>Instrumentation and Control equipment</b>  Spare parts, tools and consumables are to be provided as recommended by the manufacturer for the start-up as well as for two years of operation and maintenance				
10.4.1	Instrumentation and Control equipment listed in the Bill No. 7 and other Instrumentation and Control equipment where not listed but required for complete installation.	LS		202,096.94	202,096.94
10.4.2	<b>Supply of additional equipment consist but not limited to following (Detailed Annexure to be provided with the tender)</b>				
10.4.2.1	Paperless Recorder (in each model)	NO	2	11,329.36	22,658.72
10.4.2.2	Digital / Analogue Indicator (in each model)	NO	2	8,221.25	16,442.50
10.4.2.3	Pressure Switch (in each type)	NO	2	6,445.18	12,890.36
10.4.2.4	Pump Suction Pressure Gauge (in each type)	NO	8	7,333.22	58,665.76
10.4.2.5	Pump Delivery Pressure Gauge (in each type)	NO	8	7,333.22	58,665.76
10.4.2.6	Pressure Transmitter (in each type)	NO	4	4,225.09	16,900.36
10.4.2.7	Level Transmitter (in each type)	NO	4	4,225.09	16,900.36
10.4.2.8	Level Switch (in each type)	NO	4	4,225.09	16,900.36
10.4.2.9	Signal Splitter relays	NO	10	1,338.99	13,389.90
10.4.2.10	Temperature Transmitter (in each type)	NO	2	4,003.10	8,006.20
10.4.2.11	PLC CPU (in each type)	NO	1	141,870.24	141,870.24
10.4.2.12	PLC Power Supply Unit (in each type)	NO	1	5,113.13	5,113.13
10.4.2.13	I/O Power Supply Unit (in each type)	NO	1	3,026.25	3,026.25
10.4.2.14	D/I Card (10% in each type)	LS		263,773.61	263,773.61
10.4.2.15	D/O Card (10% in each type)	LS		94,692.09	94,692.09
10.4.2.16	A/O Card (10% in each type)	LS		86,166.97	86,166.97
10.4.2.17	A/I Card (10% in each type)	LS		421,843.52	421,843.52
10.4.2.18	Analogue Signal Isolator	NO	4	6,045.56	24,182.24
10.4.2.19	HART communicator	NO	2	32,642.16	65,284.32
10.4.2.20	Control Fuses Various sizes (in each sizes)	NO	10	917.17	9,171.70

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.4.3	All recommended spare parts including Main control PCB cards for UPS	LS		506,642.92	506,642.92
10.4.4	All recommended spare parts including control PCB cards for electric actuator	LS		69,655.10	69,655.10
<b>Subtotal for 10.4</b>					2,134,939.31

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.5	<u>Spare parts, tools and consumables are to be provided as recommended by the manufacturer for the start-up as well as for two years of operation and maintenance For Following Transformers</u>				
10.5.1	1 Nr. Transformer R1-MVG-TX-20 - Type: Dry Type - Voltage: 11/0.415 kV - Rating: 1.6 MVA - Impedance: 6%	LS		13,389.88	13,389.88
10.5.2	2 Nr. Transformers R1-RS1-TX-21 and R1-RS1-TX-22 - Type: Dry Type - Voltage: 11/0.415 kV - Rating: 0.5 MVA - Impedance: 4.75%	LS		12,945.86	12,945.86
10.5.3	2 Nr. Transformers R1-RS3-TX-23 and R1-RS4-TX-24 - Type: Dry Type - Voltage: 11/0.415 kV - Rating: 1.6 MVA - Impedance: 6%	LS		24,490.30	24,490.30
10.5.4	5 Nr. Transformers - Type: Oil Filled - Voltage: 11/0.415 kV - Rating: 1.6 MVA - Impedance: 6%	LS		40,030.87	40,030.87
<b>Subtotal for 10.5</b>					90,856.91

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.6	<b>Valves, Actuators and Flow Meters</b>				
10.6.1	<b>Supply of manufacturer recommended Spare Parts for the following.</b>				
10.6.1.1	Quick Closing Valve (DN. 2200, 1600 and 1200)	LS		443,009.98	443,009.98
10.6.1.2	Motorized Butterfly Valve (DN 2200, 800, 600, 250, 200, 150 and 100)	LS		262,025.64	262,025.64
10.6.1.3	BV with extension spindle (DN 2200, 2000, 1600, 1400, 1200, 900, 800, 600, 500, 350, 250, and 150)	LS		174,683.76	174,683.76
10.6.1.4	Motorized Gate Valve (DN 1000, 800, 700, 500, 300, 250, and 200)	LS		190,986.53	190,986.53
10.6.1.5	Axial Spring Loaded NRV (DN 800, 600, 300, 250, 200 and 100)	LS		137,825.33	137,825.33
10.6.1.6	Pressure Sustaining Valve DN 500	LS		16,539.04	16,539.04
10.6.1.7	Flow Control Valve (DN 1600, 1200 and 800)	LS		354,407.99	354,407.99
10.6.1.8	Gate Valve (DN 300, 250, 200, 150, 100 and 80)	LS		29,534.00	29,534.00
10.6.1.9	Air Valve (DN 150 and 80)	LS		3,603.17	3,603.17
10.6.1.10	Swing Check Valve DN 200	LS		1,575.15	1,575.15
10.6.1.11	Flanged Ball Valve DN 100 & DN 80	LS		1,575.15	1,575.15
10.6.1.12	Flanged Solenoid Valve. DN 100	LS		1,968.93	1,968.93
10.6.1.13	Flow Meter (DN 1600, 1200, and 100)	LS		78,757.33	78,757.33
10.6.1.14	Motorized Pillar type Actuators for Butterfly Valves	LS		23,627.20	23,627.20
10.6.1.15	Motorized Pillar type Actuators for Flow Control Valves	LS		39,378.67	39,378.67
<b>Supply of following Spare Valves, Actuators and Flow meters</b>					
10.6.2	<b>Quick Closing Valve</b>				
10.6.2.1	2200 mm dia.	NO	1	1,275,868.76	1,275,868.76
10.6.2.2	1600 mm dia.	NO	1	648,330.34	648,330.34
10.6.2.3	1200 mm dia.	NO	1	370,474.48	370,474.48

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.6.3	<b>Motorized Butterfly Valve</b>				
10.6.3.1	2200 mm dia.	NO	1	945,087.97	945,087.97
10.6.3.2	800 mm dia.	NO	1	86,633.06	86,633.06
10.6.3.3	600 mm dia.	NO	1	55,130.13	55,130.13
10.6.3.4	250 mm dia.	NO	1	12,601.17	12,601.17
10.6.3.5	200 mm dia.	NO	1	10,238.45	10,238.45
10.6.3.6	150 mm dia.	NO	1	7,481.95	7,481.95
10.6.3.7	100 mm dia.	NO	1	3,544.08	3,544.08
10.6.4	<b>BV with extension spindle</b>				
10.6.4.1	2200 mm dia.	NO	1	866,330.64	866,330.64
10.6.4.2	2000 mm dia.	NO	1	708,815.98	708,815.98
10.6.4.3	1600 mm dia.	NO	2	275,650.66	551,301.32
10.6.4.4	1400 mm dia.	NO	1	196,893.33	196,893.33
10.6.4.5	1200 mm dia.	NO	3	126,011.73	378,035.19
10.6.4.6	900 mm dia.	NO	1	102,384.53	102,384.53
10.6.4.7	800 mm dia.	NO	2	74,819.46	149,638.92
10.6.4.8	600 mm dia.	NO	1	43,316.53	43,316.53
10.6.4.9	500 mm dia.	NO	1	35,440.80	35,440.80
10.6.4.10	350 mm dia.	NO	1	11,026.03	11,026.03
10.6.4.11	250 mm dia.	NO	1	7,875.73	7,875.73
10.6.4.12	150 mm dia.	NO	1	3,544.08	3,544.08

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.6.5	<b>Motorized Gate Valve</b>				
10.6.5.1	1000 mm dia.	NO	1	129,949.60	129,949.60
10.6.5.2	800 mm dia.	NO	1	98,446.66	98,446.66
10.6.5.3	700 mm dia.	NO	1	78,757.33	78,757.33
10.6.5.4	500 mm dia.	NO	1	47,254.40	47,254.40
10.6.5.5	300 mm dia.	NO	1	13,782.53	13,782.53
10.6.5.6	250 mm dia.	NO	1	12,601.17	12,601.17
10.6.5.7	200 mm dia.	NO	1	10,238.45	10,238.45
10.6.6	<b>Axial Spring Loaded NRV</b>				
10.6.6.1	800 mm dia.	NO	1	86,633.06	86,633.06
10.6.6.2	600 mm dia.	NO	1	55,130.13	55,130.13
10.6.6.3	300 mm dia.	NO	1	15,751.47	15,751.47
10.6.6.4	250 mm dia.	NO	1	13,782.53	13,782.53
10.6.6.5	200 mm dia.	NO	1	11,813.60	11,813.60
10.6.6.6	100 mm dia.	NO	1	7,875.73	7,875.73
10.6.7	<b>Pressure Sustaining Valve</b>				
10.6.7.1	500 mm dia.	NO	1	78,757.33	78,757.33
10.6.8	<b>Flow Control Valve</b>				
10.6.8.1	1600 mm dia.	NO	1	354,407.99	354,407.99
10.6.8.2	1200 mm dia.	NO	1	295,339.99	295,339.99
10.6.8.3	800 mm dia.	NO	1	177,203.99	177,203.99

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ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.6.9	<b>Gate Valve</b>				
10.6.9.1	300 mm dia.	NO	1	9,844.67	9,844.67
10.6.9.2	250 mm dia.	NO	1	8,663.31	8,663.31
10.6.9.3	200 mm dia.	NO	4	6,300.59	25,202.36
10.6.9.4	150 mm dia.	NO	1	3,740.97	3,740.97
10.6.9.5	100 mm dia.	NO	2	1,575.15	3,150.30
10.6.9.6	80 mm dia.	NO	2	787.57	1,575.14
10.6.10	<b>Air Valve</b>				
10.6.10.1	150 mm dia.	NO	1	3,740.97	3,740.97
10.6.10.2	80 mm dia.	NO	1	2,953.40	2,953.40
10.6.11	<b>Swing Check Valve</b>				
10.6.11.1	200 mm dia.	NO	1	7,088.16	7,088.16
10.6.12	<b>Flanged Ball Valve</b>				
10.6.12.1	100 mm dia.	NO	1	1,181.36	1,181.36
10.6.12.2	80 mm dia.	NO	1	787.57	787.57
10.6.13	<b>Flanged Solenoid Valve.</b>				
10.6.13.1	100 mm dia.	NO	1	3,937.87	3,937.87
10.6.14	<b>Flow Meter</b>				
10.6.14.1	1600 mm dia.	NO	1	189,017.59	189,017.59
10.6.14.2	1200 mm dia.	NO	1	102,384.53	102,384.53
10.6.14.3	100 mm dia.	NO	1	7,875.73	7,875.73

