



**MPR (01) / (Jan & Feb) (2020)**

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

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# 1 Executive Summary

This Monthly Progress Report for January and February 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 the following:

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

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

Table 1: Key Messages from January/February 2020

Component	Key Messages
PMC (Consulting) Services	<ul style="list-style-type: none"> <li>• Team mobilization commenced and temporary PMC office established</li> <li>• Permanent PMC project office fit-out is in progress</li> <li>• Project information collection and review has commenced (all packages)</li> <li>• Joint Site visits conducted to existing Minjur and Nemmeli DSPs</li> <li>• Site visits conducted to other Project sites at Perur and Porur</li> <li>• Draft RFQ Document for CP1 completed and issued for client review on 25.02.2020</li> <li>• Draft Inception Report completed and issued for client review on 28.02.2020</li> </ul>
	<ul style="list-style-type: none"> <li>• Progressive expenditure (At actuals i.e. based on bills passed till the end of Feb 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 Feb 2020) = 36,59,833 (INR) and \$168,899 (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 4-5 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</li> </ul>
Project (the Works)	<ul style="list-style-type: none"> <li>• No Project site works 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 February 2020.</li> </ul>

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

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. System hydraulic design for the main Perur DSP to Porur Headworks water transmission system (pumping station and transmission pipeline), and proposed water allocation to Core City and Expansion Area zones is to be resolved following initial analysis by PMC
4. 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.
5. Quick turn round of requests with approvals and follow up on timelines is essential to undertake the acceleration of CP1.

## 2 Abbreviations & Acronyms

Abbreviation / Acronym	Meaning
BOQ	Bill of Quantity
CMWSSB	Chennai Metropolitan Water Supply and Sewerage Board
CP	Contract Package (No.)
DI	Ductile Iron
DMA	District Metered Area
JICA	Japan International Cooperation Agency
MLD	Megalitres (or 1 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
RFP	Request for Proposal
RFQ	Request for Qualification
SMEC	SMEC International Pty Ltd
SMEC (India)	SMEC India Pvt Ltd
TCE	Tata Consulting Engineers Ltd.
TOC	Total Organic Carbon
WDS	Water Distribution Station
WDZ	Water Distribution Zone

## 3 Introduction

### 3.1 This Progress Report

This is the first (1<sup>st</sup>) monthly progress report and covers activities of the Project Management Consultant (PMC services) and the Project (the Works) during the months of **January and February 2020**.

### 3.2 PMC Services

The Consulting Services addressed by the series of Monthly Progress Reports (“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 comprising 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 for the Consulting Services provide for 1988 person months of PMC services (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 Staff	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 Desalination Plant
- CP2 – Pumping Stations & Reservoirs
- CP3 - Product Water Conveyance Main
- CP4 – Improvements to Existing Distribution System in core area of Chennai City
- CP5 - Installation of transmission line

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

The Consulting Services scope under each component (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 and bid document with BOQ and technical specifications, Assistance in Bid evaluations, construction supervision activities
3. CP-3: Construction supervision activities of the clear water transmission mains
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 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
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:

- 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 please refer to the Inception Report.



## 4 Progress Report for PMC Services

### 4.1 Achieved Activities – January and February 2020

The activities achieved during the months of January and February 2020 are listed at Table 3.

The overall work schedule for package is furnished in **Annexure 3**.

