



MPR (03) / (April 2020)

## PMC for Chennai Perur 400 MLD Desalination Plant and Allied Works

Reference No.: Loan ID-P267

Contract No. : CNT/ CON/DESAL /ICB/Gol/016/2018-19

18 May 2020

SMEC International Pty. Ltd. in consortium with  
NJS Engineers India Private Limited,  
Tata Consulting Engineers Limited,  
SMEC (India) Private Limited

### PMC Chennai Office Address

A, 13<sup>th</sup> Floor,  
Puravankara Primus,  
No.236 Okkiyampet, Old Mahabalipuram Road,  
Thuraipakkam, Chennai 600 097,  
Tamil Nadu, India

## DOCUMENT CONTROL

Document:	MPR (03) / (April 2020)
File Location:	-
Project Name:	PMC for Chennai Perur 400 MLD Desalination Plant and Allied Works
Revision Number:	0

## REVISION HISTORY

Revision No.	Date	Prepared by	Reviewed by	Approved for Issue by
0	18 May 2020	PMC Team	S.Siddappaswamy	Dr.P.Dharmabalan

## ISSUE REGISTER

Distribution List	Date Issued	Number of Copies
CMWSSB	18 May 2020	10

## PMC Details

Approved by:	Dr.P.Dharmabalan		
Address:	Chennai Perur 400 MLD Desalination Plant Project Office, A 13 <sup>th</sup> Floor, Puravankara Primus, No.236 Old Mahabalipuram Road, Thuraipakkam, Chennai 600 097, Tamil Nadu, India		
Signature:	-		
Tel:	+91 95607 02631 & +61419765881	Fax:	N/A
Email:	P.Dharma@smec.com	Website:	<a href="http://www.smec.com">www.smec.com</a>

The information within this document is and shall remain the property of:  
SMEC and its project partners.

## IMPORTANT NOTICE

This report is confidential and is provided solely for the purpose of reporting monthly progress of the Project Management Consultant ("PMC") on the Consulting Services to be delivered under the Chennai Perur 400 MLD Desalination Plant and Allied Works project]. This report is provided pursuant to a Consultancy Agreement between SMEC International Pty Limited ("SMEC"), as lead consultant in the PMC, and CMWSSB, under which SMEC undertook to perform a specific and limited task for CMWSSB.

This report is strictly limited to the matters stated in it and subject to the various assumptions, qualifications and limitations in it and does not apply by implication to other matters. SMEC makes no representation that the scope, assumptions, qualifications and exclusions set out in this report will be suitable or sufficient for other purposes nor that the content of the report covers all matters which you may regard as material for your purposes.

Unless expressly agreed otherwise in writing, SMEC does not accept a duty of care or any other legal responsibility whatsoever in relation to this report, or any related enquiries, advice or other work, nor does SMEC make any representation in connection with this report, to any person other than CMWSSB. Any other person who receives a draft or a copy of this report (or any part of it) or discusses it (or any part of it) or any related matter with SMEC, does so on the basis that he or she acknowledges and accepts that he or she may not rely on this report nor on any related information or advice given by SMEC for any purpose whatsoever.

## TABLE OF CONTENTS

<b>1</b>	<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
<b>2</b>	<b>ABBREVIATIONS &amp; ACRONYMS.....</b>	<b>3</b>
<b>3</b>	<b>INTRODUCTION .....</b>	<b>4</b>
3.1	This Progress Report.....	4
3.2	PMC Services.....	4
3.3	PMC Scope of Work .....	4
<b>4</b>	<b>PROGRESS REPORT FOR PMC SERVICES .....</b>	<b>6</b>
4.1	Achieved Activities – April 2020.....	6
4.2	Deliverables Status at April 2020.....	7
4.3	Actual Progress versus Planned Progress - Upto April 2020 .....	9
4.4	Financial Progress Upto April 2020 .....	10
4.5	Staffing Inputs – April 2020.....	11
4.6	Meetings and Site Visits – April 2020 .....	12
4.7	Health & Safety – April 2020.....	13
4.8	Variations.....	15
4.9	Communication and Correspondence .....	15
<b>5</b>	<b>PROGRESS OUTLOOK FOR PMC SERVICES .....</b>	<b>17</b>
5.1	Activities Planned Next Month .....	17
5.2	Managing Progress Risks.....	18
<b>6</b>	<b>PROGRESS REPORT FOR PROJECT (THE WORKS).....</b>	<b>19</b>
6.1	Achieved Activities – April 2020.....	19
6.2	Actual Progress versus Planned Progress – April 2020 .....	19
6.3	Financial Progress at April 2020.....	19
6.4	Health & Safety – April 2020.....	19
6.5	Environmental & Regulatory Compliance .....	19
6.6	Communication and Correspondence .....	19
6.7	Variations.....	19
<b>7</b>	<b>PROGRESS OUTLOOK FOR PROJECT (THE WORKS) .....</b>	<b>20</b>
7.1	Activities Planned Next Month .....	20
7.2	Managing Progress Risks.....	20
<b>8</b>	<b>ANNEXURES .....</b>	<b>21</b>

## ANNEXURES

**ANNEXURE 1 LIST OF EXPERTS WITH NAME, ROLE AND MAN-MONTHS**

**ANNEXURE 2 PROJECT SCOPE**

**ANNEXURE 3 OVERALL WORK SCHEDULE**

**ANNEXURE 4 WORK SCHEDULE (CONTRACT PACKAGE-WISE)**

**ANNEXURE 5 PROJECTED FINANCIAL PROGRESS BASED ON MAN-MONTHS CONSUMED VS ACTUAL PROGRESS (BILL PASSED)**

**ANNEXURE 6 PERSONNEL INPUTS SUMMARY**

**ANNEXURE 7 DEPLOYMENT SCHEDULE FOR NEXT MONTHS**

**ANNEXURE 8 ORGANISATION CHART**

# 1 EXECUTIVE SUMMARY

This Monthly Progress Report for April 2020 is submitted in accordance with the contractual requirements for Project Management Consultant ("PMC") services associated with the Chennai Perur 400 MLD Desalination Plant and allied works project being delivered for the Chennai Metropolitan Water Supply & Sewerage Board ("CMWSSB").

The document is structured to separately report on:

- Progress of the PMC (Consulting) Services
- Progress of the Project (the Works)

A summary of the key messages resulting during this period is provided at Table 1. Please peruse the full report for further details.

Table 1: Key Messages upto April 2020

Component	Key Message
PMC (Consulting) Services	<ul style="list-style-type: none"> <li>• Revised Monthly Progress Report (MPR 01) for January &amp; February 2020 submitted on 06.04.2020 and 14.04.2020</li> <li>• Revised Inception Report submitted on 04.04.2020 and 16.04.2020</li> <li>• Revised Design Criteria for CP4 components submitted on 16.04.2020</li> <li>• Monthly Progress Report (MPR 02) for March 2020 submitted on 17.04.2020</li> <li>• Interim Report for the development of Concept Designs for Chennai Perur 400MLD Desalination Plant for CP1 components submitted on 23.04.2020</li> <li>• Quarterly Progress Report (QPR 01) for January to March 2020 submitted on 24.04.2020</li> </ul>
	<ul style="list-style-type: none"> <li>• Progressive expenditure (at actuals i.e. based on bills passed till the end of April 2020) = Nil (INR) and Nil (USD)</li> </ul>
	<ul style="list-style-type: none"> <li>• Progressive expenditure (Projected based on man-month consumed till the end of April 2020) = 97,17,566 (INR) and 315,518 (USD)</li> </ul>
	<ul style="list-style-type: none"> <li>• Activities generally progressing on schedule</li> <li>• Accelerated program being followed for CP1, which brings forward the issue of the RFP to market by 4 to 5 months</li> </ul>
	<ul style="list-style-type: none"> <li>• The emerging COVID-19 virus outbreak is being monitored and CMWSSB is to be informed of any impact on the mobilization of PMC personnel. Due to COVID-19 issues, the Government of India announced 1<sup>st</sup> lockdown period till 14.04.2020 and further extended the 2<sup>nd</sup> lockdown period from 15.04.2020 to 03.05.2020 throughout the India.</li> </ul>
Project (the Works)	<ul style="list-style-type: none"> <li>• No Project site work have been commenced</li> </ul>
	<ul style="list-style-type: none"> <li>• Progressive expenditure = Nil</li> </ul>
	<ul style="list-style-type: none"> <li>• No activities scheduled to commence as of end April 2020</li> </ul>