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 10 Materials - Spares
GTC/626C/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A		Supply of Spare Parts for MEICA Equipment			Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.6.15	<b>Motorized Pillar type Actuators for following valves</b>				
10.6.15.1	2200 mm dia.	NO	1	110,260.26	110,260.26
10.6.15.2	1600 mm dia.	NO	1	59,068.00	59,068.00
10.6.15.3	1200 mm dia.	NO	1	47,254.40	47,254.40
10.6.15.4	900 mm dia.	NO	1	31,502.93	31,502.93
10.6.15.5	800 mm dia.	NO	1	31,502.93	31,502.93
10.6.15.6	600 mm dia.	NO	1	23,627.20	23,627.20
10.6.15.7	250 mm dia.	NO	1	11,813.60	11,813.60
10.6.15.8	150 mm dia.	NO	1	7,875.73	7,875.73
<b>Subtotal for 10.6</b>					10,411,266.28

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 10 Materials - Spares
GTC/626C/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A		Supply of Spare Parts for MEICA Equipment			Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.7.1	<b>Lubricants</b>				
10.7.1.1	Lubricants for two year running period for all equipment	LS		590,679.98	590,679.98
	<b>Subtotal for 10.7</b>				590,679.98

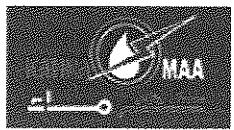
PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 10 Materials - Spares
GTC/626C/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A		Supply of Spare Parts for MEICA Equipment			Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
10.8	General - Spare Parts, tools and consumable to cover 2 years operation of all the pumps, valves etc. Contractor to provide a detailed list below.	IM		3,347,186.55	3,347,186.55
	<b>Subtotal for 10.8</b>				3,347,186.55

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES			BILL NO: 10 Materials - Spares
GTC/626C/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A		Supply of Spare Parts for MEICA Equipment			Rev 03
ITEM REF.	ITEM DESCRIPTION	UNIT	QTY.	RATE QR	AMOUNT (QR)
	<b>BILL NO. 10 - COLLECTION</b>				
	Subtotal for 10.1				1,405,243.24
	Subtotal for 10.2				1,944,010.55
	Subtotal for 10.3				1,877,024.85
	Subtotal for 10.4				2,134,939.31
	Subtotal for 10.5				90,856.91
	Subtotal for 10.6				10,411,266.28
	Subtotal for 10.7				590,679.98
	Subtotal for 10.8				3,347,186.55
	<b>Carried Forward to General Summary</b>				<b>21,801,207.67</b>

PROJECT: WATER SECURITY MEGA RESERVOIR		BILL OF QUANTITIES	General Summary
JTC/626A/2014, Construction of Mega Reservoir PRPS at Umm Birka - Package A			Rev 03
	ITEM DESCRIPTION		AMOUNT QR
	<b>GENERAL SUMMARY- PRPS 1</b> <b>COLLECTION</b>		
	Total for Bill 1		9,000,077.46
	Total for Bill 2		Deleted
	Total for Bill 3		Deleted
	Total for Bill 4		Deleted
	Total for Bill 5		59,758,645.84
	Total for Bill 6		199,533,938.17
	Total for Bill 7		2,549,474.72
	Total for Bill 8		1,553,335,553.09
	Total for Bill 9		251,343,729.37
	Total for Bill 10		21,801,207.67
	<b>Total Project Cost</b>		<b>2,097,322,626.32</b>

## **SECTION 11: APPENDIX C INSURANCE**

**SECTION 11: APPENDIX C  
INSURANCE  
1. Preamble**



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

## **APPENDIX C**

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## **INSURANCE**



## APPENDIX – C

### INSURANCE

The CONTRACTOR, at his own cost and expense, shall provide and maintain the following insurances, which shall be in the joint names of the CONTRACTOR and KAHRAMAA. KAHRAMAA shall have the right to review and accept or reject the conditions, terms, insured sums and limits of such insurances:

#### **1. CONTRACTOR'S ALL RISKS INSURANCE to cover:**

- (a) The total value of the work including all materials to be incorporated therein whether supplied by Contractor or KAHRAMAA.
- (b) Contractor's Plant, Tools and Equipment for the full value.
- (c) Third Party Legal Liability (bodily injury and or property damage) for a limit of QR 1,000,000.00 (Qatari Riyals One Million) for any one occurrence for unlimited number of occurrences.
- (d) Fixed and Floating Surrounding Property for a limit of QR 1,000,000.00 (Qatari Riyals One Million) for any one occurrence for unlimited number of occurrences.

#### **2. WORKMEN'S COMPENSATION INSURANCE in accordance with Qatar Labour Law and any amendments thereafter in respect of CONTRACTOR'S PERSONNEL and/or any of SUBCONTRACTOR(S) personnel**

The Insurance shall be arranged and affected with any one of the following six accredited national insurance companies offering the most favourable cover and premiums:

- Al Khaleej Insurance Company
- Qatar General Insurance & Reinsurance Company
- Qatar Insurance Company
- Qatar Islamic Insurance Company
- Doha Insurance Company
- Doha Assurance Company LCC
- Damaan Islamic Insurance Company. "Beema"
- SEIB Insurance & Reinsurance Company LCC



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

All the deductibles applicable to CONTRACTOR's insurances shall be for the account of the CONTRACTOR.

CONTRACTOR's Insurance Policies shall include a clause to the effect that the Insurer(s) shall waive their right(s) of subrogation against KAHRAMAA. CONTRACTOR's Insurance Policies shall also include a clause to the effect that the Insurer agrees not to alter by deletion or addition any of the general or special terms, insured sums, limit of liability or deductible unless a written consent to do so is obtained from KAHRAMAA.

CONTRACTOR shall be required to produce to KAHRAMAA the policies of insurance (or insurance certificates in lieu but with prior permission of KAHRAMAA, cover notes and the receipts for payment for the current premium within 14 days after the issuance of a Letter of Award (LOA) but before commencement of any WORK under the CONTRACT. Policy Endorsements are not an acceptable proof for policy renewal. Each policy renewal shall be evidenced by a new policy document or a certificate of insurance.

If CONTRACTOR fails to effect or keep in force the insurance provided for in this Appendix 'C' or any such insurance which it may be required to effect under the terms of the CONTRACT then KAHRAMAA may effect and keep in force any such insurance and pay the premium or premia as may be necessary for that purpose and from time to time deduct the amount so paid by KAHRAMAA as aforesaid from any monies due or which may become due to CONTRACTOR or recover them as a debt due from the CONTRACTOR.

Approval by KAHRAMA of any insurer or terms of insurance proposed by CONTRACTOR shall not relieve nor limit CONTRACTOR of any obligation or liability under or arising from this CONTRACT or generally at law.

**SECTION 11: APPENDIX C  
INSURANCE**  
**2. All Risk Insurance**



1964-2014



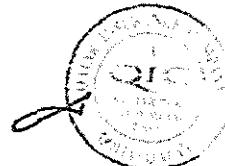
Ref : QIC/P&C/1222-A/2015  
Date : 23 March 2015

Consolidated Contractors Group S.A.L. (Offshore),  
Teyseer Contracting Company W.L.L., Joint Venture (CCC-TCC JV)  
P.O. Box 22056  
Doha,  
State of Qatar

#### COVER NOTE

In accordance with the instructions we confirm having effected the following insurance:

1. Type of Cover : Contractors All Risks and associated Third Party Liability Insurance as per our standard policy wording
2. Insured : Qatar Electricity & Water Cooperation (KAHRAMAA) as Principal and/or M/s Consolidate Contracting Group S.A.L. (Offshore) (CCC) and M/s Teyseer Contracting Company W.L.L. - JV as Contractors and/or Subcontractor of all tiers, and/or Financiers/Lenders and/or Suppliers/Sub-Suppliers and/or Vendors and/or Consultants and/or Engineers for their respective rights and interests for their Site Activities.
3. Contract Title : GTC 626/2014 – (Package A) Construction Of Mega Reservoir PRPS 1 – Umm Birka
4. Period of Insurance : From : 05<sup>th</sup> April 2015  
To : 04<sup>th</sup> April 2018, both days inclusive  
Plus 24 Months maintenance period
5. Sum Insured under Section 1 – Material Damage : Contract Value (Package A) - QR 2,126,460,600/-  
Total Sum Insured - QR 2,126,460,600/-
6. Sum Insured under Section 2 – Third Party Liability : QAR 1,000,000/- any one occurrence and unlimited in the aggregate for bodily injury and property damage



P.O. Box 656 - Tamin St  
West Bay - Doha  
State of Qatar  
T +974 4496 2222  
F +974 4483 1569  
E qatarins@qic.com.qa  
W www.qic.com.qa

QIC GROUP ENTITIES  
QIC Qatar | QIC International LLC | QIC Dubai | QIC Abu Dhabi  
QOIC Muscat | QIIC Kuwait | QIC Malta | Damaan Islamic Insurance Company  
Q-Re 880 - Doha, London, Zurich, Bermuda | QLife & Medical LLC  
Qatar Economic Advisors | QIC Real Estate Qatar

الرегистري التجاري سجل تجاري: ١٠ - دايس للالامبور: ٢٣٠٩٤٠١ - ريال قطري



1964-2014



Ref : QIC/P&C/1222-A/2015

7. Premium for the Period : As Agreed  
8. Territorial Limit : State of Qatar (onshore locations only).  
9. Jurisdiction : Competent Courts of the State of Qatar

This Cover Note is issued as evidence that insurance has been arranged as per our standard policy wording and does not purport to show full terms and conditions of coverage nor vary them in any way. The terms and conditions of the insurance policy shall prevail in the event of any inconsistency between this Cover Note and the policy.