Table 3: Achieved Activities – January & February 2020

Package	Achieved Activities
CP1	Task 1: Data and information collection commenced (JICA documents, DPRs, water quality data)
	Task 1: Site visits conducted to existing Minjur and Nemmeli DSP sites and proposed site for Perur DSP
	Task 2: Review of technical information commenced (JICA documents, DPRs, water quality data)
	Task 4: Conceptual design for Perur DSP has been commenced with initial preliminary calculations
	Task 9: Pre-qualification (PQ) criteria developed
	Task 9: Draft version of Request for Qualifications (RFQ) document prepared and issued for Client review
CP2	Task 1: Data and information collection commenced (JICA documents, DPRs, Master Plan)
	Task 1: Site visit conducted to existing Porur Headworks site and proposed site for Perur DSP
	Task 2: Review of technical information commenced (hydraulic design of transmission system)
CP3	Task 1: Review of draft CP3 bid documents (by others) performed – comments yet to be issued
CP4	Task 1: Data and information collection commenced (JICA documents, Master Plan)
	Task 1: Data requirements presentation for CP4 completed and ready for client discussion
CP5	No activities have been carried out during this period
General	Draft version of Inception Report prepared and issued for Client review
	Environmental support activities commenced including documentation review and approvals planning
	Temporary office establishment (construction underway for new office)
	Introductions of mobilized staff to CMWSSB

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

In addition, other logistics were also progressed during the initial two months of the Consulting Services including foreigner registration arrangements (Business VISA is required for international staffs working for initial months and Work VISA /permit is required for prolonged stay in India i.e. more than a year), procurement of project hardware, etc.

## 4.2 Deliverables Status at February 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	<b>Submitted (28/02/2020)</b>
2	<b>For Design and Tender Assistance for CP1</b>	
	2.1 Conceptual Design Report	July 2020
	2.2 PQ Document	<b>Draft submitted (25/02/2020)</b>
	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	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
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	Within 3 months after commencement of services
	9.2 Environmental Monitoring Report	Every Month
10	<b>Progress Report and Project Completion Report</b>	
	10.1 Monthly Progress Report (MPR)	Every Month
	10.2 Quarterly Progress Report (QPR)	Once in every 3 Months
	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. Where these tender dates are delayed there will be an associated delay with the completion of tender evaluation reports.

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

### 4.3 Actual Progress versus Planned Progress -January and February 2020

Actual progress during the months of January and February 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 RFQ document for CP1	25.02.2020	25.02.2020	Not Applicable
2	Draft Inception Report	12.02.2020	28.02.2020	Delay has been happened due to more focus on CP-1 RFQ document preparation due to urgency. 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.

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 at February 2020

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

Table 6: Financial Progress (Actuals based on the bills passed) on PMC Services at end of February 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%

However, summary of financial progress (projected based on man month consumed) for the PMC Services contract as at the end of February 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 February 2020

Month	Monthly Expenditure	Cumulative Expenditure	% of Total Contract Value
January 2020	INR 10,77,836	INR 10,77,836	0.19%
	USD \$56,098	USD \$56,098	0.60%
February 2020	INR 25,81,997	INR 36,59,833	0.64%
	USD \$112,801	USD \$168,899	1.79%

## 4.5 Staffing Inputs – January and February 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	Category	Commenced Date	De-mobilization date	Re-mobilization date	Total months allocated	Total months mobilized so far (till Feb 2020 end)	Balance man-months available (March 2020 onwards)
Project Manager (Team Leader)	Dr. Dharma Dharmabalan	I	14/02/2020	26/02/2020		70	0.45	69.55
Desalination Expert	Dr.Ghulam Mustafa	I	10/02/2020	22/02/2020		32	0.45	31.55
Water Supply Engineer	Mr. Shane Farquharson	I	20/01/2020			23	1.36	21.64
Civil & Structural Engineer (Desal)	Dr.D.Elanchezian	I	20/01/2020			42	1.31	40.69
Mechanical Engineer (Desal)	Mr.Michel Morillon	I	20/01/2020	08/02/2020	23/02/2020	15	0.90	14.10
Contract Specialist (Desal)	Mr.Roderick Mackenzie	I	20/01/2020	15/02/2020		9	0.90	8.10
Environmental Specialist	Dr.Alok Kumar	I	24/02/2020			15	0.227	14.773
Civil Engineer	Mr.Ramesh Senthil	N	20/01/2020			72	1.31	70.69
Senior Civil Engineer (Deputy Team Leader)	Mr.Siddappaswamy S.	N	27/01/2020	22/02/2020		72	0.909	71.091
Senior Pipeline Engineer	Mr.Nagesh Chinnam	N	04/02/2020			72	0.818	71.182
Environmental Specialist	Mr.S.M.Karthikaeswaran	N	25/02/2020			30	0.136	29.864
Hydraulic Modeller-1	Mr.P.M. Saravanan	N	25/02/2020	27/02/2020		8	0.09	7.91
Pipeline Engineer-1	Mr.Chandra Shekhar Reddy Yedla	N	25/02/2020			60	0.18	59.82
Visa and Admin Officer	Mr.A.Renu Kumar	N	20/01/2020			70	1.27	68.73
CAD Operator-1	Mr.G.Murali	N	25/02/2020			30	0.18	29.82
Office Boy-1	Mr.Thukaram	N	03/02/2020			70	0.91	69.09
Office Boy-2	Mr.Ramesh	N	03/02/2020			70	0.91	69.09