Key items identified during this period for resolution with the CMWSSB include the following:

1. The impact of prevailing water quality issues (i.e. white fibrous particles and associated elevated TOC and COD levels) being experienced at Nemmeli DSP on the selection of a preferred pre-treatment process arrangement being addressed during conceptual design.
2. Revision of the current concept for the site layout for the proposed reservoir and pumping station at the Porur Headworks site, due to other works currently under construction for CMWSSB.
3. Based on discussion with CMWSSB officials, it is understood that proposed desalination plant's land ownership transfer is in process. Upon receipt of the same, Consent To Establish (CTE) application will be forwarded to TNPCB (Tamil Nadu Pollution Control Board); the action to be taken up by CMWSSB.
4. Forest Clearance for cutting of trees at Perur to be obtained from Tamil Nadu Forest Department.
5. Approval for erection of offshore structure to be obtained from Tamil Nadu Maritime Board.
6. System hydraulic design for the main from Perur DSP to Porur Headworks water transmission system (pumping station and transmission pipeline) and proposed water allocation to Core City and Expansion Area zone is to be resolved following initial analysis by PMC.
7. Flexibility to perform some PMC activities remotely requires resolution between CMWSSB and PMC, as the current COVID-19 virus situation may introduce restrictions on travel and project mobilizations.
8. It is very difficult to access to the project office / site due to COVID-19 issues spread across the globe, also the Government of India announced the 1<sup>st</sup> lockdown period until 14.04.2020 and further extended the second lockdown period from 15.04.2020 to 03.05.2020 throughout the India.
9. Quick turn round of requests with approvals (Work From Home and Work from anywhere) and follow up on timeline is essential to undertake the acceleration of CP1 components and regular timeline schedule for CP4 components.

## 2 ABBREVIATIONS & ACRONYMS

Abbreviation / Acronym	Meaning
BoQ	Bill of Quantity
CMWSSB	Chennai Metropolitan Water Supply and Sewerage Board
CP	Contract Package
DI	Ductile Iron
DMA	District Metered Area
DMS	Document Management System
DSP	Desalination Plant
JICA	Japan International Cooperation Agency
MLD	Million Litres per day
MPR	Monthly Progress Report
MS	Mild Steel
NJSEI	NJS Engineers India Pvt Ltd.
O&M	Operation & Maintenance
ODA	Official Development Assistance
OJT	On-Job-Training
PMC	Project Management Consultant (consortium)
PQ	Pre-Qualification
QPR	Quarterly Progress Report
RFP	Request for Proposal
RFQ	Request for Qualification
SMEC	SMEC International Pty Ltd
SMEC (India)	SMEC India Pvt Ltd
TCE	Tata Consulting Engineers Ltd.
TNPCB	Tamil Nadu Pollution Control Board
TOC	Total Organic Carbon
WDS	Water Distribution Station
WDZ	Water Distribution Zone

## 3 INTRODUCTION

### 3.1 This Progress Report

This is the third (3<sup>rd</sup>) monthly progress report and covers activities of the Project Management Consultant (PMC services) and the Project (the Works) during the month of **April 2020**.

### 3.2 PMC Services

The Consulting Services addressed by the series of Monthly Progress Report (“MPR”) to be delivered on this Project include design, preparation of bidding documents, tender evaluation, construction management and supervision for the proposed Chennai Perur 400 MLD Desalination Plant, its product water conveyance pipeline and all other allied works being carried out in accordance with a Contract dated 09 January 2020 for Consulting Services between the Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB or “the Client”) and a Consortium members comprising of SMEC International Pty Ltd (SMEC), Australia as the Lead Member of the Consortium, NJS Engineers India Pvt. Ltd. (NJSEI), TATA Consulting Engineers Limited (TCE) and SMEC India Pvt. Ltd. (SMEC India) as Associate Consultants to the Consortium.

The Terms of Reference (ToR) for the Consulting Services provide for 1988 person months of PMC services (National Local 1603 person months; including support staff, and International, 385 person months) in the following main categories. However, the details of all the staff with their role and man-months are mentioned in the **Annexure 1**.

Table 2: Estimated Resourcing for PMC Services

Category	Resourcing
Management and Coordination, International and Local	87 person months
Design, International	245 person months
Design, Local	377 person months
Safety, Environmental and Others, Local	265 person months
Construction Supervision, Local	294 person months
Support Staffs	720 person months
<b>TOTAL</b>	<b>1988 person months</b>

The Consulting Services are to be delivered in compliance with Guidelines for the Employment of Consultants under Japanese ODA Loans, April 2012.

### 3.3 PMC Scope of Work

The major components within the Scope of Work for the overall Project are listed below:

- CP1 - 400 MLD Sea Water Reverse Osmosis (SWRO) Desalination Plant at Perur
- CP2 – Pumping Stations & Reservoirs at Perur and Porur
- CP3 - Product Water Conveyance Main for about 65Km length from Perur to Pour
- CP4 – Improvements to Existing Distribution System in core area of Chennai City
- CP5 - Installation of external dedicated transmission line



Further details on the components of the contract packages are as summarised at **Annexure 2**.

The Consulting Services scope under each component (Contract Package) of the Project are as follows.

1. CP-1: Review of the existing technical information, conducting supplementary natural condition surveys, preparation of conceptual design report with raw water assessment, review of marine works, assessment of operating conditions, process flow diagram, general layout review, water and mass balance and review of electrical, instrumentation and automation plans. Preparation of PQ and bid document with technical specifications (MFS), Assistance in Bid evaluations, construction supervision activities.
2. CP-2: Review of technical information, conducting necessary topographical and geotechnical investigations, Hydraulic analysis of the transmission mains for finalizing the pumps configurations, detail design of reservoir and pumping stations with all civil, electro-mechanical and instrumentation works, preparation of PQ (if necessary) and bid document with BoQ and technical specifications, Assistance in Bid evaluations, construction supervision activities.
3. CP-3: Construction supervision activities of the Product Water Conveyance Main from Perur to Porur.
4. CP-4: Review of technical information, collect and review of the topographical and pipe inventory data, preparation of hydraulic modelling and analysis of the existing water distribution network for improvement, establishment of DMAs, preparation of the bid documents with BOQ and Construction supervision activities.
5. CP-5: Preparation of technical documents, monitor the progress of the construction activities (Necessary Technical Assistance by PMC).
6. All packages: Assist CMWSSB in the environmental management and monitoring activities in all stages.

In addition, the PMC will assist the CMWSSB in the development of organizational capability in several key areas including the following:

- Asset Management
- Acceleration of installation of service connections and water meters
- Improvement of customer services and publication
- Improvement of business operation

For a more comprehensive description of PMC scope of services and related works, please refer to the Inception Report and Interim Report for the development of Concept Designs for Chennai Perur 400 MLD Desalination Plant at Perur for CP1 components.

## 4 PROGRESS REPORT FOR PMC SERVICES

### 4.1 Achieved Activities – April 2020

The activities achieved during the month of April 2020 are listed at Table 3.

Table 3: Achieved Activities – April 2020

Package	Achieved Activities
CP1	Task 1: Data and information collection commenced (JICA documents, DPRs, water quality data)
	Task 2: Review of technical information commenced (JICA documents, DPRs, water quality data)
	Task 4: Conceptual design for Perur DSP is in progress with initial preliminary calculations based on the available existing data
	Interim Report for the development of Concept Designs for Chennai Perur 400 MLD Desalination Plant for CP1 components submitted to CMWSSB on 23.04.2020
	Online Zoom Video conference call and discussion with CMWSSB officials on 30.04.2020 for the Interim Report for the development of Concept Designs for Chennai Perur 400 MLD Desalination Plant for CP1 components
	Task 9: Revised Request for Qualifications (RFQ) document was prepared on DBO basis and issued to Client for review. After review, CMWSSB sent the RFQ to JICA for concurrence.
CP2	Task 1: Data and information collection commenced (JICA documents, DPRs, Master Plan)
	Task 2: Review of technical information commenced (checking of the hydraulic design of transmission system based on the available data)
CP3	No major activities have been carried out during this period
CP4	Task 1: Data and information collection commenced (JICA documents, Master Plan)
	Online Zoom Video conference call and discussion with CMWSSB officials on 13.04.2020 for the design criteria to be adopted for the proposed water distribution network in Core area of Chennai City Revised Design Criteria for CP4 components submitted on 16.04.2020
CP5	No activities have been carried out during this period
General	Monthly Progress Report (MPR 02) for March 2020 submitted on 17.04.2020
	Quarterly Progress Report (QPR 01) for January to March 2020 submitted on 24.04.2020
	Environmental support activities commenced including documentation review and approvals planning

Note – task numbering listed in Table above corresponds to master work schedule (refer **Annexure 4**)

## 4.2 Deliverables Status at April 2020

A listing of the full suite of project deliverables included under the Consulting Services and their current status or tentative completion date are listed at Table 4.