QATAR INSURANCE COMPANY



P.O. Box 666 - Tariq St West Bay - Doha State of Qatar	T +974 4496 2222 F +974 4483 1369 E qatarins@qic.com.qa W www.qic.com.qa	QIC GROUP ENTITIES QIC Qatar   QIC International LLC   QIC Doha   QIC Abu Dhabi QIC Muscat   QIC Kuwait   QIC Malta   Daimaan Islamic Insurance Company QICSSS - Doha, London, Zurich, Bermuda   QLife & Merica LLC Qatar Economic Advisors   Q.C Real Estate Qatar
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الرегистر التجاري - سجل تجاري: ٢٠٠ - رس المال المدفوع: ١,٣٤٠,٦٧,٨٠٠ - ريال قطري

Head Office - C.R.No : 20 - Paid up Capital QR 1,605,403,300



Ref. : QIC/P&C/1205-A/2015  
Dated : 23 March 2015

Consolidated Contractors Group S.A.L. (Offshore),  
Taiseer Contracting Company W.L.L., Joint Venture (CCC-TCC JV)  
P.O. Box 22056  
Doha,  
State of Qatar

### CERTIFICATE OF INSURANCE

In accordance with your instructions, we confirm having effected the following insurance

- Cover : Plant & Equipment Insurance as per our Policy No. PI/10/10-0503-000542
- Insured : Consolidated Contractors Group SAL (Offshore)(CCC) / Taiseer Contracting Company WLL – Joint Venture as Contractors and/or Qatar General Electricity and Water Corporation (KAHRAMAA) as Principal
- Contract : Construction of Mega Reservoir PRPS 1 – Umm Birka GTC 626/2014 – (Package A)
- Period of Insurance : From : 01<sup>st</sup> July 2014  
To : 30<sup>th</sup> June 2015  
*and renewable thereafter upon mutual consent*
- Period of Project : From : 05<sup>th</sup> April 2015  
To : 04<sup>th</sup> April 2018  
*Followed by 24 months maintenance period*

This Certificate of insurance is issued as evidence that insurance has been arranged as detailed in the policy and does not purport to show full terms and conditions of coverage nor vary them in any way. The terms and conditions of the insurance policy shall prevail in the event of any inconsistency between this Certificate and the policy.

For QATAR INSURANCE COMPANY

Authorized Signatory

P.O. Box 666 - Tamin St      T +974 4496 2222      QIC GROUP ENTITIES  
West Bay - Doha      F +974 4483 1569      QIC Qatar | QIC International LLC | QIC Dubai | QIC Abu Dhabi  
State of Qatar      E qatarins@qic.com.qa      QIC Muscat | KCIC Kuwait | QIC Malta | Damaan Islamic Insurance Company  
W www.qic.com.qa      Q-Re LLC - Doha, London, Zurich, Bermuda | QLife & Medical LLC  
Qatar Economic Advisors | QIC Real Estate Qatar

Head Office C.R.No. : 20 - Paid up Capital: QR 1,605,403,000      رقم الرخصة - سجل تجاري: ٢٠ - رأس المال المدفوع: ١,٦٠٥,٤٠٣,٠٠



Title: Construction of Mega Reservoir PRPSs (Package A) – Umm Birka GTC  
626/2014A, Qatar

**TO WHOM IT MAY CONCERN**

This is to certify that we, Libano-Suisse Insurance Company, P.O. Box No. 441, Doha-Qatar are the insurers of M/s. Consolidated Contractors Group S.A.L (Offshore) (CCG) and Teyseer Contracting Company WLL JV, P.O Box No. 22056, Doha - Qatar and all vehicles are insured with us for the Third Party Liability whilst on road and in site as Traffic Units only. Addition of vehicles in the schedule and renewal of policies as on expiry are automatically made upon the instruction of Assured and mutual agreement.

It is further certified that as per Qatar Traffic Law the Third Party Liability (legal) for both Bodily Injury and Property Damage covered under the Policy is unlimited for anyone occurrence or series of occurrences during the policy period. The policy numbers are follows:-

Sl No.	Policy No.	Number of Vehicles	Expiry Date
01	13/C0/20143737/0/0	1722 Nos Commercial Vehicles (as per List provided)	01.08.2015
02	13/A0/20147227/0/0	109 Nos Private Vehicles (as per List provided)	18.09.2015
03	13/C0/20143303/0/0	205 Nos Commercial Vehicles (as per List provided)	30.06.2015

This certificate is issued upon request of the insured.

= = = = = = =

Issued on 18<sup>th</sup> March, 2015



For and on behalf of the Company

## **SECTION 11: APPENDIX C INSURANCE**

### **3. Workmen's Compensation Insurance**

**QATAR GENERAL**

INSURANCE &amp; REINSURANCE CO. S.A.Q.

P. O. Box : 4500 Doha - Qatar Tel : +970 2 222 3470, 5000  
Fax : +970 2 230 7302 E-mail : qgic@qatar.qa - www.qgic.com**الشركة القطرية العامة**

للتأمين وال إعادة التأمين ش.م.ق.

ج.م. م. ٢٠٠٣، شارع ٣٢٣، الدوحة، قطر. تلفون: +٩٧٠٤٢٣٠٣٢٣٣  
فاكس: +٩٧٠٤٢٣٠٣٢٣٣. البريد الإلكتروني: qgic@qatar.qa - الموقع الإلكتروني: www.qgic.com**WORKMEN COMPENSATION POLICY****THE SCHEDULE**

Policy No.: 1 B01 2015 00262

Insured Name: CONSOLIDATED CONTRACTORS GROUP S.A.L. (OFFSHORE)

Code: C917488

Address: PO. Box 23897, DOHA, QATAR

Business: Other

Law(s): - In Accordance With The Current Labour Law Of Qatar

Period of Insurance:

(A) From: 03/04/2015 To: 04/05/2020 (Both Days Inclusive)

(B) Any subsequent period for which the Insured shall pay and the Company shall agree to accept a renewal premium.

PREMIUM: As Agreed

Subject to adjustment in the terms of condition (S).

The estimated amount of wages, salaries and other earning on which premium is based: QR. 182,500,000.00

ESTIMATED NO OF EMPLOYEES	OCCUPATION OF EMPLOYEES	ESTIMATED MONTHLY WAGES/SALARIES QR.	EST. WAGES/SALARIES FOR THE PERIOD QR.
1. Administrativa Employees			109,500,000.00
2. Labourers/Others			73,000,000.00
			182,500,000.00

**COVER:**

To indemnify the Insured for compensation payments to their Insured employees for death and/or bodily injuries following work accidents including local transportation route to and from work sites being carried in your own vehicles or hired vehicles but excluding medical and hospitalization expenses as per our standard policy wording attached.

**THIS POLICY IS SUBJECT TO THE FOLLOWING CONDITIONS / CLAUSES :**

The Insured to submit declarations of wages/salaries paid to their employees covered under this policy at the end of period of insurance.

The cover provided under this Policy is extended to include sunstroke/heatsroke, hernia and occupational diseases as per Qatar Labour Law.

The Limit of Indemnity in respect of Employer's Liability is USD 1,000,000- any one occurrence and in the aggregate, as per the CCC Employee's Liability Insurance Wording, subject to Qatar Jurisdiction.

The cover provided under this policy is extended to include Qatar General Electricity and Water Corporation (KAHRAMAA) as an Additional Insured.



**QATAR GENERAL**  
INSURANCE & REINSURANCE CO. S.A.Q.

P.O. Box : 4810 Doha - Qatar Tel : 0097 2227-4477 3022  
Fax 4400 7702 E-mail : qgic@qgic.qa - www.qgic.qa



**الشركة القطرية العامة**

للتغطية وال إعادة التأمين في قطر  
P.O. Box 4810 Doha - Qatar Tel : 0097 2227-4477 3022  
Fax 4400 7702 E-mail : qgic@qgic.qa - www.qgic.qa

The Period of Insurance stated under the abovementioned policy is amended to be read as under:

Period of Insurance - From: 06.04.2015 T/c: 04.06.2016 + 24 Month Maintenance Period  
From: 06.06.2016 T/c: 04.06.2020

The above employee engaged by the Insured whilst working for the Insured's Contract -  
Conservation of Image Reserve FRPC 1 - Under Rate GTC-0222014-A (Package A)

The Scope of Work is amended to read as under:

Scope of Work: Site Excavation and Construction of Four Reinforced Reservoirs (30m x  
15m x 1m) each, Waterproofing Membrane, Filing, Precast Concrete for  
Boundary Walls, Steel Cladding for Reservoirs and Landscaping, Planching  
Stones, Pipe Work, Mechanized, Electrical, ICA, Civil, Structural and  
Architectural.

The Name of the Insured stated under the abovementioned policy is amended to be read as under:

Name of the Insured - Consolidated Contractors Group S.A.L (Dohira) (CCG) Teysir  
Contracting Company W.L.L-Jak Ventures, P.O. Box No. 32117,  
Doha, Qatar

Including transportation risks to and from Insured's workplace and any place whilst in the course of Insured's work in  
Insured's own or his vehicles.

The Company hereby waives their rights of subrogation against Qatar General Electricity and Water Corporation  
(KAHRAMAA)

The Company agrees not to alter by deletion or addition any of the general or special terms, Insured sums, Limit of liability  
or deductible unless a written consent to do so is obtained from Qatar General Electricity and Water Corporation  
(KAHRAMAA)

**THIS POLICY IS SUBJECT TO THE FOLLOWING EXCLUSIONS:**

The cover provided under this Policy excludes Medical and/or Hospitalisation expenses

The cover provided under this Policy excludes Off Duty Accidents, Natural Death and Offshore Work.

**PLACE OR PLACES OF EMPLOYMENT : ONSHORE - STATE OF QATAR**

In witness whereof the undersigned being duly authorized by the Company has/have hereunto set her/his hand at  
Doha.

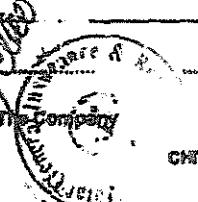
Date Of Issue : 23/03/2016  
Voucher No. : IV125150007303  
Old Policy No. : new

Signature \_\_\_\_\_

For & on Behalf of The Company

24/03/2016

CHTA



## WORKMEN'S COMPENSATION INSURANCE POLICY

Whereas the Insured designated in the Schedule hereto (hereinafter called "the Insured") carrying on the business stated in the Schedule and no other for the purpose of this Insurance has made to the QATAR GENERAL INSURANCE & REINSURANCE COMPANY (S.A.Q) (hereinafter called "the Company") a written proposal and declaration containing certain particulars and statements which it is hereby agreed shall be the basis of this contract and be considered as incorporated herein.

Now this Policy witnesseth that in consideration of the payment to the Company of the premium mentioned in the Schedule (which premium is subject to adjustment as hereinafter provided) for the following indemnity during the period stated in the Schedule and during any subsequent period in respect of which there shall have been paid to and accepted by the Company the sum required for the renewal of this Policy.

It is hereby agreed that if at any time during the said period and during the continuance of this Policy by renewal, any Workman in the immediate service of the Insured shall sustain any personal injury by accident whilst engaged in such service specified in the Schedule in work forming part of or process in the business stated in the Schedule and in case the Insured shall be liable to make compensation for such injury under the Qatari Labour Law (hereinafter called "the Act") the Company shall indemnify the Insured against all sums for which the Insured shall be so liable under the said Act.

It is also agreed that the Company will in addition be responsible for all costs and expenses incurred with the written consent of the Company in defending any claim for such compensation.