I – International Staff

N – National Staff

No PMC team have been permanently demobilized from the Project, however some resources with intermittent or staged inputs were temporarily demobilized during the period. Several of these team members are scheduled to return for further inputs to this Project in the coming month of March 2020.

A project office has been established in Chennai to accommodate PMC personnel and integrate resources from PMC partners into a united team. At the time of preparing this MPR, the project office occupies a temporary lease of office space in the TVH Agnitio Tech Park building, Kandanchavadi, Perungudi, OMR while office fit-out works are completed at a permanent project office.

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.

The project team is scheduled to re-locate to the permanent project office location in March 2020.

#### 4.5.2 Per-Diem Allowance

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

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

Sl. No.	Name of the firm	Total Number of Days	Number of Days of Claim in Jan & Feb'2020	Balance Number of Days for Claim
1	NJS Engineers India Pvt. Ltd.	1,440	12	1,428
2	SMEC India Pvt. Ltd.	860	146	714
3	SMEC International Pty. Ltd.	Per-diem allowance in INR for the International staffs 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>158</b>	<b>2,142</b>

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

A summary of personnel inputs for the period (January and February 2020) is included at **Annexure 6**. Planned mobilisation of PMC personnel for a 6-month period 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 in Team Structure PMC's nominated key personnel for this Project.

As at end of February 2020, there are no changes to the PMC's nominated key personnel for this Project.

## 4.6 Meetings and Site Visits – January and February 2020

A summary of key meetings and site visits completed during the period (plus kick-off meetings conducted in late 2019) follows at Table 10.

Table 10: Meetings and Site Visits (January and February 2020)

Date	Meeting	Location	Attendees
27/11/2019	Project kick-off meeting with JICA and CMWSSB	JICA headquarters, New Delhi	CMWSSB, JICA, PMC members
09/12/2019	Project kick-off meeting with CMWSSB Managing Director and Executive team	CMWSSB office	CMWSSB, PMC members
27/01/2020	Minjur DSP site visit	Minjur DSP	CMWSSB, PMC members
30/01/2020	Project progress review meeting conducted by the Chief Engineer (O&M) II, CMWSSB	CMWSSB offices	CMWSSB, PMC members
01/02/2020	Nemmeli DSP site visit (and viewing of proposed Perur DSP site location)	Nemmeli DSP & Perur DSP site	CMWSSB, PMC members
04/02/2020	Technical discussion (with CMWSSB officers) and meeting conducted with Managing Director	CMWSSB office	CMWSSB, PMC members
11/02/2020	Site visit to Porur Water Distribution Station	Porur WDS	PMC members (local CMWSSB)
14/02/2020	Progress Review Meeting conducted by CE (O&M)-II and explained to MD (CMWSSB)	CMWSSB office	CMWSSB, PMC members
21/02/2020	Attended meeting conducted by CE (O&M)-II for CP-1 on DBO basis	CMWSSB office	CMWSSB, PMC members
25/02/2020	Attended meeting conducted by CE (O&M)-II for CP-1 on DBO basis	CMWSSB office	CMWSSB, PMC members

In addition, numerous other meetings have been conducted for team introductions, discussion on procurement strategy for CP1 (including RFQ document review), and other Project aspects. Where formal minutes have not been recorded, these meetings are not listed.