Table 4: Deliverables Status

Sl.No.	Report / Document	Tentative Date / Frequency / Status **
1	Inception Report	Inception Report submitted on 28.02.2020
		Observations on Inception Report received from CMWSSB on 30.03.2020
		Revised Inception Report submitted on 04.04.2020 and 16.04.2020
2	<b>For Design and Tender Assistance for CP1</b>	
	2.1 Conceptual Design Report	Interim Report for the development of Concept Designs for Chennai Perur 400 MLD Desalination Plant for CP1 components submitted on 23.04.2020
		July 2020
	2.2 PQ Document	Draft PQ document for CP1 components submitted on 24.02.2020
		Revised PQ document for CP1 components submitted on 03.03.2020, 06.03.2020 for client review and sent to JICA for Concurrence for floating of the tender
	2.3 PQ Evaluation Report	July 2020
	2.4 Bid (RFP) Document	September 2020
	2.5 Bid Evaluation Report (Technical)	October 2020
	2.6 Bid Evaluation Report (Financial)	December 2020
3	<b>For Design and Tender Assistance for CP2</b>	
	3.1 Detailed Design Report and Drawings	April 2021
	3.2 PQ Document (if required)	July 2021
	3.3 PQ Evaluation Report (if required)	August 2021
	3.4 Bid Document (RFP)	September 2021
	3.5 Bid Evaluation Report (Technical)	November 2021
	3.6 Bid Evaluation Report (Financial)	December 2021
4	<b>For Design and Tender Assistance for CP4</b>	
	4.1 Detailed Design Report and Drawings	December 2021
	4.2 Bid Document(s)	April 2022
	4.3 Bid Evaluation Report (Technical)	September 2022
	4.4 Bid Evaluation Report (Financial)	November 2022

Sl.No.	Report / Document	Tentative Date / Frequency / Status **
5	<b>For Construction Supervision of CP 1</b>	
	5.1 Contractor's Design Review Report	Within 1 month after submission of the Contractor's design report
	5.2 Quality and Quantity Control Report	Every Month
	5.3 Final Inspection Report	At Appropriate timing
6	<b>For Construction Supervision of CP 2</b>	
	6.1 Quality and Quantity Control Report	Every Month
	6.2 Final Inspection Report	At Appropriate timing
7	<b>For Construction Supervision of CP 3-1 to CP 3-4</b>	
	7.1 Quality and Quantity Control Report	Every Month
	7.2 Final Inspection Report (CP 3-1, CP 3-2)	At Appropriate timing
	7.3 Final Inspection Report (CP 3-3, CP 3-4)	At Appropriate timing
8	<b>For Construction Supervision of CP 4</b>	
	8.1 Quality and Quantity Control Report	Every Month
	8.2 Final Inspection Report	At Appropriate timing
9	<b>Environmental and Social Safeguard</b>	
	9.1 EIA Review Report for CP 1	May 2020
	9.2 Environmental Monitoring Report	Every Month
10	<b>Progress Report and Project Completion Report</b>	
	10.1 Monthly Progress Report (MPR)	MPR 01 for Jan' & Feb'2020 (Draft 2 copies) submitted on 10.03.2020 for review Observations on MPR 01 received from CMWSSB on 31.03.2020 Revised MPR 01 for Jan' & Feb'2020 (soft copy) submitted on 06.04.2020 and 14.04.2020 MPR 02 for March 2020 (soft copy) submitted on 17.04.2020
	10.2 Quarterly Progress Report (QPR)	QPR 01 for Jan' to March 2020 (soft copy) submitted on 24.04.2020
	10.3 Project Completion Report (PCR)	Within 3 months after completion of the services

\*\* The tentative date of deliverables have been worked out based on the discussion with CMWSSB officials, but the total time duration of each component is fixed as per ToR / as proposed by the PMC team.

It is highlighted that the tentative dates listed in Table 4 are subject to assumptions on the actual date of issue of tender documents to the market by CMWSSB.

During the Online Zoom meeting Video conference call held on 30.04.2020, the International experts expressed their concern on the resumption of International flights to Chennai and it may take longer duration than 3 months due to COVID-19 Pandemic across the globe. Hence, PMC requested CMWSSB to allow the International Experts to work from home. In general, both parties (PIU and PMC team) noted that due to the current COVID-19 situation, overall 2 months delay in floating of the RFQ and consequently the RFP for CP1 components. Where these tender dates are delayed, there will be an associated delay with the completion of tender evaluation reports. PMC also requested to consider the effort of national staff working from home due to COVID 19.

Any impacts to timing of deliverables will be communicated to CMWSSB on a regular basis.

### 4.3 Actual Progress versus Planned Progress – Upto April 2020

Actual progress during the month's upto April 2020 is in accordance with planned progress.

Table 5: Actual Progress vs Planned Progress

Sl. No.	Deliverable	Planned	Actual	Remarks/reasons for delay
1	Draft PQ document for CP1	25.02.2020	24.02.2020	
2	Draft Inception Report	12.02.2020	28.02.2020	Delay has been happened due to more focus on CP1 PQ document preparation due to its priority as CMWSSB advise. Please Refer Minutes of Progress Review Meeting conducted by CE (O&M)-II, CMWSSB held on 14.02.2020 for the revised date i.e. 28.02.2020 which has been conveyed to the client. Accordingly submission has been made.
3	Revised PQ document for CP1	03.03.2020	03.03.2020	
		06.03.2020	06.03.2020	CMWSSB; PQ documents sent to JICA for concurrence
4	Draft Monthly Progress Report (MPR 01) for January 2020 & February 2020	10.03.2020	10.03.2020	
5	Revised Inception Report	04.04.2020	04.04.2020	
		16.04.2020	16.04.2020	
6	Revised Monthly Progress Report (MPR 01) for January 2020 & February 2020	06.04.2020	06.04.2020	
		14.04.2020	14.04.2020	
7	Monthly Progress Report (MPR 02) for March 2020	17.04.2020	17.04.2020	
8	Interim Report for the development of Concept Designs for Chennai Perur 400 MLD Desalination Plant for CP1 components	23.04.2020	23.04.2020	
9	Quarterly Progress Report (QPR 01) for January 2020 to March 2020	24.04.2020	24.04.2020	

In addition, as per the baseline schedule, the PMC is progressing with collection and review of data and information to inform early activities planned on CP1, CP2 and CP4.

## 4.4 Financial Progress Upto April 2020

A summary of financial progress (at actuals based on the bills passed) for the PMC Services Contract at the end of April 2020 is included at Table 6.

Table 6: Financial Progress (Actual based on the bill passed) on PMC Services at end of April 2020

Month	Monthly Expenditure	Cumulative Expenditure	% of Total Contract Value
January 2020	INR 0	INR 0	0.00%
	USD 0	USD 0	0.00%
February 2020	INR 0	INR 0	0.00%
	USD 0	USD 0	0.00%
March 2020	INR 0	INR 0	0.00%
	USD 0	USD 0	0.00%
April 2020	INR 0	INR 0	0.00%
	USD 0	USD 0	0.00%

However, summary of financial progress (projected based on man-month consumed) for the PMC Services contract at the end of April 2020 is included at Table 7. For further details, please refer to **Annexure 5**.