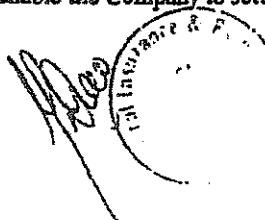
Provided that the due observance and fulfilment of the terms and conditions of this Policy in so far as they relate to anything to be done or complied with by the Insured shall be conditions precedent to any liability of the Company to make any payment under this policy.

### CONDITIONS

1. All Communications required by the Policy or by these conditions shall be addressed to the Company in Doha. The Company will not be bound by any receipt or acknowledgement unless it be on the policy or on the printed receipts issued by the Company, or by any endorsement on the policy unless it be authenticated by a duly authorised official of the Company.
2. The Insured shall give notice to the Company of any accident which may give rise to a claim under this Policy and of any death or disablement arising therefrom as soon as practicable and in any case within forty eight hours after such accident, death or disablement comes to the knowledge of the Insured's Representative for the time being and the Insured shall forward to the Company forth-with after receipt thereof, every written notice or information as to any verbal notice of claim and of proceedings.
3. The Insured shall not incur any expense, litigation or otherwise, or make any payment, settlement or admission of liability in respect of any death or disablement for which the Company may be liable under this Policy without the written authority of the Company. The Company shall in respect of anything insured under this policy be entitled to use the name of the Insured including the bringing, defending or settling or enforcing of rights for the benefit of the Company. The Insured shall give all necessary information and assistance and forward all documents to enable the Company to settle or resist any claim as the Company may think fit.



QATAR GENERAL INSURANCE AND REINSURANCE CO. S.A.Q



4. At any time after the happening of any accident giving rise to a claim or series of claims under this Policy, the Company may pay to the Insured, the full amount of the Company's liability, and relinquish the conduct of any defence settlement or proceeding, and the Company shall not be responsible for any damage alleged to have been caused to the Insured, in consequence of any alleged action or omission of the Company, in connection with such defence settlement or proceedings or, of the Company relinquishing such conduct; nor shall the Company be liable for any costs or expenses whatsoever incurred by the Insured, or any claimant or other person, after the Company shall have relinquished such conduct.
5. The Insured shall take all reasonable precautions to prevent accidents and to employ competent Workmen and shall comply with all statutory regulations and remedy and/or repair any defect in the works, works, machinery and plant connected with or used in his business.
6. The first Premium and all Renewal Premiums that may be accepted are to be regulated by the amount of wages, salaries, earnings and/or other considerations paid or allowed to workmen by the Insured during each period of insurance. The name of every workman and the amount of wages, salaries, earnings and/or other consideration paid or allowed to him shall be duly recorded in proper wages register. The Insured shall at all times allow the Company to inspect such register and shall supply the Company at the Insured's expense with a correct account certified to the satisfaction of the Company of all such wages, salaries, earnings and/or other considerations paid or allowed during any such Period of Insurance within one month, from the expiry of such Period of Insurance, and if the total amount so paid or allowed shall differ from the amount on which premium was basically calculated then this shall be met by a further proportionate payment to the Company, or by a refund by the Company as the case may be.
7. Unless specifically included by endorsement hereon the indemnity granted under this Policy, or any renewal thereof shall not apply to the Insured's liability to workmen in the employ of sub-Contractors to the Insured.
8. The Company shall not be liable in respect of any accident occurring before the actual receipt of the premium by the Company or its Authorised agents or in respect of any accident occurring after the date of expiry and before the actual receipt of the premium or renewal.
9. The Company shall not be bound to accept any renewal premium nor to give notice that such is due and the Company may at any time by registered letter to the Insured cancel the Policy as from eight days after the date of despatch of the registered letter to the address stated in the Policy, subject and without prejudice to any rights or claims, either of the Company or the Insured, arising under the Policy prior to that date, and the premium for the period from the commencement of the current period of insurance to the date of such cancellation, shall be regulated as provided in Condition(6) above.
10. The Insured may in no event make the Company party to a legal action nor call upon it as a surety. If any difference exists between the Insured and the Company such difference shall be resolved by a direct main action before the Competent Court.
11. The Company will in all Competent judicial proceedings at the instance of parties suing in respect of matter arising out of this insurance acknowledge the jurisdiction of Qatari Courts.
12. All actions arising out of this Policy of Insurance are prescribed after 2 years dating from the event giving rise thereto. But this period will run:



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- a) in the event of non-disclosure, omission, false or incorrect statement concerning the risk only from the day on which the Company had knowledge thereof;
- b) in the event of a claim, only from the day the claimants had knowledge thereof provided they establish that they had no prior knowledge of it.

When the action of the Insured against the Company has been occasioned by the claim of a third party the prescription period runs only from the day when that third party commenced a legal action against the Insured or was indemnified by him.

#### EXCEPTIONS

The Company shall not be liable under this Policy in respect of

- a) i) war, invasion, act of foreign enemy, hostilities or warlike operations (whether war be declared or not);  
ii) civil war, mutiny, civil commotion, assuming the proportions of or amounting to a popular rising, military rising, insurrection, rebellion, revolution, conspiracy, military or usurped power.  
iii) martial law or state of siege or any of the events or causes which determine the proclamation or maintenance of martial law or state of siege.  
iv) any act of any person acting on behalf of or in connection with any organisation with activities directed towards the overthrow by force of any de jure or de facto Government or to the influencing of it by terrorism or violence.
- b) the Insured's liability to employees of contractors to the Insured
- c) any employee who is not a "Workman" within the meaning of the Law(s).
- d) any liability of the Insured which attaches by virtue of an agreement but which would not have attached in the absence of such agreement
- e) any sum which the Insured would have been entitled to recover from any party but for an agreement between the Insured and such party.

#### PARTICULAR CONDITIONS

It is hereby understood and agreed that in addition to the terms of Part 4 of the General Conditions of the Policy under no circumstance the Company shall be liable in respect of any accident which would not have been notified officially within a maximum delay of 180 (one hundred eighty) days of its occurrence.

It is also recorded formally and officially under this Workmen's Compensation Policy that, although the transportation of Workmen insured hereunder is admitted to be effected in rear boxes of Trucks and/or Pick-ups, accidents which would arise in respect of such transportation would clearly and definitely not be warranted thereunder, unless such transportation is effected in rear boxes of Trucks and/or Pick-ups which are fitted with protection railings and/or seats the rear boxes of such Trucks and/or Pick-ups be empty of other loads during such transportation.



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It is clearly therefore understood and agreed that any accidents which would occur to Workmen transported in such rear boxes atop other loads in the said rear boxes, would not be warranted under this Policy and the signature of the Assured on the duplicate of this Policy binds the Assured to this explicit understanding and frees the Company of any liability in respect of such accidents, whether such accidents be the object of a court ruling or not.

#### EXCLUSIONS

The Company will not be held responsible in the following cases:-

1. Repatriation and/or Expatriation expenses and charges.
2. Professional Sickness, Hernia and/or Sunstroke.
3. Any Medical and/or Hospitalisation expenses incurred outside Qatar.

Subject otherwise to the terms and conditions of the Policy.

#### IMPORTANT

It is particularly requested that this Policy be carefully read and returned to the Company at once should any corrections be necessary.

No change or modification in this Policy shall be valid unless approved and signed by the Company or by an authorised Agent of the Company.



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**ANNEXURE ATTACHED TO AND FORMING PART OF CCC**  
**WORKMEN'S COMPENSATION INSURANCE POLICY**

Notwithstanding anything contained in the within mentioned Policy to the contrary, it is hereby understood and agreed that this Policy is extended to:

1. Indemnify the Insured for all sums which the Insured shall become legally obliged to pay as damages because of bodily injury by accident including death at any time resulting therefrom sustained by any employee of the Insured arising out of and in the course of his employment by the Insured.

The limit of the Company's liability under this annexure for all damage including damages for care and loss of services arising out of injury in any one accident shall be US\$ 1,000,000.00 (U.S. Dollars One Million only).

2. Cover accidents whilst insured Employees/Workers are going to or coming from work.
3. Cover travel to the field (zone of operation) from country of origin and return whether flying (in any form of conveyance including helicopters, private planes and the like) travelling by sea or land, upon initial employment. Insurance also covers such travel in the zone of operation. Coverage is also extended to include traveling anywhere in the world whilst on duty, for which the law of the point of departure will be applied.
4. Cover accidental hernias including cost of repatriation due to the lack of medical facilities in the field and in any event at doctor's recommendations up to but not exceeding the limit of US\$ 2,000.00 (U.S. Dollars Two Thousand only) per person.
5. This Insurance covers any nationality anywhere in the World but shall acknowledge the competent jurisdiction of local courts only.
6. Contrary to Policy conditions, this insurance shall be subject to Ninety (90) days notice of cancellation clause.

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## **SECTION 12: APPENDIX D ADMINISTRATIVE INSTRUCTIONS**



**Qatar General Electricity & Water Corporation**

**Tender No. GTC 626/2014**

**Construction of Mega Reservoir PRPSs**

**(Packages A, B, C, D & E)**

## **APPENDIX D**

## **ADMINISTRATION INSTRUCTIONS**



**Qatar General Electricity & Water Corporation**

**Tender No. GTC 626/2014**

**Construction of Mega Reservoir PRPSs**

**(Packages A, B, C, D & E)**

## **APPENDIX – D**

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## **APPENDIX – D** **ADMINISTRATION INSTRUCTIONS**

### **Clause 1      Introduction**

This Appendix of the CONTRACT describes the procedures that shall be used by KAHRAMAA and CONTRACTOR in administering the CONTRACT. CONTRACTOR shall ensure that where detailed procedures are not comprehensively set out in this Appendix such procedures shall be developed and agreed with KAHRAMAA in time to carry out the WORK in accordance with the CONTRACT.

### **Clause 2      Organisation**

2.1 The name, reference indicator and address of KAHRAMAA REPRESENTATIVE and nominated deputy(ies) and the responsibilities delegated to each nominated deputy shall be:

KAHRAMAA REPRESENTATIVE shall be:

Name : \_\_\_\_\_

Position : \_\_\_\_\_

Reference Indicator : \_\_\_\_\_ Tel : \_\_\_\_\_

Fax: \_\_\_\_\_

KAHRAMAA REPRESENTATIVE nominated Deputy shall be:

Name : \_\_\_\_\_

Position : \_\_\_\_\_

Reference Indicator : \_\_\_\_\_ Tel : \_\_\_\_\_

Fax: \_\_\_\_\_

The above-nominated Deputy is authorized to act on behalf of KAHRAMAA REPRESENTATIVE on the following matters under the CONTRACT:

- a) All Technical Matters;
- b) Certification of Invoices; and
- c) Contract Administration.