#### 4.7 Health & Safety – January and February 2020

There are no health and Safety incidents to report for the months of January and February 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.



## 4.8 Variations

### 4.8.1 Submitted/Approved

There are no variation requests submitted or approved this period.

### 4.8.2 Under Consideration

There are no future variations currently under consideration this period.

## 4.9 Communications 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 PMC is actioning these improvements.

## 5 Progress Outlook for PMC Services

### 5.1 Activities Planned Next Month

A summary of planned (key) activities for the month of March 2020 is provided at Table 11.

Table 11: Planned Activities for March 2020 (PMC activities)

Contract Package	Activities next month
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
	Task 4: Conceptual Design Report – complete data collection activities and commence conceptual design
	Task 9: Request for Qualifications (RFQ) – issue document to market (late March or early April)
	Task 10: Request for Proposal (RFP) – commence document preparation
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
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 (by others) 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: Design criteria – document proposed design criteria for water distribution system modelling and design and gain client endorsement
CP5	No planned activities
General	Inception Report – finalise based on Client/JICA reviews on 28.02.2020
	Monthly Progress Reports – complete and issue progress reports for February and March 2020
	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 – complete review of the Project EIA 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

During the month of March 2020, the PMC will also re-locate to the new Project Office, which will achieve an improved level of office amenity, equipment and support resources available to the PMC team.

## 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 12.

Table 12: 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 packages is also being reviewed to seek opportunity to shorten project duration.	●
CP2	Works currently under construction at Porur Headworks site will require the concept for new reservoir and pumping station layout to be changed, delaying progress with detail design development	Details of existing assets on Porur Headworks site to be provided by CMWSSB as a priority to allow the PMC to urgently review the site layout concept	●
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 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 January/February 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 – January and February 2020

There are no achieved activities (Works) to report.

### 6.2 Actual Progress versus Planned Progress -January and February 2020

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

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

### 6.3 Financial Progress at February 2020

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

### 6.4 Health & Safety – January and February 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 January/February 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 Communications 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 activities is planned for the coming month of March 2020. 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 13.

Table 13: 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 Work Plan
- Annexure 4 – Work Schedule
- 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
- Annexure 8 – Organisational Chart



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

Sl. No.	Name of Expert (International/ Local)	Role/ Position	Staff Month (SM)
<b>KEY EXPERTS</b>			
1	Dr. Pararajasegram (Dharma) Dharmabalan	Project Manager- International Expert	70
2	Dr.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	Siddappaswamy S	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

Sl. No.	Name of Expert (International/ Local)	Role/ Position	Staff Month (SM)
18	K. Senthil	Building Mechanical and Electrical Engineer	16
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 Karthikeshwaran	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	Geo Technical Engineer	6
7	TBN	MIS Specialist	50
8	TBN	Contract Management Specialist	6
9	A.Renu Kumar	Visa and Admin Officer	70
10	TBN	Accountant	70
11	Thukaram	Office Boy-1	70
12	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 wastewater treatment facility (TBC)</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 each 9 ML)</li> <li>- Potable water tank of 3 ML</li> </ul>
CP2	Construction of Pumping Station and Reservoir	<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, 375 km, 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)**