Table 7: Financial Progress (Projected based on man-months consumed) on PMC Services at end of April 2020

Month	Monthly Expenditure	Cumulative Expenditure	% of Total Contract Value
January 2020	INR 10,77,836	INR 10,77,836	0.18%
	USD 56,098	USD 56,098	0.60%
February 2020	INR 25,81,997	INR 36,59,833	0.62%
	USD 112,801	USD 168,899	1.79%
March 2020	INR 38,31,393	INR 74,91,226	1.30%
	USD 56,261	USD 225,159	2.39%
April 2020	<b>INR 22,26,340</b>	<b>INR 97,17,566</b>	<b>1.69%</b>
	<b>USD 90,351</b>	<b>USD 315,518</b>	<b>3.35%</b>

## 4.5 Staffing Inputs – April 2020

### 4.5.1 Mobilized Personnel

The following key Project resources were mobilised and commenced work on the Consulting Services:

Table 8: Mobilized Personnel (International / National)

Position / Role	Name of the staff	Category	Commenced Date	De-mobilization date	Re-mobilization date	Total months allocated	Total months mobilized so far (till April 2020 end)	Balance man-months available (May 2020 onwards)
Project Manager (Team Leader)	Dr. Dharma Dharmabalan	I	14.02.2020	26.02.2020	07.04.2020	70	0.90	69.10
Desalination Expert	Dr.Ghulam Mustafa	I	10.02.2020	22.02.2020	01.04.2020	32	1.45	30.55
Water Supply Engineer	Mr.Shane Farquharson	I	20.01.2020	20.03.2020		23	2.04	20.96
Mechanical Engineer (Desal)	Mr.Michel Morillon	I	20.01.2020	08.02.2020 15.03.2020	23.02.2020 01.04.2020	15	2.35	12.65
Contract Specialist (Desal)	Mr.Roderick Mackenzie	I	20.01.2020	15.02.2020		9	0.90	8.10
Civil and Structural Engineer (Desal)	Dr.D.Elanchezian	I	20.01.2020	04.04.2020		42	2.45	39.55
Civil Engineer	Mr.Ramesh Senthil	N	20.01.2020			72	3.26	68.74
Senior Civil Engineer (Deputy Team Leader)	Mr.S.Siddappaswamy	N	27.01.2020	22.02.2020	01.04.2020	72	1.364	70.636
Senior Pipeline Engineer	Mr.Nagesh Chinnam	N	04.02.2020			72	2.727	69.273
Environmental Specialist	Dr.Alok Kumar	I	24.02.2020	07.03.2020	25.04.2020	15	0.545	14.455
Environmental Specialist	Mr.S.M.Karthikaeswaran	N	25.02.2020			30	2.045	27.955
Pipeline Engineer-1	Mr.Chandra Shekhar Reddy Yedla	N	25.02.2020	05.03.2020		60	0.32	59.68
Hydraulic Modeller-1	Mr.P.M.Saravanan	N	25.02.2020	27.02.2020		8	0.09	7.91
CAD Operator-1	Mr.G.Murali	N	25.02.2020	24.03.2020		30	0.91	29.09
Contract Management Specialist	Mr.Santosh Biswa	N	02.03.2020			6	0.14	5.86
Visa and Admin Officer	Mr.A.Renu Kumar	N	20.01.2020			70	3.22	66.78
Accountant	Mr.K.Manikandan	N	09.03.2020			70	1.77	68.23
Office Boy-1	Mr.R.Jagan (Replacement to Mr.Thukaram)	N	03.02.2020			70	2.91	67.09
Office Boy-2	Mr.G.Arjun (Replacement to Mr.Ramesh)	N	03.02.2020			70	2.91	67.09

I – International Staff

N – National Staff

A project office has been established in Chennai to accommodate PMC personnel and integrate resources from PMC partners into a united team. The permanent office is located at the Puravankara Primus building, OMR, Okkiyampet, Thuraipakkam, Chennai. This office location is centrally positioned between the Client office and the Perur project site to balance both short and long-term commitments to the Project.

No PMC team have been permanently demobilized from the Project, however some resources with intermittent or staged inputs were temporarily demobilized during the period due to COVID-19 issues.

After the COVID-19 issues resolved and ends of the 3<sup>rd</sup> extended lockdown period in India, the several of these team members are scheduled to return to Chennai for further inputs to this Project in the coming month of June 2020.

#### 4.5.2 Per-Diem Allowance

The following are the details of quantity for per-diem allowance for the staff of Consortium member of the Project on the Consulting Services:

Table 9: Details of Quantity for Per-Diem Allowance for Staff

Sl. No.	Name of the firm	Total Number of Days	Number of Days of Claim upto March'2020	Number of Days of Claim in April 2020	Cummulative Number of Days of Claim Upto April 2020	Balance Number of Days for Claim
1	NJS Engineers India Pvt. Ltd.	1,440	12	0	12	1,428
2	SMEC India Pvt. Ltd.	860	178	0	178	682
3	SMEC International Pty. Ltd.	Per-diem allowance in INR for the International experts will be claimed by SMEC India Pvt. Ltd.				
4	TATA Consulting Engineers Ltd.	Not applicable. Hence no claim will be made for the entire project duration				
	<b>TOTAL</b>	<b>2,300</b>	<b>190</b>	<b>0</b>	<b>190</b>	<b>2,110</b>

#### 4.5.3 Summary of Personnel Inputs for the Period

A summary of personnel inputs for the period (April 2020) is included at **Annexure 6**.

Planned mobilisation of PMC personnel for next 4 month period (upto August 2020) is presented at **Annexure 7**.

#### 4.5.4 Team Structure

A copy of the current PMC organisation chart is attached at **Annexure 8**.

##### 4.5.4.1 Change of Team Structure PMC's nominated key personnel for this Project

As at end of April 2020, there are no changes to the PMC's nominated key personnel for this Project, however two support staffs (Office boy-1 and Office boy-2) have been replaced with new personnel during March 2020 onwards.

## 4.6 Meetings and Site Visits – April 2020

A summary of key meetings and site visits completed during the period is furnished in Table 10.



Table 10: Meetings and Site Visits (April 2020)

Date	Meeting	Location	Attendees
07.04.2020	Meeting conducted by Project Manager (PMC) for a discussion on preparation of Pre-treatment, Filtration units for Interim Report for the development of Concept Design for CP1 (Based on available data)	Online Zoom Meeting Video Conference Call	PMC members
10.04.2020	Meeting conducted by Desalination Process Expert (PMC) for a discussion on preparation of Pre-treatment, Filtration, Reverse Osmosis treatment technology units for Interim Report for the development of Concept Design for CP1 (Based on available data)	Online Zoom Meeting Video Conference Call	PMC members
13.04.2020	Discussion on Action Taken Report /Compliance for Revised Inception Report, Revised Monthly Progress Report (MPR01) for Jan' & Feb'2020 and Design Criteria for CP4 components conducted by SE (Desal) with PIU team (CMWSSB) officials.	Online Zoom Meeting Video Conference Call	CMWSSB, PMC members
17.04.2020	Meeting conducted by Project Manager (PMC) for a discussion on preparation of Interim Report for the development of Concept Design for CP1 (Based on available data)	Online Zoom Meeting Video Conference Call	PMC members
24.04.2020	Meeting conducted by Project Manager (PMC) for a discussion on preparation of the Interim Report for the development of Concept Design for CP1 components	Online Zoom Meeting Video Conference Call	PMC members
30.04.2020	Technical presentation and discussion on Interim Report for development of Concept Designs of CP1 components conducted by SE (Desal) with PIU Team (CMWSSB)	Online Zoom Meeting Video Conference Call	CMWSSB, PMC members

During April 2020, there is no site visit have been made by the PMC team members due to travel restrictions on the lockdown period as announced by Government due to COVID-19 issues.

In addition, some other meetings/technical discussions have been conducted by PMC team on preparation of interim report for the development of 400 MLD desalination plant at Perur for CP1 components, Design Criteria for proposed water distribution network of CP4 components, Monthly Progress Report for March 2020, Quarterly Progress Report, Environmental Impact Assessment (EIA) Review Report for CP1 components. Also regular interactions / discussions with CMWSSB officials and other Project aspects till April 2020. Where formal minutes have not been recorded, these meetings are not listed in the above.

#### 4.7 Health & Safety – April 2020

There are no health and Safety incidents to report for the months of April 2020, associated with the activities of the PMC. The evolving international situation regarding the COVID-19 virus is however of concern to the PMC, as mobilisation of international (and possibly national) staff may be impacted by restricted travel movements. The PMC will keep CMWSSB informed of any developments that impact the delivery of the Consulting Services. It is requested that CMWSSB consider approval of out-of-country professional inputs, if the COVID-19 virus situation worsens and travel restrictions are enforced, for the PMC to maintain progress on activities. Also, it is requested that CMWSSB to consider the approval of national and support staff work from home inputs, if the COVID-19 virus situation worsens and travel restrictions to sites are enforced, for the PMC to maintain progress on activities.