2.2 KAHRAMAA Project Manager nominated for this CONTRACT is:

Name : \_\_\_\_\_

Position : \_\_\_\_\_

Reference Indicator : \_\_\_\_\_ Tel : \_\_\_\_\_

Fax: \_\_\_\_\_



- 2.3 The name and address of CONTRACTOR REPRESENTATIVE and of the nominated deputy(ies) and the responsibilities delegated to each nominated deputy shall be confirmed by CONTRACTOR in **Appendix E** - Annexure 1.
- 2.4 CONTRACTOR Organisation Chart which states job titles and the Organisation structure for the CONTRACT shall be set out in **Appendix E** - Annexure 6.
- 2.5 Details of job descriptions for key CONTRACTOR PERSONNEL including job responsibilities and experience of incumbents shall be included in **Appendix E**- Annexure 6. Such job descriptions shall not be changed without the prior approval of KAHRAMAA.

### **Clause 3 Communications**

- 3.1 Except where the CONTRACT specifically states to the contrary all correspondence and communications under the CONTRACT shall be addressed and directed between CONTRACTOR REPRESENTATIVE and KAHRAMAA REPRESENTATIVE.
- 3.2 All reports, drawings, and other documents transmitted between CONTRACTOR and KAHRAMAA shall be sent under cover of a transmittal note.
- 3.3 CONTRACTOR may use the following format for communication:
  - i. All telefax and written correspondence to KAHRAMAA regarding the CONTRACT shall bear the following headings:

(Serial ref. number) (date)

To : ----- Fax No. : -----

Attn. : -----

From : (CONTRACTOR's Name)

Contract No. :

Contract Title :

Subject : (.....)

(TEXT)

Signature (if fax letter)

(CONTRACTOR REPRESENTATIVE Name and Title)

- ii. All correspondence sent to KAHRAMAA shall be clearly marked with KAHRAMAA Reference Indicators of the addressee and other recipients.



- iii. CONTRACTOR shall make his own arrangement at its cost, to collect, the mail intended for him from KAHRAMAA's office as and when required. The date of receipt of the mail by CONTRACTOR will be the date of acknowledgment/acceptance of the same by his courier

#### **Clause 4 Variations**

This Clause gives a brief outline for issuing VARIATIONS in accordance with Article 14 of the General Conditions of Contract.

- 4.1 VARIATION shall be transmitted by KAHRAMAA to CONTRACTOR via a CONTRACT VARIATION form in the attached format (**Standard form no.9**). Any additional or varied work not authorized by a CONTRACT VARIATION form shall not be considered for payment.
- 4.2 CONTRACTOR shall, within three (3) working days of receiving a request to a change in the WORK, forward to KAHRAMAA REPRESENTATIVE its detailed cost estimate for the change, including the effect such a change may have on the EXECUTION PROGRAMME and/or on the CONTRACT PRICE. CONTRACTOR estimate shall be computed in accordance with the provisions of the Schedule of Prices. The estimating effort in itself shall not constitute a VARIATION.
- 4.3 Subsequent to KAHRAMAA appraisal of CONTRACTOR estimate and after any amendments to be made thereto, KAHRAMAA and CONTRACTOR shall signify their agreement to the financial and/or other effects the VARIATION may have on the CONTRACT. A CONTRACT VARIATION form (Standard Form No. 9) shall then be issued.
- 4.4 In the event that a VARIATION extends or advances the SCHEDULED COMPLETION DATE and/or increases or decreases the CONTRACT PRICE, CONTRACTOR shall forthwith amend the Performance Bond (Bank Guarantee) and Insurance policies accordingly and submit to KAHRAMAA within fourteen (14) calendar days from the issuance of the CONTRACT VARIATION form.

#### **Clause 5 Planning, Scheduling, Progress Control and Reporting Procedures**

##### **5.1 Introduction**

CONTRACTOR shall develop detailed implementation plans and CONTRACT Control Procedures based upon the CONTRACT EXECUTION PLAN as provided in **Appendix H**. CONTRACTOR shall clearly identify all activities pertaining to the WORK, enabling but not limited to the following functions to be undertaken:

- The Analysis and Identification of CONTRACTOR'S, SUBCONTRACTOR'S, Manufacturer's and Supplier's basic activities, including significant milestones through an agreed Work Breakdown Structure.
- The progress monitoring of these activities through the use of critical path networks, bar charts, progress curves, histograms and follow-up tables.



- Continuous comparison of the EXECUTION PROGRAMME, actual achievements and forecasts.
- The prompt identification of delay, and where necessary, actions required to implement corrective measures to recover any slippage.

CONTRACTOR'S planning services for the implementation of planning; monitoring and control system of the WORK corresponding to the CONTRACT EXECUTION PLAN shall be submitted as follows:

- CONTRACTOR shall within fourteen (14) days from the date of Contractor's Letter of Confirmation to our Letter of Award, prepare and submit for review and approval by KAHRAMAA a comprehensive planning package, which shall be based on the CONTRACT EXECUTION PLAN. This package shall include full details of the arrangements and methods, which CONTRACTOR proposes to adopt for the execution of the WORK including planning, control of costs, manpower levels and scheduling. This document shall then be the EXECUTION PROGRAMME where it complies with the requirements of the CONTRACT and when approved by KAHRAMAA.
- During the entire period of the CONTRACT, the CONTRACT EXECUTION PROGRAMME shall not be revised in any way without prior approval from KAHRAMAA. Any changes requested by CONTRACTOR shall be made formally in writing with suitable justifications and approved by KAHRAMAA prior to the acceptance of the programme. Any changes in the Scope of Work agreed between CONTRACTOR and KAHRAMAA shall be clearly indicated on the bar chart and the overall program rescheduled to include the change(s).
- At any given time during execution of CONTRACT, there shall be only one CONTRACT EXECUTION PROGRAMME.
- CONTRACTOR shall appoint a dedicated Planning Engineer to operate this service and to satisfy reporting requirements as required.
- CONTRACTOR shall grant KAHRAMAA REPRESENTATIVE or his nominated deputy access to all relevant planning and control documents, during both development and implementation periods.
- All Progress Curves and Histograms shall include a data table below graphics providing planned, actual and cumulative data. When necessary KAHRAMAA may request that forecast data be included on some or all of these documents.

## **5.2 Scope**

The scope of the planning, scheduling, progress control and reporting procedures are described hereunder. CONTRACTOR shall include all activities, which are relevant to the Scope of Work.

## **5.3 Planning and Scheduling**

The planning and progress measurement activities of CONTRACTOR shall be performed in such a way that KAHRAMAA can monitor these aspects and integrate them within its own overall Project Control System. This shall be done through the usage of computerized planning using PRIMAVERA PROJECT PLANNER software.



### 5.3.1 General

CONTRACTOR shall develop and detail the CONTRACT EXECUTION PROGRAMME in accordance with the following:

- The itemization breakdown of the CONTRACT Scope of Work into basic measurable activities on the basis of a user-defined Work Breakdown Structure (WBS). CONTRACTOR shall establish the type and style of the WBS on the basis of the CONTRACT Work Packages and Units. This system, once approved by KAHRAMAA, will provide a common activity coding structure, which shall be used throughout both the Planning and Progress Reporting infrastructures.
- All planning documents shall cover the entire CONTRACT period in accordance with the approved project duration including all pre-commissioning, commissioning and as-built documentation activities.
- All planning documents shall clearly describe the type and category of manpower, man-hours, special resources and status used.
- A weekly update shall be made on the day before the last day of the week or at another agreed cut-off day. In principle no more than 3 calendar days should lapse between cut-off and report submission dates.
- A monthly update will be implemented at the monthly cut-off date as decided and agreed by KAHRAMAA. The regular planning update shall be effected on a monthly basis for all planning documents. An interim update of planning documents shall be operated if deemed necessary at the request of KAHRAMAA (i.e. weekly, fortnightly, etc.).
- Planning updates shall determine by calculation, the Planned and Actual Progress values to date, for each activity (or Work Package) using Weight Factors. It shall also include, when an activity is not 100% complete, an assessment of the remaining duration value and a revised forecast completion date.

### 5.3.2 Planning & Schedule Requirements

#### 5.3.2.1 Work Breakdown Structure

The main work breakdown structure levels (WBS) should be as follows :

- **General** (Includes general activities like contract start, mobilization etc...)
- **Preliminaries** (Includes one preliminary activity for each month to be cost loaded with preliminary cost)
- **Engineering** (Includes materials and shop drawings submittals and approvals)
- **Procurement** (Includes procurement activities for main items)
- **Construction** (Includes construction activities)
- **Close out** (Includes closeout activities like demobilization, contract completion, etc...)

#### 5.3.2.2 Project Summary Schedule (Level 1 Schedule)



The project Summary Schedule is the Level I schedule in the schedule hierarchy. The schedule will reflect major work activities, key engineering releases, long lead (critical) material deliveries, main construction activities and other key information. The schedule will be a summary schedule from the project's detailed CPM schedule. The contractor should implement in the schedule the agreed activity coding system and assign the correct activity code values to the activities in order to be able to obtain a summary schedule from the detailed CPM project schedule.

#### **5.3.2.3 Resource Loading**

CPM project schedule will be resource loaded by the contractor with manpower, equipments, manhours and quantities necessary to execute the work within the required time frame and quality. Resource, quantity histograms and progress curves will be generated from CPM schedule.

The contractor should submit the resource curves and histograms extracted from CPM schedule with the project proposed baseline.

#### **5.3.2.4 Cost Loading**

CPM project schedule will be cost loaded by the contractor. Cost loading for the project schedule is required to generate cash flow curves and histograms. The total value of money allocated to the schedule activities should be the contract value.

The contractor should submit the cash flow curve and histogram extracted from the CPM schedule with the project proposed baseline.

#### **5.3.2.5 Construction Progress S-Curve**

Contractor should use the manhours loaded to the construction activities as the weighting factor to be used for producing the construction progress S-Curve.

The contractor should submit with the proposed baseline schedule, the construction planned S-Curve extracted from the CPM schedule. After approval of the baseline schedule, the planned construction progress S-Curve will not change unless there is an approved revised Baseline. The actual construction progress will be measured against the planned construction curve.

#### **5.3.2.6 Cash Flow S-Curve**

Contractor should use the money loaded to the schedule activities to produce the cash flow S-Curve. The contractor should submit with the proposed baseline schedule, the planned cash flow S-Curve extracted from the CPM schedule. After approval of the baseline schedule, the planned cash flow S-Curve will not change unless there is an approved revised Baseline. The actual cash flow will be measured against the planned cash flow S-Curve.

#### **5.3.2.7 Quantities & Production Rates**

Contractor should load each construction activity in the proposed baseline schedule with the corresponding contract quantity and should also add a column for the planned average production rates for construction activities. (Average production rate = Budgeted quantity / Original duration). The contractor shall add the quantities and production rates to the schedule activities using custom data items (which is one of Primavera techniques).