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



## Annexure 6 Personnel Inputs Summary

### A. PERSONNEL INPUT SUMMARY FOR THE MONTH JANUARY 2020

Sl. No.	Key activity / task carried out	List of PMC team members	Working on Delivery
1	<ul style="list-style-type: none"> <li>Mobilisation of 6 staffs on 20.01.2020</li> <li>Review of JICA Minutes on Discussion</li> <li>Review of JICA Loan Agreement of the project</li> <li>Review of JICA Appraisal Note</li> </ul>	Mr.Shane Farquharson (Water Supply Engineer); Mr.Michel Morillon (Mechanical Engineer, Desal); Mr.Roderick Mackenzie (Contract Specialist, Desal); Dr.D.Elancherian (Civil & Structural Engineer, Desal); Mr.R.Senthil (Civil Engineer) and Mr.A.Renukumar (Visa & Admin Officer)	Inception report and RfQ
2	<ul style="list-style-type: none"> <li>Request Letter sent to CMWSSB for list data / documents/ previous study on 23.01.2020</li> <li>Review of JICA Minutes on Discussion</li> <li>Review of JICA Loan Agreement of the project</li> <li>Review of JICA Appraisal Note</li> </ul>	Mr.Shane Farquharson (Water Supply Engineer); Mr.Michel Morillon (Mechanical Engineer, Desal); Mr.Roderick Mackenzie (Contract Specialist, Desal); Dr.D.Elancherian (Civil & Structural Engineer, Desal); Mr.R.Senthil (Civil Engineer)	
3	<ul style="list-style-type: none"> <li>Review of AECOM DPR</li> <li>Review of JICA Final Report</li> <li>Review of Third Party Lab Testing Report</li> </ul>	Mr.Shane Farquharson (Water Supply Engineer); Mr.Michel Morillon (Mechanical Engineer, Desal); Mr.Roderick Mackenzie (Contract Specialist, Desal); Dr.D.Elancherian (Civil & Structural Engineer, Desal); Mr.R.Senthil (Civil Engineer)	
4	<ul style="list-style-type: none"> <li>Mobilisation of Mr.Siddappaswamy (Sr.Civil Engineer) on 27.01.2020</li> <li>Joint site inspection to Minjur Existing 100MLD DSP with CMWSSB officials on 27.01.2020</li> </ul>	Mr.Shane Farquharson (Water Supply Engineer); Mr.Michel Morillon (Mechanical Engineer, Desal); Mr.Roderick Mackenzie (Contract Specialist, Desal); Dr.D.Elancherian (Civil & Structural Engineer, Desal); Mr.R.Senthil (Civil Engineer)	
5	<ul style="list-style-type: none"> <li>Review of AECOM DPR</li> <li>Review of JICA Final Report</li> <li>Review of Third Party Lab Testing Report</li> </ul>	Mr.Siddappaswamy (Sr.Civil Engineer); Mr.Shane Farquharson (Water Supply Engineer); Mr.Michel Morillon (Mechanical Engineer, Desal), Dr.D.Elancherian (Civil & Structural Engineer, Desal); Mr.R.Senthil (Civil Engineer)	
6	<ul style="list-style-type: none"> <li>Review Meeting conducted by CE (O&amp;M)-II, CMWSSB on 30.01.2020</li> <li>Review of Master Plan for Water &amp; Sewerage Sector</li> </ul>	Mr.Siddappaswamy (Sr.Civil Engineer); Mr.Shane Farquharson (Water Supply Engineer); Mr.Michel Morillon (Mechanical Engineer, Desal); Mr.Roderick Mackenzie (Contract Specialist, Desal); Dr.D.Elancherian (Civil & Structural Engineer, Desal); Mr.R.Senthil (Civil Engineer)	
7	<ul style="list-style-type: none"> <li>Review of Master Plan for Water &amp; Sewerage Sector</li> <li>Review of AECOM DPR</li> <li>Review of JICA Final Report</li> <li>Review of Third Party Lab Testing Report</li> </ul>	Mr.Siddappaswamy (Sr.Civil Engineer); Mr.Shane Farquharson (Water Supply Engineer); Mr.Michel Morillon (Mechanical Engineer, Desal); Mr.Roderick Mackenzie (Contract Specialist, Desal); Dr.D.Elancherian (Civil & Structural Engineer, Desal); Mr.R.Senthil (Civil Engineer)	