The details of Insurance is listed in the Table 11.

Table 11: Details of Insurance

Name of the Firm	Type of Insurance	Name of the Agency	Insurance Value	Period Insurance from	Period Insurance to
<b>SMEC International Pty. Ltd.</b>	Third Party Motor Vehicle Liability Insurance	Not Applicable	-	-	-
	Professional Liability	Engineering Consultants Underwriters Ltd.	AUD 1 Million	30.06.2019	30.06.2020
	Employer's Liability and Worker Compensation Insurance	CHUBB Insurance Singapore limited	SGD 10 Million	01.07.2019	31.12.2020
	Insurance against Loss or Damage	Not Applicable	-	-	-
<b>SMEC India Pvt. Ltd.</b>	Third Party Motor Vehicle Liability Insurance	SBI General Insurance	INR 100 Million	10.01.2020	09.01.2021
		IFFCO TOKIO General Insurance Company Ltd.	INR 0.62 Million	09.01.2020	08.01.2021
	Professional Liability	Bajaj Allianz General Insurance Company Ltd.	INR 205 Million	07.07.2019	06.07.2020
	Employer's Liability and Worker Compensation Insurance	SBI General Insurance	INR 100 Million	10.01.2020	09.01.2021
	Insurance against Loss or Damage	3 Years Onsite Warranty with 1 year ADP (Only for Laptops) from VERTEX TECHNO SOLUTIONS (B) PVT LTD.	INR 0.35 Million	29.01.2020	28.01.2023
<b>NJS Engineers India Pvt. Ltd.</b>	Third Party Motor Vehicle Liability Insurance		To be provided as and when vehicles are mobilised		
	Professional Liability	New India Assurance Company Limited	INR 259 Million	20.04.2020	20.07.2027
	Employer's Liability and Worker Compensation Insurance	New India Assurance Company Limited	INR 20 Million	20.04.2020	19.04.2021
	Insurance against Loss or Damage	Not Applicable	-	-	-
<b>TATA Consulting Engineers Ltd.</b>	Third Party Motor Vehicle Liability Insurance	IFFCO TOKIO General Insurance Company Ltd.	INR 0.62 Million	14.01.2020	13.01.2021
	Professional Liability	The New India Assurance Co. Ltd.	INR 1500 Million	03.10.2019	02.10.2020
	Employer's Liability and Worker Compensation Insurance	The New India Assurance Co. Ltd.	INR 1050 Million	01.04.2019	31.03.2020
	Insurance against Loss or Damage	The New India Assurance Co Ltd.	INR 1000 Million	03.10.2019	02.10.2020

## 4.8 Variations

### 4.8.1 Submitted/Approved

There are no variation requests submitted or approved during this period.

### 4.8.2 Under Consideration

There are no future variations currently under consideration.

## 4.9 Communication and Correspondence

There is no progress on activities to report for Project communications this period. The PMC does however note the request of the CMWSSB to tighten up on Project communications and ensure that there is a “single voice” from the PMC during project discussions. In addition, adherence to project communications protocols requires improved effort to ensure that correspondence is issued in the correct format and through agreed lines of communication.

The correspondence details (soft copy by email) of the letters submitted to CMWSSB and letters received from CMWSSB for the project is furnished in Table 12.

Table 12: Details of Correspondence for the project

Sl. No.	Details of Correspondence letter (soft copy by email)	Letter Correspondence reference number, date	Date of submission / recieved
1	List of activities to be carried out for CP1 & CP4 during lockdown period till April 2020 (Sent by Email on 01.04.2020)	Ref: SMEC/ CMWSSB/5061185/045, dated 31.03.2020	01.04.2020
2	Submission of Revised Inception Report	Sent by email to SE (Desal), CMWSSB on 04.04.2020	04.04.2020
3	Submission of Invoice for the month of January 2020 for SMEC India Pvt. Ltd. in Local Currency (Sent by Email on 06.04.2020)	Ref: SMEC/ CMWSSB/5061185/038, dated 19.03.2020	06.04.2020
4	Submission of Invoice for the month of January 2020 for SMEC India Pvt. Ltd. in Foreign Currency (Sent by Email on 06.04.2020)	Ref: SMEC/ CMWSSB/5061185/039, dated 19.03.2020	06.04.2020
5	Submission of Invoice for the month of January 2020 for SMEC International Pty Ltd in Foreign Currency (Sent by Email on 06.04.2020)	Ref: SMEC/ CMWSSB / 5061185/40, dated 19.03.2020	06.04.2020
6	Submission of Invoice for the month of February 2020 for SMEC India Pvt. Ltd. in Local Currency (Sent by Email on 06.04.2020)	Ref: SMEC/ CMWSSB/5061185/041, dated 19.03.2020	06.04.2020
7	Submission of Invoice for the month of February 2020 for SMEC India Pvt. Ltd. in Foreign Currency (Sent by Email on 06.04.2020)	Ref: SMEC/ CMWSSB/5061185/042, dated 19.03.2020	06.04.2020
8	Submission of Invoice for the month of February 2020 for SMEC International Pty Ltd in Foreign Currency (Sent by Email on 06.04.2020)	Ref: SMEC/ CMWSSB/5061185/043, dated 19.03.2020	06.04.2020
9	Submission of Revised Monthly Progress Report (QPR01) for Jan' & February 2020	Sent by email to SE (Desal), CMWSSB on 07.04.2020	07.04.2020

Sl. No.	Details of Correspondence letter (soft copy by email)	Letter Correspondence reference number, date	Date of submission / recieved
10	Replacement of Staffs	Ref: SMEC/ CMWSSB/5061185/046, dated 12.04.2020	12.04.2020
11	Discussion on Action Taken Report /Compliance for Revised Inception Report, Revised Monthly Progress Report (MPR01) for Jan' & Feb'2020 and Design Criteria for CP4 components conducted by SE (Desal) with PIU Team (CMWSSB)	Online Zoom Meeting Video Conference Call on 13.04.2020	13.04.2020
12	Request for release of Mobilisation Advance Payment	Ref: SMEC/ CMWSSB/5061185/046, dated 13.04.2020	13.04.2020
13	Submission of Revised Inception Report	Sent by email to SE (Desal), CMWSSB on 16.04.2020	16.04.2020
14	Submission of Monthly Progress Report (QPR02) for March 2020	Sent by email to SE (Desal), CMWSSB on 17.04.2020	17.04.2020
15	Submission of Interim Report for Development of Concept Designs for 400 MLD Desalination Plant (CP-1) at Perur	Ref: SMEC/ CMWSSB/5061185/049, dated 23.04.2020	23.04.2020
16	Submission of Quarterly Progress Report (QPR01) for Jan' to March 2020	Sent by email to SE (Desal), CMWSSB on 24.04.2020	24.04.2020
17	Minutes of Discussion on Interim Report for development of Concept Designs of CP1 components conducted by SE (Desal) with PIU Team (CMWSSB)	Online Zoom Meeting Video Conference Call on 30.04.2020	30.04.2020
18	Nemmeli External lab test report, Nemmeli Sea Water Report, Nemmeli COD, TOC values	Received by email from SE (Desal), CMWSSB on 04.04.2020	04.04.2020
19	SDI Values for 3 years for Nemmeli DSP	Received by email from SE (Desal), CMWSSB on 04.04.2020	04.04.2020

The PMC team is maintaining the Document Management System (DMS) for the project and DMS will be provided to CMWSSB.

## 5 PROGRESS OUTLOOK FOR PMC SERVICES

### 5.1 Activities Planned Next Month

A summary of planned (key) activities for the month of May 2020 is provided at Table 13.