#### **5.3.2.8 Baseline & Current Schedule**



The project CPM schedule submitted by the contractor for approval supported with all the above required document, shall be reviewed and commented by Kahramaa. If the submitted project schedule is not approved, the contractor shall revise and resubmit the project schedule according to the raised comments by Kahramaa. This process shall be repeated until the project CPM schedule is approved with no comments.

The approved schedule shall be the Baseline schedule. The baseline schedule shall be frozen. The contractor is not allowed to change in the logic or in the original duration or constraints in the agreed baseline schedule without prior approval of Kahramaa. The baseline schedule will be used to measure the actual progress against it. While updating the schedule with the actual progress, the contractor is not allowed to change in the logic or in the original duration or constraints.

In case there is a need to revise the baseline schedule because of change in scope, variation, change in major sequence of work, etc..., a revised baseline schedule shall be prepared and submitted by the contractor for review and approval by Kahramaa. The same approval process will be applied until the approval of the revised baseline schedule. After approval, the revised baseline schedule will be used to measure the actual progress instead of the old baseline.

Progress of works, current schedules will all be measured against this baseline. A hard copy and an electronic copy of this schedule will be will be submitted to Kahramaa on a monthly basis with the monthly report.

Status updates of project schedules should show both the baseline schedule and the current forecast schedule on an individual activity by activity basis. This graphical presentation will make deviations to the baseline schedule easy to distinguish and manage.

The contractor shall make update to the current schedule with actual progress of works on a weekly basis.

### **5.3.2.9 Logs & Registers**

There are various types of logs and registers that are necessary for the control of the project, and are considered as supporting documents to the project schedule.

#### **Materials Submittals Status Report:**

The material need to be submitted for approval, approved by Kahramaa, procured and delivered to site before the scheduled start date of the related construction activity. The contractor shall prepare and submit to Kahramaa the Material Submittals Status Report after preparing the project baseline schedule (prepared in Excel). This log should include all the materials to be submitted during the project. The log will compare the actual data for submission (Revisions, actual dates, status, etc...) to the planned submission and approval for each material submittal.

The contractor should update this log on a weekly basis.

#### **Drawings Submittals Status Report:**

The contractor shall prepare and submit to Kahramaa the Drawings Submittals Status Report after preparing the project baseline schedule (prepared in Excel). This log should include all the drawings to be submitted during the project. The log will compare the actual data for submission



(Revisions, actual dates, status, etc...) to the planned submission and approval for each drawing submittal.

The contractor should update this log on a weekly basis.

**Procurement Status Report:**

The Procurement status report is a continuity of the material status report. Once the material is approved by Kahramaa, the contractor should start the procurement activities in order to have the material delivered to site prior to the scheduled start date of the related construction activity. The contractor should prepare this report in Excel. This report will monitor and control the material starting from order placement until delivery to site. The contractor shall update this report on a weekly basis.

**Request for Information (RFI) Log:**

The contractor should prepare and update the RFI log (prepared in Excel). The contractor should include the RFI log in the monthly report.

## 5.4 Progress Reporting

The contractor will submit to Kahramaa various reports. The report contents will be as follows.

### 5.4.1 Daily Report:

Contractor shall submit during the construction phase of the contract to Kahramaa Representative each morning, a Daily Report for the previous working day. This report should include activities performed at site, manpower, equipment, material delivered to site, etc...

### 5.4.2 Weekly Report:

The contractor shall submit during the duration of the contract to Kahramaa Representative, a Weekly Report that includes as a minimum the following data :

- The current detailed program.
- Three Weeks Look ahead Schedule (Including the forecast for the next three weeks).
- Material Submittals Status Report
- Drawings Submittals Status Report
- Procurement Status Report (Long Lead Items)
- Manpower Return
- Equipment Return

### 5.4.3 Monthly Report:

Contractor shall submit during the entire duration of the contract, within **3 working days from the Cut Off date**, a Monthly Report, which shall include (as a minimum) the following:

1. Management / Executive Summary
2. Schedule Data
3. Cost Data



4. Logs and Registers
5. QA/QC
6. Safety Aspects
7. Areas of Concern
8. Recovery Actions (when necessary)
9. Photographic Record

## **1. Management / Executive Summary**

This Section shall include:

- Execute summary (Narrative)
- Main decisions taken, problems solved

## **2. Schedule data**

This Section shall include:

- Schedule Narrative
- Current Summary Schedule (Compared to the Target Schedule)
- Current detailed schedule (Compared to the Target Schedule)
- Critical Path analysis
- Two Month Look ahead Schedule
- Construction Progress S-Curves
- Manpower Histograms

## **3. Cost Data**

This Section shall include:

- Cash Flow S-Curve
- Invoice Log (No. of invoices, amount claimed, amount certified, dates...)

## **4. Logs & Registers**

This Section shall include:

- Material Submittals Status Log
- Shop Drawings Submittals Status Logs
- Procurement Status Report
- RFI log (Request for information)

## **5. QA/QC**

This Section shall include a comprehensive report on QA/QC aspects of the project. QA/QC document matrix shall be provided detailing for each QA/QC procedure the following:

- Document Number
- Description
- Planned & Actual date of issue
- Kahramaa approval date



- Remarks Column

## 6. Safety Aspects

This Section shall include in detail:

- Lost Time Accidents
- Incidents / Near Misses
- Safety meetings / Tool room workshops held during the month.

## 7. Areas of Concern

This Section shall include in detail:

- Last months Areas of Concern still valid
- This month raised Areas of Concern
- Contractors recommendation for remedial actions

## 8. Recovery Actions

This Section shall include in detail:

- A full description of recovery actions being considered to recover program slippage.
- Areas that could be carried out ahead of program.
- Material or equipment delivery dates, which could be accelerated

## 9. Photographic Record

This Section shall include in detail:

- A full set of photographs showing incremental progress.
- A photographic record of all substructure/cable trench work.
- Where appropriate, photographic details of subsequently hidden structures and equipment.

### 5.4.4 Special and Exception Reports

If deemed necessary by KAHRAMAA reports shall be generated by CONTRACTOR, which cover all aspects of the clarifications and/or the problems identified during the course of the project execution and duration.

### 5.4.5 Historical Report

CONTRACTOR shall produce for KAHRAMAA review and approval a Close Out Report including a detailed narrative of main Events/Problems and Solutions for Technical aspects, Project Management, Engineering, Procurement, Testing, Construction, Commissioning, Planning, Cost, Contracting, Interfaces etc. This shall include all major decisions undertaken during the performance of the WORK.

This Report shall include a copy of all Schedules, Progress Curves, Histograms, and Status Tables as listed in this Planning Section.

The report shall be submitted to KAHRAMAA on or before the SCHEDULED COMPLETION DATE.



## 5.5 Meetings

### 5.5.1 Weekly Meetings

Weekly meeting shall be held at CONTRACTOR'S offices or at WORKSITE or as required by KAHRAMAA depending upon the phase of the work in progress, for the purpose of keeping all parties fully informed of all aspects of the WORK. REPRESENTATIVE shall chair all meetings.

Agenda:-

- Complete review of all work units, progress and associated matters
- Review of schedules in view of progress
- Review of resources
- Highlight problem areas and resolutions
- Technical queries
- Identification of changes
- Safety and environmental
- Materials
- CONTRACTOR'S REPRESENTATIVE or his deputy
- Personnel in charge of main activities (engineering, procurement, construction, commissioning)
- Specialists as necessary

### 5.5.2 Monthly Meeting

CONTRACTOR shall allow for meetings to be held at CONTRACTOR'S offices or at WORKSITE.

Monthly meeting shall be held as follows:

- Location and date: to be defined before each meeting
- Review and approval of each Work Unit progress for the month
- Review of main activities (engineering – Procurement - Commissioning)
- Review of planning
- Highlights of occurred and/or anticipated problems. Corrective actions to be taken
- Long-term plan

CONTRACTOR'S personnel in attendance shall be same as per weekly meetings above.

### 5.5.3 Management level meetings

Meetings may take place between KAHRAMAA Management and CONTRACTOR Management as agreed between the PARTIES.



Other meetings may be held at CONTRACTOR'S or KAHRAMAA request on specific matters.

#### **5.5.4 Organization of Meetings**

The time, place and venue of meetings shall be as defined above. Agendas may be completed by both parties as necessary.

The Minutes of Meeting shall be written and recorded by CONTRACTOR.

The notes shall indicate date and location of meeting, names of the persons who were present at the meeting, purpose of the meeting, record of actions agreed and name of person responsible for each action and anticipated completion, and distribution of the minutes.

Minutes of each meeting shall be prepared by CONTRACTOR within three (3) working days of the meeting and sent to KAHRAMAA for approval. KAHRAMAA REPRESENTATIVE shall sign, acknowledging the minutes as being a true record of the meeting, and return a copy to the CONTRACTOR for formal issue.

Clear hand written minutes may be acceptable. Two originals shall be signed by both PARTIES at the end of the meeting.

### **Clause 6 Invoicing**

**6.1** CONTRACTOR, monthly in arrears, shall submit invoices in accordance with Article 12 of the General Conditions of Contract, at the beginning of each month in a format acceptable to KAHRAMAA, clearly showing the amount due. Full supporting details, as required by KAHRAMAA, including but not limited to authorized day-work sheets, manpower/equipment timesheets and material invoices should be submitted with the invoice in order for KAHRAMAA to be satisfied as to CONTRACTOR entitlement under the CONTRACT. CONTRACTOR will be reimbursed the amount so invoiced, all in accordance with the General Conditions of Contract. Providing VARIATIONS have been issued, then copies of all CONTRACT VARIATION FORMS issued to CONTRACTOR shall also be attached to the invoice. Invoices must be submitted in duplicate.