## B. PERSONNEL INPUT SUMMARY FOR THE MONTH FEBRUARY 2020

Sl. No.	Key activity / task carried out	List of team members	Working on Delivery
1	Joint site inspection to Nemmeli Existing 100MLD DSP and Perur Proposed 400 MLD DSP with CMWSSB (Desal) officials on 01.02.2020	Mr.Shane Farquharson (Water Supply Engineer); Mr.Michel Morillon (Mechanical Engineer, Desal), Mr.Roderick Mackenzie (Contract Specialist (Desal); Mr.R.Senthil (Civil Engineer)	Inception Report and RfQ
2	<ul style="list-style-type: none"> <li>Review of Master Plan for Water &amp; Sewerage Sector</li> <li>Review of AECOM DPR</li> <li>Review of JICA Final Report</li> <li>Review of Third Party Lab Testing Report</li> </ul>	Mr.Siddappaswamy (Sr.Civil Engineer); Mr.Shane Farquharson (Water Supply Engineer); Mr.Michel Morillon (Mechanical Engineer, Desal), Dr.D.Elancherian (Civil & Structural Engineer, Desal); Mr.R.Senthil (Civil Engineer)	
3	<ul style="list-style-type: none"> <li>Technical Discussion and presentation meeting conducted by MD(CMWSSB) on 04.02.2020</li> <li>Mobilisation of Nagesh Chinnam (Sr.Pipeline Engineer) on 04.02.2020</li> </ul>	Technical discussion and presented by Mr.Michel Morillon (Mechanical Engineer, Desal) Dr.D.Elancherian (Civil & Structural Engineer, Desal); Mr.R.Senthil (Civil Engineer)	
4	<ul style="list-style-type: none"> <li>Review of Master Plan for Water &amp; Sewerage Sector</li> <li>Review of AECOM DPR</li> <li>Review of JICA Final Report</li> <li>Review of Third Party Lab Testing Report</li> <li>Review of Seawater Analysis Cumulative Report for Nemmeli 100 MLD DSP</li> <li>Preparation of Draft EOI notice for CP-1 on DBO basis</li> </ul>	Mr.Siddappaswamy (Sr.Civil Engineer); Mr.Shane Farquharson (Water Supply Engineer); Mr.Michel Morillon (Mechanical Engineer, Desal), Mr.Roderick Mackenzie (Contract Specialist, Desal); Dr.D.Elancherian (Civil & Structural Engineer, Desal); Mr.R.Senthil (Civil Engineer); Mr.Nagesh Chinnam (Sr.Pipeline Engineer)	Inception Report and RfQ
5	<ul style="list-style-type: none"> <li>Mobilisation of Dr.Ghulam Mustafa (Process Expert, Desal) on 10.02.2020</li> <li>Site visit to Porur WDS on 11.02.2020</li> <li>Review of Master Plan for Water &amp; Sewerage Sector</li> <li>Review of AECOM DPR</li> <li>Review of JICA Final Report</li> <li>Review of Third Party Lab Testing Report</li> <li>Review of Seawater Analysis Cumulative Report for Nemmeli 100 MLD DSP</li> <li>Review of Seawater and Product water details of Minjur Existing 100 DSP</li> </ul>	Mr.Siddappaswamy (Sr.Civil Engineer); Dr.Ghulam Mustafa (Process Expert, Desal) Mr.Shane Farquharson (Water Supply Engineer); Mr.Roderick Mackenzie (Contract Specialist, Desal); Dr.D.Elancherian (Civil & Structural Engineer, Desal); Mr.R.Senthil (Civil Engineer) Mr.Nagesh Chinnam (Sr.Pipeline Engineer)	<ul style="list-style-type: none"> <li>EOI Notice for CP-1 on DBO basis</li> <li>Draft PQ document for CP-1 on DBO basis</li> <li>Inception Report</li> </ul>