Table 13: Planned Activities till the month of May 2020 (PMC activities)

Contract Package	Activities (Planning for next months)
CP1	Task 2: Review of technical information is continuing and gap analysis to be completed to inform additional water quality sampling etc.
	Task 3: Confirm scope of services for proposed site topographic survey and geotechnical investigation <ul style="list-style-type: none"> <li>Preparation of Terms of Reference for carrying out the sea water quality analysis</li> <li>Preparation of Terms of Reference for carrying out the topographical survey at Perur site</li> </ul>
	Task 4: Conceptual Design Report – complete data collection activities and commence conceptual design
	Task 5 : Preparation & Submission of Concept Design Report <ul style="list-style-type: none"> <li>Preparation of Draft Conceptual Design Report</li> </ul>
	Task 9: Request for Qualification (RFQ) – issue document to market (late May or early June) <ul style="list-style-type: none"> <li>Obtaining concurrence from JICA for PQ documents for CP1 components</li> </ul>
	Task 10: Request for Proposal (RFP) – commence document preparation in June 2020 <ul style="list-style-type: none"> <li>Review of CRZ Report and gap analysis</li> <li>Review of Environmental Management Plan (EMP) for construction phase (CEMP) and cost estimation for its implementation. CEMP will be the part of RFP</li> <li>Preparation EIA review report</li> </ul>
CP2	Task 1: Data collection – collection and verification of data on the existing/proposed CMWSSB water transmission system and proposed battery limits (including site information for Porur WDS)
	Task 2: Review technical information and decide on preferred location of new reservoir and pumping station on Porur HW site
	Task 3: Confirm scope of services for proposed site topographic survey and geotechnical investigation <ul style="list-style-type: none"> <li>Preparation of Terms of Reference for carrying out the topographical survey at Porur site</li> </ul>
CP3	Task 1: Design reviews – undertake the review of design and bid document deliverables (by others), if prioritised by CMWSSB
	Task 2: Review of draft CP3 bid documents (prepared by CMWSSB) performed and issue of comments
CP4	Task 1: Data collection – collect and verify data on the existing CMWSSB water distribution network according to agreed prioritization of WDZs
	Task 1: GIS development – progressive development of the GIS database for existing water distribution asset inventory, including design of attribute data structure
	Task 2: Preliminary Design basis status report – document for proposed design criteria for water distribution system modelling and design <ul style="list-style-type: none"> <li>Preparation and submission of PMC observations on various components of the Master plan/ JICA report</li> </ul>
CP5	No planned activities during this period

Contract Package	Activities (Planning for next months)
General	<ul style="list-style-type: none"> <li>Interim Report for the development of Concept Designs for CP1 components – finalise based on Client/JICA reviews</li> <li>Preparation and Submission of Monthly Progress Report for April 2020</li> </ul>
	External Approvals Register – confirm status and timing for all Project approvals and permits pre-requisite to delivering the Works and assemble in project-specific Register
	Project EIA review report – complete review of the Project EIA review report and environmental commitments and brief Package Leads on specific requirements relevant to each package
	Land acquisition/access status review – review and report on status of all land acquisition and access requirements for all Project sites/routes and develop action plan to close gaps

## 5.2 Managing Progress Risks

A summary of potential progress risks (PMC activities) and proposed measures to mitigate/control these risks are provided at Table 14.

Table 14: Managing Progress Risks (PMC activities)

Contract Package	Risk	Control measure	Status
All	COVID-19 virus restricts travel movements of PMC personnel and prevents mobilization of key personnel	Agreement with CMWSSB for selected activities/tasks to be completed remotely (not Chennai based) to avoid any delays to progress	●
All	JICA concerns with rate of progress and achieved activities to date	PMC has prepared an updated work schedule to compress the timeline for CP1 activities and shorten the duration through to tendering of this package. Scheduling for other package is also being reviewed to seek opportunity to shorten project duration.	●
CP1	JICA concerns with rate of progress and achieved activities to date	Enter upon permission to be obtained by CMWSSB from HR & CE Board	●
CP2	<b>Porur Headworks / WDS:</b> The site designated for construction of reservoir and pumping station at Porur is taken for other project and already construction of 6 MLD WTP is under progress. This will call for change in layout plan for the proposed reservoir and pumping station in the nearby area.	Details of existing assets on Porur Headworks / WDS site to be provided by CMWSSB as a priority to allow the PMC to urgently review the site layout concept. Allocation of 400 Mld of treated water: CMWSSB has been requested to provide the quantities allocated enroute to Porur from Perur to review the pumping head requirement. Also requested to provide all the design data, soft copies of the design files and LS from Perur to Porur.	●
CP4	Lack of available digital data on the existing water distribution network for the purpose of developing asset database and hydraulic model results in slower progress than estimated.	PMC to coordinate with internal CMWSSB (PIU) team looking at GIS development and will apply additional CAD/GIS resource if required for digitization of hard-copy network plans	●

Legend: Risk being managed (●); Risk managed with further action (●); Risk not effectively managed (●)



## 6 PROGRESS REPORT FOR PROJECT (THE WORKS)

At the time of preparing this Monthly Progress Report for April 2020, the Project works are yet to commence and no contracts have been awarded. Comments made below reflect this current status.

It is expected in subsequent months that a more detailed reporting format will be issued once works commence.

### 6.1 Achieved Activities – April 2020

There are no achieved activities (Works) to report.

### 6.2 Actual Progress versus Planned Progress – April 2020

The Project works are not scheduled to commence until later in 2020 (CP3 components). Other contract packages may start even later during 2021 and beyond.

There is no comparison of planned versus actual progress to report.

### 6.3 Financial Progress at April 2020

There is no financial progress to be reported for the Project.

### 6.4 Health & Safety – April 2020

There are no health and safety matters to report.

### 6.5 Environmental & Regulatory Compliance

There are no regulatory and compliance matters to be reported for the Project from the April 2020 period. We note that prior to this period, the CMWSSB has been awarded CRZ clearance for the Project.

### 6.6 Communication and Correspondence

Leading up to the appointment of the PMC, CMWSSB has engaged with relevant authorities and external stakeholders regarding the Project. A key stakeholder involved in progress to date is the Japan International Cooperation Agency (“JICA”), who will act on behalf of the Government of Japan to issue an Official Development Assistance (ODA) loan for the Project under Loan ID-P267.

Since the appointment of the PMC, limited Project communications with external stakeholders have transpired. A Project Communication Plan is required.

### 6.7 Variations

#### 6.7.1 Scope of Work

Nil.

#### 6.7.2 Schedule

Nil.

#### 6.7.3 Budget

Nil.

## 7 PROGRESS OUTLOOK FOR PROJECT (THE WORKS)

### 7.1 Activities Planned Next Month

No progress on construction activity is expected for the coming month of May 2020 as the works have not been tendered for any of the Contract packages to date.

### 7.2 Managing Progress Risks

A summary of potential Project progress risks and proposed measures to mitigate/control these risks is provided at Table 15.

Table 15: Managing Progress Risks (Project)

Contract Package	Risk	Control measure	Status
All	Approvals and/or permits for project execution are not in place when needed resulting in delays to construction	PMC to prepare a register that lists all approvals and permits required for project execution across each of the Contract Packages for tracking purposes	●

Legend: Risk being managed (●); Risk managed with further action (●); Risk not effectively managed (●)



## 8 ANNEXURES

The following annexures are included with this Monthly Progress Report:

- Annexure 1 - List of Experts with Name, Role and Man-months
- Annexure 2 – Project Scope
- Annexure 3 – Overall Works Schedule
- Annexure 4 – Work Schedule - Task Breakdown (Contract Package-wise)
- Annexure 5 – Projected Financial Progress Based on Man-months consumed Vs Actual Progress (Bill Passed)
- Annexure 6 – Personnel Inputs Summary
- Annexure 7 – Team Deployment Schedule for Next months
- Annexure 8 – Organisational Chart

## Annexure 1 List of Experts with Name, Role and Man-months

Sl. No.	Name of the Expert (International/ National Local)	Role/ Position	Staff Month (SM)
<b>KEY EXPERT</b>			
1	Dr.P.Dharmabalan	Project Manager- International Expert	70
2	Ghulam Mustafa	Desalination Expert- International Expert	32
3	Shane Farquharson	Water Supply Engineer-- International Expert	23
4	Michel Morillon	Mechanical Engineer (Desal)- International Expert	15
5	Sergio de Bastos Vilar Magalhaes Paulo	Electrical Engineer (Desal)- International Expert	25
6	John Goullee	Pipeline Engineer-International Expert	70
7	Roderick Mackenzie	Contract Specialist (Desal) - International Expert	9
8	Tharloak S Bhatt	Contract Specialist (Distribution)- International Expert	8
9	S.Siddappaswamy	Senior Civil Engineer	72
10	Nagesh Chinnam	Senior Pipeline Engineer	72
	<b>Sub Total</b>		<b>396</b>
<b>NON KEY EXPERT - INTERNATIONAL</b>			
1	Dr.D.Elancherian	Civil and Structure Engineer (Desal)	42
2	Madhawa Delpachitra	Mechanical Engineer (Distribution)	4
3	Manfred Kurt (Meisner)	Electrical Engineer (Distribution)	4
4	Manikandan Ganesh Shoranur	Monitoring and Control Expert (Desal)	11
5	Ashish Gosain	Monitoring and Control Expert (Distribution)	12
6	Shanmuga Nathan J	Specification Specialist (Desal)	4
7	Manish Chintamani Sane	Specification Specialist (Distribution)	3
8	Hemanth Chadda	Financial Expert	3
9	Dr.Alok Kumar	Environmental Specialist	15
10	Santhosh Kumar	Commissioning Engineer	10
11	Rajesh Mishra	Social Communication Specialist	16
12	Hyacinth Augusto Vaz	Organisational Expert	9
	<b>Sub Total</b>		<b>133</b>
<b>NON KEY EXPERT - NATIONAL</b>			
13	Ramesh Senthil	Civil Engineer	72
14	Surajit Debnath	Mechanical Engineer	40
15	G. V. K. Mohan	Electrical Engineer	45
16	Vinod M K	Structural Engineer	28
17	Kumar M	Architect	12
18	K.Senthil	Building Mechanical and Electrical Engineer	16