**6.2** Invoices must contain the following information duly approved by KAHRAMAA REPRESENTATIVE:

- **CONTRACT Number;**
- **Period being invoiced;**
- **Approved CONTRACT PRICE;**
- **This invoice value, and amount of retention;**
- **Previous invoiced value;**
- **Total invoiced to date; and**
- **Break down of amount invoiced as per item numbers contained in the Schedules of Prices and Rates.**

**6.3** The invoice as well as invoices and payment related matters should be forwarded to:

**Finance Manager**

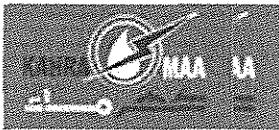
**Qatar General Electricity and Water Corporation (KAHRAMAA)**

**2<sup>nd</sup> floor**



**Al Dafna Building  
Doha-Qatar**

- 6.4** CONTRACTOR performing a CONTRACT for the first time for KAHRAMAA, shall submit a letter giving details of their bank account number with the first invoice, for registering in KAHRAMAA system.
- 6.5** Invoices shall not be released for payment until the following has been complied with:
- A formal CONTRACT has been signed by both PARTIES,
  - The submission of the bank guarantee as required per Article 13 of the General Conditions of Contract (hereinafter called Performance Bond) and
  - Evidence that all the insurance requirements set out in **Appendix C** and General Conditions of Contract.
- 6.6** Separate invoices are to be submitted for each release of retention. CONTRACTOR shall provide a copy of the **Taking Over Certificate** (See **Standard form no.7**) with the invoice for the first half of the release of retention. CONTRACTOR shall provide a copy of the **Final Completion Certificate** (See **Standard form no.8**) and Statement of **Final Account** (See **Standard form no.10**) for the CONTRACT with the invoice for the second half of the release of retention.
- 6.7** Payment for the completed WORK, withholding and release of retention money shall be made in accordance with Article 12 of the General Conditions of Contract. Bank Guarantee(s) in lieu of retention money shall not be accepted.
- 6.8** Whenever a VARIATION necessitates revision to the Performance Bond and/or insurance policies, then such an amended Performance Bond and/or evidence that insurance policies have been amended shall accompany the subsequent invoice.
- 6.9** All charges for using KAHRAMAA services and facilities will be deducted as and when the charges are incurred, unless the CONTRACT specifically provides such KAHRAMAA services and facilities free of cost to CONTRACTOR.
- 6.10** a) For the release of the final payment for the WORK (excluding payments for the release of retention monies as set out in clause 6.6 above), CONTRACTOR shall provide with the final payment invoice an Income Tax Clearance Certificate in accordance with the requirements of Clause 8 herein below.  
b) However, in the event of a dispute between KAHRAMAA and CONTRACTOR on the value of the final payment for the WORK, CONTRACTOR shall provide with the invoice an interim Income Tax Clearance Certificate for the undisputed portion of the WORK. Following settlement of the dispute and provided that the value of the final payment changes, CONTRACTOR shall provide with the invoice a final Income Tax Clearance Certificate as set out in Clause 6.1 above.
- 6.11** **Final Account:** As soon as possible after the issue of the Certificate of Final Completion for the whole of the works the Contractor shall submit to the Engineer a statement of Final Account showing in detail in the form approved by the engineer the value in accordance with the Contract of all works executed under the Contract. The Engineer shall after examining the Final Account certify to KAHRAMA the amount of payment which the Engineer shall consider due and payable in accordance with the terms and conditions of the



Contract. KAHRAMA shall pay the sum so certified within the time provided for in the Contract hereof after such certificate from the Engineer has been delivered to the KAHRAMAA.

The form of Final Account (See **Standard form no.10**) shall state that KAHRAMAA has honored all its obligations under the contract and that the Contractor has no further claim against KAHRAMAA arising out of the contract.

## Clause 7 Accident Reporting and Investigation

- 7.1 The objective of accident reporting and investigation is to prevent similar or associated accidents occurring in the future. KAHRAMAA's Accident Form ('Accident Report') sets out the format for reporting to be completed by CONTRACTOR. CONTRACTOR shall specifically detail all accidents and near misses in his weekly and daily reports.
- 7.2 For the purposes of accident reporting and investigation, an accident is defined as an unexpected, unplanned and undesired event that results in:-
  - i) Physical harm {injury or disease} to individual;
  - ii) Damage to property;
  - iii) Near miss;
  - iv) Loss; or
  - v) Any combination of these effects.
- 7.3 In the event of any personnel injury to any of CONTRACTOR PERSONNEL or, in the event of any loss of or, damage to the works, materials, supplies or equipment supplied by either KAHRAMAA or CONTRACTOR for incorporation into the WORK, or any third party equipment or any incident that results in a fire, leakage of hazardous or toxic materials, or any. near miss. situation, which might have resulted in personal injury to any employee of CONTRACTOR PERSONNEL, or any third party, CONTRACTOR shall immediately notify the KAHRAMAA REPRESENTATIVE, and complete and submit the Accident Report. Notwithstanding the aforementioned, the following actions are to be carried out by CONTRACTOR:-
  - i) In the case of a fatal or major accident, notification shall be forwarded immediately to the KAHRAMAA REPRESENTATIVE, KAHRAMAA's Manager Medical Service and KAHRAMAA's Head of Safety and Fire;
  - ii) The WORKSITE shall be secured in the undisturbed state as soon as it is safe to do so;
  - iii) Names of witnesses and any evidence shall be secured. A preliminary investigation shall be initiated and the Accident Report completed as soon as possible and forwarded to the KAHRAMAA REPRESENTATIVE. A copy of the Accident Report shall follow any person admitted to hospital. In all cases where persons are injured, a copy of the Accident Report shall be forwarded to KAHRAMAA's Manager, Medical Services Department;
  - iv) In case of major accident {including damage/loss}, notification shall be forwarded, as soon as possible, to the KAHRAMAA REPRESENTATIVE. Further, investigation



shall be carried out and the Accident Report completed and submitted to the KAHRAMAA REPRESENTATIVE within twenty-four (24) hours.

- v) The investigation shall aim at:
  - a) Establishing the events leading up to the incident;
  - b) Establishing the fact of the incident itself;
  - c) Establishing the relevant fact of what occurred immediately after the incident; and
  - d) Identifying the required action to be taken in order to prevent a similar occurrence in the future.
- vi) Identify the causes of the accident (note: causes could be either unsafe acts or unsafe conditions, or could also be due to either direct causes or contributory factors).
- vii) Any Accident Report involving injury to CONTRACTOR PERSONNEL shall be followed up with a written statement from CONTRACTOR giving the consequence/injury such as:  
First Aid, medical treatment given (where, number of calendar days), on sick list (number of calendar days), disability etc. Initially, it shall be clear in the first Accident Report whether it is a First Aid or Lost Time Accident, and with follow up report/statement as soon as the consequences are known..

#### **Clause 8 Income Tax Regulations**

CONTRACTOR shall familiarize itself with the latest "Income Tax Regulations for Contractors" issued by the Income Tax Department of Ministry of Finance , Qatar, and abide by those regulations. The regulations in the Income Tax Department specify interalia the following:-

- 8.1** Non-Qatari CONTRACTOR and its foreign SUBCONTRACTOR(s) if any, shall obtain an Income Tax Clearance Certificate from the Department of Income Tax, Ministry of Finance, of the State of Qatar in accordance with the latest statutory regulations of the State of Qatar CONTRACTOR shall attach the same with final payment invoice as more detailed in Sub-clause 6.10 above.
- 8.2** CONTRACTOR, on signature of SUBCONTRACTS with non-Qatari SUBCONTRACTORS (whether contracted locally or outside Qatar), shall advise the Income Tax Department the following:-
  - a) Name and address of the non-Qatari SUBCONTRACTOR, and name and address of the local agent;
  - b) Date of commencement and completion of SUBCONTRACT;
  - c) Total value and nature of work; and
  - d) The individual values of subcontracted supplies/ construction/installation.
- 8.3** CONTRACTOR shall also submit to the Income Tax Department statement of the total payments made to non- Qatari subcontractor at the end of each year.



- 8.4 CONTRACTOR shall not effect final payment to the non-Qatari SUBCONTRACTOR until the non-Qatari SUBCONTRACTOR submits an Income Tax Clearance Certificate from the Income Tax Department.
- 8.5 CONTRACTOR'S final payment will not be effected until copies of the documents referred in this Clause 8 are submitted for KAHRAMAA review and satisfaction.

## Clause 9 Documentation

Documents and drawings shall be prepared in compliance with KAHRAMAA Engineering Standards for Draughting - ..... . (A copy will be made available to CONTRACTOR for reference). Drawings submitted to KAHRAMAA shall indicate the current status. CONTRACTOR shall keep records of all document/drawings sent to KAHRAMAA. Document/drawings submitted to KAHRAMAA "for comments" "approval" will be returned within two (2) weeks. In addition to the requirements contained in ..... the following further requirements are identified:

### 9.1 Document Index

Within fourteen (14) days from the EFFECTIVE DATE of the CONTRACT, CONTRACTOR shall issue to KAHRAMAA a draft index identifying, by unique number, every individual drawing and document that CONTRACTOR intends developing.

The index format shall be subject to KAHRAMAA acceptance and shall generally include:

- Current CONTRACT revision of document or drawing and date of issue;
- Allocated CONTRACT title and number;
- The equivalent KAHRAMAA base drawing and revision;
- Document description (i.e. size A 1, A3 or A4 and film, manual, CAD, etc.); and
- Sections shall be by field and engineering discipline.

Each drawing and document shall be given a specific CONTRACT number, prefix number and a unique number taken from a block allocation to be provided by KAHRAMAA.

### 9.2 Documents Required by KAHRAMAA

CONTRACTOR shall develop the engineering design documents and drawings, as a minimum, which shall be submitted and handed over to KAHRAMAA in the form and quantities as outlined below:

- All drawings shall be produced in **AutoCAD 2013**. Each drawing shall be in both hardcopy and electronic format. If the WORK affects the existing drawings, and where such existing drawings are stored in electronic format and only if so required by CONTRACTOR, KAHRAMAA will make available copies of the same to CONTRACTOR.
- Only **AutoCAD 2013** drawing files will be required for "AFC" issue.
- Other drawings required by CONTRACTOR will be issued in sepia format with two(2) no. hard copies.



- In addition to documents and drawings required by KAHRAMAA and detailed elsewhere in the CONTRACT, CONTRACTOR produced documents and drawings are required for design reports and such like in the following quantities:,

IFC issue for comments	6 sets
IFA issue for approval	3 sets
AFC approved for Construction	3 sets
Construction Data Book	3 sets
Approved As-Built Drawings	3 sets
CONTRACT Close-out Report / Project Dossiers	3 sets

### 9.3 Material Submittals

CONTRACTOR shall submit each type of material and item of equipment necessary to complete the WORK for approval. Each submission shall be in triplicate, numbered, dated and accompanied by the manufacturer's catalogues, clearly marked indicating the actual model, capacity and materials used for each component and, where necessary, by a sample of the material.

Within two weeks of the EFFECTIVE DATE. CONTRACTOR shall draw up a material submission schedule covering all materials and equipment necessary to complete the WORK. This schedule shall be updated on a regular basis throughout the CONTRACT period and submitted monthly to KAHRAMAA REPRESENTATIVE for review and comment. CONTRACTOR shall ensure approval of all long lead materials within four weeks from the CONTRACT EFFECTIVE DATE.

The Material submission register shall indicate the following:

- a) Submittal Number;
- b) Materials/equipment description;
- c) Manufacturer/local agent;
- d) Date of submission for review by KAHRAMAA Representative;
- e) Date of approval;
- f) Date of order / Order No.;
- g) Mode of Delivery (air, land or sea);
- h) ETA on WORKSITE; and
- i) Status as on date of report.

### 9.4 Shop Drawings

CONTRACTOR shall prepare coordinated shop/installation drawings for the WORK in accordance with the Specification.