Sl. No.	Key activity / task carried out	List of team members	Working on Delivery
6	<ul style="list-style-type: none"> <li>▪ Mobilisation of Dr.Dharmabalan (Project Manager, International Expert) on 14.02.2020</li> <li>▪ Progress Review Meeting conducted by CE (O&amp;M)-II and explained to MD (CMWSSB) on 14.02.2020</li> <li>▪ Preparation of Draft PQ documents for CP-1 on DBO basis</li> </ul>	<p>Mr.Siddappaswamy (Sr.Civil Engineer);  Dr.Ghulam Mustafa (Process Expert, Desal)  Mr.Shane Farquharson (Water Supply Engineer);  Mr.Michel Morillon (Mechanical Engineer, Desal);  Mr.R.Senthil (Civil Engineer);  Mr.Nagesh Chinnam (Sr.Pipeline Engineer)</p>	<ul style="list-style-type: none"> <li>▪ Draft PQ documents for CP-1 on DBO basis</li> <li>▪ Inception Report</li> </ul>
7	<ul style="list-style-type: none"> <li>▪ Preparation of Draft PQ documents for CP-1 on DBO basis</li> <li>▪ Attended meeting conducted by CE (O&amp;M)-II for CP-1 on DBO basis on 21.02.2020 &amp; 25.02.2020</li> <li>▪ Mobilisation of Dr.Alok Kumar (Environmental Specialist), P.M.Saravanan (Hydraulic Modeler-1), Chandra Shekhar Reddy Yedla (Pipeline Engineer-1) and G.Murali (AutoCAD Draughtsman) on 25.02.2020</li> <li>▪ Review of proposed water allocations from Perur 400 MLD DSP</li> <li>▪ Review transmission system details and preliminary hydraulics check</li> <li>▪ Preparation of Inception Report</li> </ul>	<p>Dr.Dharmabalan (Project Manager, International Expert)  Siddappaswamy (Sr.Civil Engineer);  Dr.Ghulam Mustafa (Process Expert, Desal)  Mr.Shane Farquharson (Water Supply Engineer);  Dr.D.Elancherian (Civil &amp; Structural Engineer, Desal);  Mr.Michel Morillon (Mechanical Engineer, Desal);  Mr.R.Senthil (Civil Engineer)  Mr.Nagesh Chinnam (Sr.Pipeline Engineer)</p>	<ul style="list-style-type: none"> <li>▪ Submission of Draft PQ documents for CP-1 on <b>25.02.2020</b></li> <li>▪ Inception Report</li> </ul>
8	<ul style="list-style-type: none"> <li>▪ Mobilisation of S.M.Karthikaeswaran (Environmental Specialist) on 26.02.2020</li> <li>▪ Review of AECOM DPR by Dr.Alok Kumar, Mr.S.M.Karthikaeswaran, Mr.Chandra Shekhar Reddy Yedla (Pipeline Engineer-1)</li> <li>▪ Discussion on PQ documents for CP1 on DBO basis with SE(Desal) &amp; SE (C&amp;M)</li> <li>▪ Preparation of Minimum Eligibility Criteria and Potential Bidder for CP1 components</li> <li>▪ Preparation of Inception Report</li> </ul>	<p>Mr.Michel Morillon (Mechanical Engineer, Desal);  Mr.Shane Farquharson (Water Supply Engineer);  Dr.D.Elancherian (Civil &amp; Structural Engineer, Desal);  Mr.R.Senthil (Civil Engineer)  Mr.Nagesh Chinnam (Sr.Pipeline Engineer)</p>	<ul style="list-style-type: none"> <li>▪ Submission of Inception Report on <b>28.02.2020</b></li> </ul>

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## Annexure 7      Deployment Schedule for Next Months