Sl. No.	Name of the Expert (International/ National Local)	Role/ Position	Staff Month (SM)
19	Chandra Shekhar Reddy Yedla	Pipeline Engineer 1	60
20	V. Tulasi Ram	Pipeline Engineer 2	60
21	Hema Kumar. S	Pipeline Engineer 3	50
22	P.M.Saravanan	Hydraulic Modeler - 1	8
23	V. Nandhini	Hydraulic Modeler - 2	8
24	Naisa Sreenivasulu Reddy	Construction Planner Cost Estimator	4
25	S.Sreenivasula Reddy	Specification Specialist	4
26	S.M.Karthikaeswaran	Environmental Specialist	30
27	Dr.M.Rajsekhar Reddy	Social Communication Specialist	72
28	Najas Thattakatte Abdulkareem	Safety and Health Expert-1	40
29	Prasanth Balan	Safety and Health Expert-2	70
30	Vinod Chandra K.C	Quantity Surveyor 1	50
31	V.S.Rajasekar	Quantity Surveyor 2	70
	<b>Sub Total</b>		<b>739</b>
<b>SUPPORTING STAFF</b>			
1	TBN	Secretary	70
2	G.Murali	CAD Operator-1	30
3	TBN	CAD Operator (2 Nos.)	60
4	TBN	GIS Operator	18
5	TBN	Inspectors (4 Nos.)	200
6	TBN	Geotechnical Engineer	6
7	TBN	MIS Specialist	50
8	Santosh Biswa	Contract Management Specialist	6
9	A.Renu Kumar	Visa and Admin. Officer	70
10	K.Manikandan	Accountant	70
11	R.Jagan (Person replaced from Mr.Thukaram)	Office Boy-1	70
12	G.Arjun (Person replaced from Mr.Ramesh)	Office Boy-2	70
	<b>Sub Total</b>		<b>720</b>
	<b>Total</b>		<b>1988</b>

## Annexure 2 Project Scope

Sl. No.	Component	Construction Items
CP1	Construction of the Perur DSP (400 MLD)	<ul style="list-style-type: none"> <li>- Seawater intake facilities</li> <li>- Pre-treatment facility</li> <li>- Seawater desalination facilities by Reverse Osmosis (RO) technology</li> <li>- Post-treatment facility for remineralization and disinfection</li> <li>- Potable water storage</li> <li>- Effluent discharge pipelines</li> <li>- Pre-treatment and wastewater treatment facility</li> <li>- All other buildings and structures necessary for the seawater desalination plant</li> <li>- Perur electrical sub-station (80 MVA capacity).</li> <li>- Perur UGT Product water tanks of Capacity 36 ML (4 compartments of each 9 ML)</li> <li>- Potable water tank of 3 ML (2 compartments of each 1.50 ML)</li> </ul>
CP2	Construction of Pumping Station and Reservoirs	<ul style="list-style-type: none"> <li>- Pump house and pump facility at Perur DSP</li> <li>- Porur UGT of Capacity of 10 ML</li> <li>- Pump house and pump facility at Porur Headworks</li> </ul>
CP3	Construction of product water transmission system	<ul style="list-style-type: none"> <li>- Product water transmission main (DN 1000, 1600, 1800 and 2000mm, 65 km, MS or DI pipe)</li> </ul>
CP4	Improvement of the existing distribution system in Chennai Core City	<ul style="list-style-type: none"> <li>- Replacement of the existing distribution pipes (DN100-450 mm, 375km, DI pipe)</li> <li>- Installation of supplementary distribution pipes to strengthen the capacity of the existing distribution networks (D150-700mm, 101km, DI pipe)</li> <li>- Installation of new water distribution pipes in un-covered streets in Core city (DN100-150 mm, 258km, DI pipe)</li> <li>- Reinforcement of the storage capacity of Under Ground Tank (UGT) and Elevated Storage Tanks (ESRs)</li> <li>- Installation of service connections and water meters</li> <li>- Setup of district metered areas (DMA)</li> </ul>
CP5	Installation of external power transmission line	<ul style="list-style-type: none"> <li>- Construction of 230/110 kV transmission lines to achieve dedicated power feed to the existing Nemmeli DSP, Nemmeli Expansion DSP and the proposed Perur DSP</li> </ul>

## Annexure 3      Overall Work Plan

## Annexure 4 Work Schedule (Contract Package-wise)

## **Annexure 5 Projected Financial Progress Based on Man-months consumed Vs Actual Progress (Bill Passed)**

## Annexure 6 Personnel Inputs Summary

PERSONNEL INPUT SUMMARY FOR THE MONTH APRIL 2020

Sl. No.	Key activity / major task carried out	List of PMC team members	Working on Delivery
1	<ul style="list-style-type: none"> <li>Due to COVID-19 issues, the Government of India announced the lockdown period from 24.04.2020 till 14.04.2020 and further extended to 03.05.2020, so the staff is allowed to work on the project as Work From Home option.</li> <li>Review of technical information of DPR &amp; various study report</li> <li>Analysis of data obtained from Nemeli Desalination plant and understanding the peaks, seasonal fluctuations in various parameters</li> </ul>	Dr.P.Dharmabalan (Project Manager, International Expert) Mr.S.Srinivasa Rao (Project Co-ordinator); Dr.Ghulam Mustafa (Process Expert, Desal) Mr.Michel Morillon (Mechanical Engineer, Desal); Dr.D.Elanchezian (Civil & Structural Engineer, Desal); Mr.R.Senthil (Civil Engineer); Mr.S.M.Karthikaeswaran (Environmental Specialist)	
2	<ul style="list-style-type: none"> <li>Preparation Proposed Pretreatment with options based on the existing data/raw sea water quality analysis.</li> <li>Preparation of Process Options : Layout Computation, layout implementation + battery limits</li> <li>Preparation of Process mass balance with initial flow diagram including the balance for vital seawater parameters such as Flow, TDS, TSS, TOC, B, pH etc.</li> <li>RO projection design at various high and low TDS and Temp. Comparison with two different projection software.</li> <li>Process Design of the Plant to be started after the above two tasks.</li> <li>Online Zoom (Video Conference Call) Meeting conducted by Project Manager (PMC) for a discussion on preparation of Pre-treatment, Filtration units for Interim Report for the development of Concept Design for CP1 (Based on available data) on 07.04.2020</li> <li>Online Zoom (Video Conference Call) Meeting conducted by Desalination Process Expert (PMC) for a discussion on preparation of Pre-treatment, Filtration, Reverse Osmosis treatment technology units for Interim Report for the development of Concept Design for CP1 components (Based on available data) on 10.04.2020</li> <li>Preparation of Interim Report for the development of Concept Designs for Desalination Plant at Perur for CP1 components</li> </ul>	Dr.Dharmabalan (Project Manager, International Expert) Mr.S.Srinivasa Rao (Project Co-ordinator); Dr.Ghulam Mustafa (Process Expert, Desal) Mr.Michel Morillon (Mechanical Engineer, Desal); Mr.Siddappaswamy (Sr.Civil Engineer); Mr.R.Senthil (Civil Engineer); Mr.S.M.Karthikaeswaran (Environmental Specialist)	Preparation and submission of Interim Report for the development of Concept Designs for CP1