The shop drawings shall include schedules of equipment and schematic/isometric diagrams showing the type and function of all plant together with details of any interlock and safety



precautions, internal wiring diagrams for items of electrical equipment and diagrams showing interconnection between different items.

Shop drawings are required for but not limited to the following:

- a) All metal works;
- b) All timber works;
- c) WORKSITE plan and WORKSITE development;
- d) MEP and Air-conditioning;
- e) Mechanical and Electrical works.

All layouts shall be drawn to 1 :50 scale and details in 1 :20 scale.

CONTRACTOR shall keep one set of all CONTRACT drawings and approved shop drawings on WORKSITE. Any changes implemented during construction shall be marked up on the WORKSITE copy and all such changes shall be incorporated in the as-built drawings.

## 9.5 As Built Drawings and Documentation

As-built drawings and operating/maintenance manuals shall be prepared in accordance with the Specification as work proceeds so as all they are available for KAHRAMAA approval at the time Of Tests On Completion. CONTRACTOR shall note that the Taking Over Certificate will not be issued until the As-built drawings and O&M manuals are approved by KAHRAMAA.

## 9.6 Contract Standard Forms

KAHRAMMA shall hand over to the Contractor the **Contract Standard Forms** that will be used during the execution of the Contract.

# Clause 10 Worksite Conditions

## 10. 1 Security and Gate Passes

10.1.1 CONTRACTOR shall take all measures necessary to confine its activities to and prevent all personnel from trespassing beyond the area, which is allocated to CONTRACTOR.

10.1.2 CONTRACTOR shall determine the security arrangements to be observed and the procedure for clearance of personnel and collection of security passes for access to the WORKSITE. CONTRACTOR shall provide barriers, warning signs, and emergency lights at night around all excavated areas.

10.1.3 CONTRACTOR shall comply in all respects with any directive, which may be issued from time to time by KAHRAMAA with regard to security arrangements at the WORKSITE. CONTRACTOR must make itself aware of and comply with all KAHRAMAA regulations.



- 10.1.4 CONTRACTOR shall obtain the required security passes from KAHRAMAA to permit access to the WORKSITE for CONTRACTOR PERSONNEL, equipment, plant and material.
- 10.1.5 Gate passes shall be returned to KAHRAMAA immediately on COMPLETION of the WORK or expiry of the pass, whichever is earlier. In the events that gate passes require renewal prior to COMPLETION of the WORK, application must be made at least five working days prior to the expiry date.
- 10.1.6 Gate passes are the property of KAHRAMAA and any loss should be reported immediately both to KAHRAMAA and the Police Department.
- 10.1.7 KAHRAMAA shall not be responsible for any consequential loss or delay caused by CONTRACTOR not adhering to items 10.1.1 to 10.1.6 inclusive herein above.
- 10.1.8 If passes have been issued for more than one contract, CONTRACTOR shall submit a list of passes to be retained for remaining contracts with their titles and reference numbers.
- 10.1.9 All CONTRACTOR PERSONNEL and visitors should possess valid entry passes for entering and working at KAHRAMAA premises. CONTRACTOR PERSONNEL shall use Grey safety hats. Smoking is strictly prohibited inside KAHRAMAA plants.
- 10.1.10 Notwithstanding any other provisions contained elsewhere in this **Appendix 'D'**, the following specific requirements and stipulations are identified:

CONTRACTOR shall pay particular attention to KAHRAMAA Safety and Security Regulations for transporting men and materials to and from KAHRAMAA premises and shall obtain necessary entry passes for vehicles from KAHRAMAA Industrial Safety Office. All requests for obtaining such passes shall be addressed to KAHRAMAA Representative.

Written consent in the form of hot cold work permits shall be obtained from KAHRAMAA Safety, Security and Production Departments prior to commencement of the WORK.

## 10.2 Special Restrictions of the WORKSITE

- 10.2.1 No batching of concrete will be allowed at WORKSITE and CONTRACTOR should supply ready mix concrete only.
- 10.2.2 Facilities for office accommodation and labour camp are not available at WORKSITE. **CONTRACTOR should provide a temporary WORKSITE office as per appendix A.**
- 10.2.3 No toilet facilities exist for CONTRACTOR PERSONNEL at WORKSITE. CONTRACTOR shall arrange **Toilet facility / EATING AREA for their own STAFF / WORKER.**
- 10.2.4 CONTRACTOR shall provide its own electric supply, water for the WORK and drinking water for CONTRACTOR PERSONNEL at its own cost.



- 10.2.5 CONTRACTOR shall transport debris, refuse and demolished items without delay to a municipality approved dumping site.

### **10.3 Working Hours**

- 10.3.1 Normal working hours at WORKSITE shall be as per Qatar Labour Law. No works will be allowed on Friday. If the CONTRACTOR proposed to WORK out side the Normal working hours, it has to obtain a written approval from the Engineer as stated in Clause 10 Item 10.3.2, and the financial implication will be borne by the CONTRACTOR.
- 10.3.2 CONTRACTOR shall give KAHARAMAA at least 72 hours written notice if it is proposed to work outside normal working hours.
- 10.3.3 CONTRACTOR shall comply with the normal working hours for Kahramaa which are 06:30 to 14:30, Sunday to Thursday in accordance with the current Qatar General Electricity & Water Corporation. The Contractor shall also comply with the normal working hours of the other security regulations.



Qatar General Electricity & Water Corporation

Tender No. GTC 626/2014

Construction of Mega Reservoir PRPSs

(Packages A, B, C, D & E)

تلفون : 4845391 / 4845333 / 4845300 فاكس 41 (974) ص.ب :

الموحة - قطر

Tel: (974) 4845300 / 4845333 Fax: +974 4845391

P.O. Box: 41 Doha - Qatar

## CONTRACT VARIATION FORM

CONTRACT

: GTC 626/2014

CONTRACT TITLE

: Construction of Mega Reservoirs, PRPS

VARIATION NO. : V.O. (--)

V.O TITLE :

CONTRACTOR :

- (1) This Contract Variation Form is issued in accordance with Article 14 of the General Conditions of Contract of the captioned Contract and it evidences, the Parties' hereby agreed to make Variation to the Subject Contract as follows:

Details of this Variation are presented on the attached "VO Details Form" and the attached Documents.

(2) **CONTRACT PRICE**

2.1 Original Contract Price	Qrs. 0000000000
2.2 Contract Price including all previous Variations	Qrs. 0000000000
2.3 Percentage of all previous variations to original Contract Price	% 0
2.4 Cost of this Variation	- Qrs. 0000000000
2.4.1 Cost of deleted works (as negative amount)	- QRs. -0000000000
2.4.2 Cost of Added works (as positive amount)	+ QRs. 0000000000
2.5 Percentage of this Variation to original Contract Price	- %
2.6 Contract Price including this Variation	QRs. 0000000000

Notwithstanding anything to the contrary in the Contract, the Contract Price shall mean the amount shown in item 2.6 above.

(3) **CONTRACT DATES**

3.1 Effective Date of Contract :	00/00/0000
3.2 Original Contractual Completion Date:	00/00/0000
3.3 Revised Contractual Completion Date (if any):	00/00/0000
3.4 Contractual Completion Date for this Variation order (if any):	00/00/0000

(4) Words in this Variation have the same meanings given in the General Conditions of Contract.

(5) All terms and conditions of the Contract shall remain in full force and effect, except as, otherwise, expressly modified herein.

Please acknowledge your agreement to the forgoing by signing below.

**FOR KAHRAMAA:**

**FOR CONTRACTOR:**

Signature : \_\_\_\_\_

Signature : \_\_\_\_\_

Name : \_\_\_\_\_

Name : \_\_\_\_\_

Title : \_\_\_\_\_

Title : \_\_\_\_\_

Date : \_\_\_\_\_

Date : \_\_\_\_\_

**Distribution:**

Original - LC

Contractor

Copy - FN, Copy - TW

Standard Form no. (9)



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

 **KAHRAMAA** **الهيئة العامة للكهرباء والماء**  
Qatar General Electricity & Water Corporation

**Taking-Over Certificate - Contractor**

Date:

No.....

**TO:** ..... **(Contractor)**

**PROJECT:** .....

On behalf of KAHRAMAA, Technical Affairs certifies that the works detailed below have been substantially completed and taken over by ..... Section -Water Networks Affairs on .....

**DESCRIPTION OF WORKS COVERED BY THIS CERTIFICATE**

The following items are outstanding to be completed during the Warranty Period as per attached planned time programme.

**WATER NETWORKS AFFAIRS**

Head of Operation ..... Date: .....

Manager, WTDD ..... Date: .....

Head of Maintenance.....Date: .....

Director, WNA ..... Date: .....

**TECHNICAL AFFAIRS**

Project Engineer ..... Date

: .....

Head of Projects Section ..... Date

: .....

Manager-Water Projects Dept. ..... Date

: .....

**DIRECTOR, TECHNICAL AFFAIRS** ..... Date :

The issue of this certificate does not relieve The Contractor of any of his contractual obligations.

**Distribution:**

Original - Project File

Copy - Contractor.



**Qatar General Electricity & Water Corporation**

**Tender No. GTC 626/2014**

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**(Packages A, B, C, D & E)**

**Copy** - D. WNA.  
**Copy** - D. FN  
**Copy** - Contract Engineer



**Qatar General Electricity & Water Corporation**  
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**Construction of Mega Reservoir PRPSs**  
**(Packages A, B, C, D & E)**

## FINAL COMPLETION CERTIFICATE

**PROJECT:**.....

**CONTRACT NO.**.....

**CONTRACTOR:**.....

It is hereby certified that the works as described below have been completed and the Warranty Period of ..... days has ended on .....

Description of Works covered by this Certificate:

**Approved**

**DIRECTOR  
TECHNICAL AFFAIRS**

**DIRECTOR  
WATER NETWORKS AFFAIRS**

Date : .....

Date : .....

**Distribution:**

Original - Project File  
Copy - Contractor.  
Copy - D. WNA.  
Copy - D. FN  
Copy - Contract Engineer)

**Standard Form no. (8)**



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

**Contractor's own letter head**

**STATEMENT OF FINAL ACCOUNT**

CONTRACT TITLE : .....

CONTRACT NUMBER : .....

ORIGINAL CONTRACT SUM : Qrs.

VARIATIONS (NET ADJUSTMENT) : Qrs.

FINAL ACCOUNT : Qrs.

PREVIOUSLY PAID : Qrs.

FINAL AMOUNT DUE : Qrs.

We confirm that the Final Amount due of Qrs..... is the full and final settlement due to us against this contract.

We further confirm that on payment of the Final Due by KAHRAMAA, KAHRAMAA shall have honoured all of its obligations on this contract and that we, ..... shall have no further claim against KAHRAMAA arising out of this contract.

**Contractor's signature and stamp**

.....

Standard Form no. (10)