Sl. No.	Key activity / major task carried out	List of PMC team members	Working on Delivery
3	<ul style="list-style-type: none"> <li>Preparation of list of Environmental Regulations relevant to the project</li> <li>Review of available data and Identification of data gaps and Data collection w.r.to environment</li> <li>List of permits and statutory requirement</li> <li>List of agencies for baseline studies</li> <li>List of CRZ conditions for design and recommendations</li> <li>Identification of Scope of work related to environment for all packages.</li> <li>Review of CRZ clearance document and identification of data gaps.</li> <li>CRZ action plan preparation</li> <li>Preparation of Scope of work document for Sea water analysis and updation of comments.</li> <li>Preparation of Scope of work document for Environmental baseline analysis and updation of comments for CP1</li> <li>Identification and shortlisting of agencies for Sampling and characterization for CP1</li> <li>Follow up with Lab agencies for Due diligence for CP1 components</li> </ul>	Dr.Alok Kumar (Environmental Specialist); Mr.S.M.Karthikaeswaran (Environmental Specialist); Mr.Siddappaswamy (Sr.Civil Engineer); Mr.R.Senthil (Civil Engineer); Mr.Nagesh Chinnam (Senior Pipeline Engineer)	Preparation of EIA Review report for CP1
4	<ul style="list-style-type: none"> <li>Preparation of Revised Monthly Progress Report (MPR 01) for January &amp; February 2020</li> <li>Preparation of Revised Inception Report</li> <li>Preparation of Monthly Progress Report (MPR 02) for March 2020</li> <li>Preparation of Quarterly Progress Report (QPR 01) for January to March 2020</li> </ul>	Dr.Dharmabalan (Project Manager, International Expert) Mr.Siddappaswamy (Sr.Civil Engineer); Mr.Nagesh Chinnam (Senior Pipeline Engineer) Mr.R.Senthil (Civil Engineer)	Revised MPR 01 submitted on 06.04.2020 & 14.04.2020 Revised Inception Report submitted on 04.04.2020 & 16.04.2020 MPR 02 submitted on 17.04.2020 QPR 01 submitted on 24.04.2020
5	<ul style="list-style-type: none"> <li>Review of available Data / Drawings for CP4 components</li> <li>Preparation of Design Criteria for CP4 components</li> </ul>	Mr.Siddappaswamy (Sr.Civil Engineer); Mr.Shane Farquharson (Water Supply Engineer); Mr.Nagesh Chinnam (Senior Pipeline Engineer) Mr.R.Senthil (Civil Engineer)	

Sl. No.	Key activity / major task carried out	List of PMC team members	Working on Delivery
6	<ul style="list-style-type: none"> <li>Online Zoom Video conference call and discussion on Action Taken Report /Compliance for Revised Inception Report, Revised Monthly Progress Report (MPR01) for Jan' &amp; Feb'2020 and Design Criteria for CP4 components conducted by SE (Desal) with PIU team (CMWSSB) officials on 13.04.2020</li> <li>Revised Design Criteria for CP4 components submitted on 16.04.2020</li> </ul>	Mr.Siddappaswamy (Sr.Civil Engineer); Mr.Nagesh Chinnam (Senior Pipeline Engineer) Mr.R.Senthil (Civil Engineer)	Preparation of Design Criteria and preliminary base work for CP4
7	<ul style="list-style-type: none"> <li>Online Zoom Video conference call) meeting and discussion with CMWSSB officials on 30.04.2020 for the Interim Report for the development of Concept Designs for Chennai Perur 400 MLD Desalination Plant for CP1 components</li> </ul>	Dr.Dharmabalan (Project Manager, International Expert) Mr.S.Srinivasa Rao (Project Co-ordinator); Dr.Ghulam Mustafa (Process Expert, Desal) Mr.Michel Morillon (Mechanical Engineer, Desal); Mr.Siddappaswamy (Sr.Civil Engineer); Mr.R.Senthil (Civil Engineer); Mr.S.M.Karthikaeswaran (Environmental Specialist)	Presentation on Interim Report for CP1 components

## Annexure 7 Team Deployment Schedule for Next months

## Annexure 8 Organisation Chart

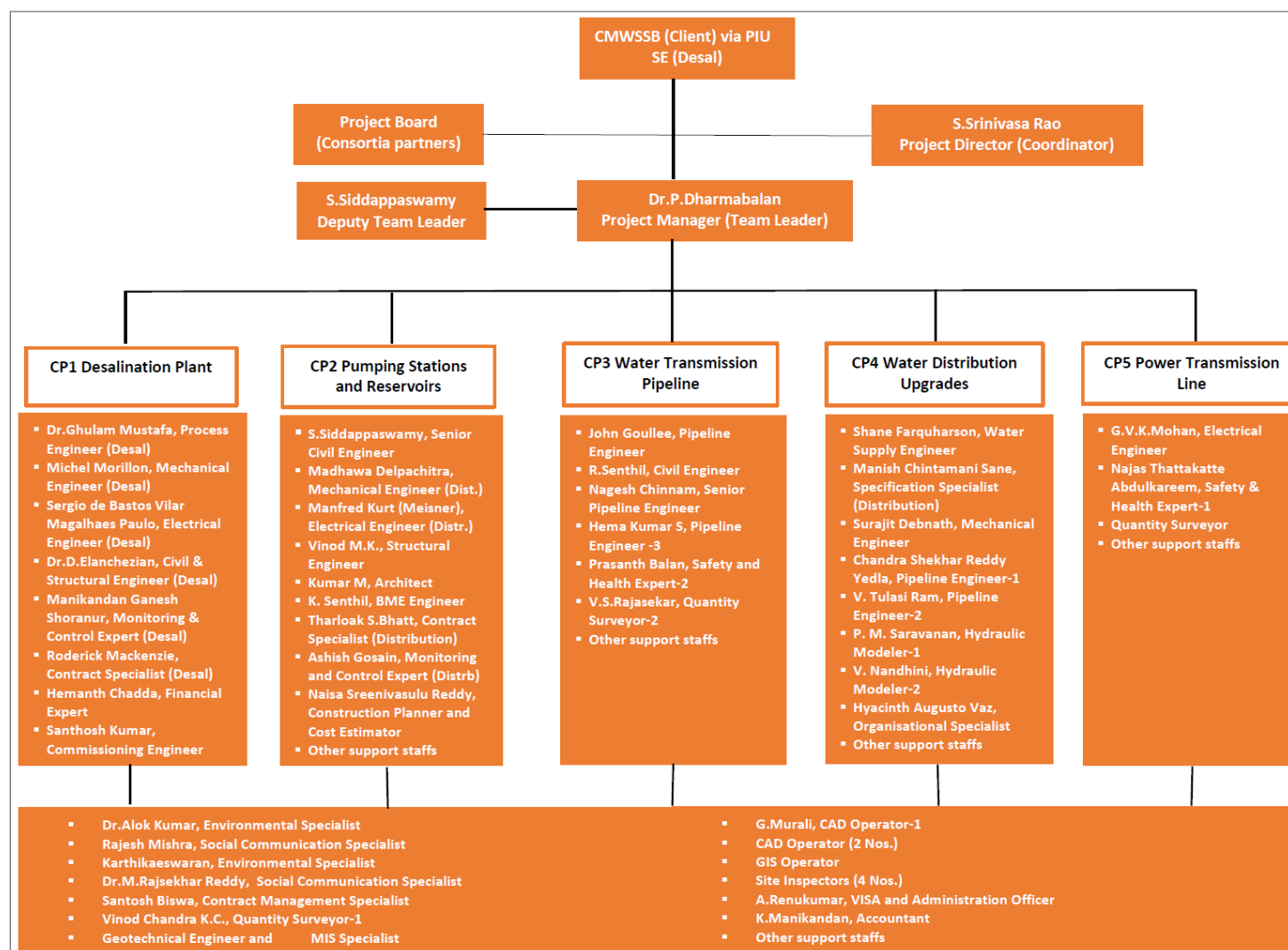


Figure 1: PMC Organisation Chart

The CHENNAI 400 MLD DESALINATION PLANT is a Project being delivered by the Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) with the assistance of an Official Development Assistance (ODA) Loan from the Japan International Cooperation Agency (JICA).

The Project Management Consultant (PMC) for the Chennai 400 MLD Desalination Plant project is a consortia led by SMEC International Pty Ltd in partnership with Tata Consulting Engineers Limited (TCE), NJS Engineers India Pvt Ltd (NJSEI) and SMEC India Pvt Ltd.