## Annexure 8 Organisation Chart

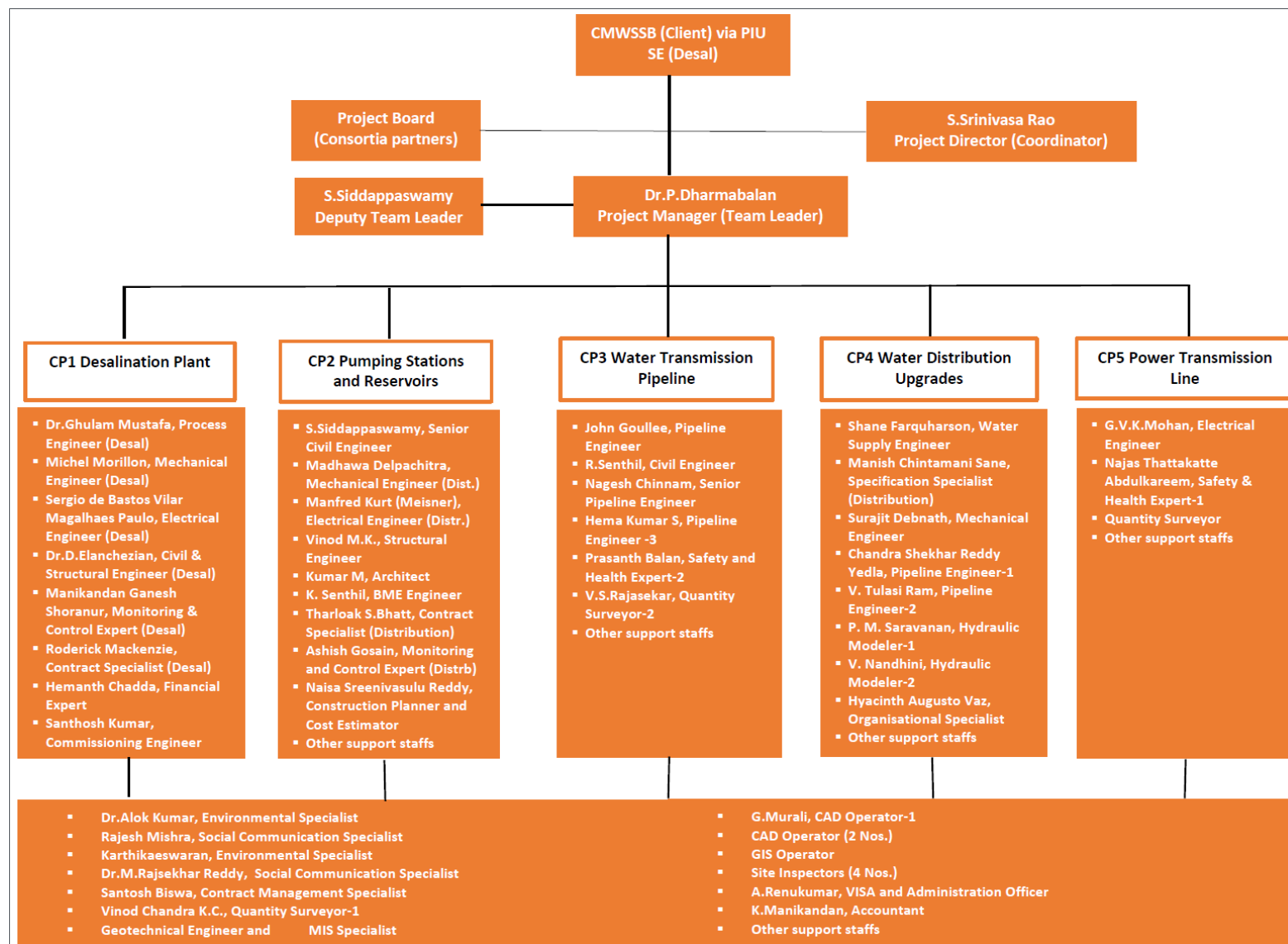


Figure 1: PMC Organisation Chart

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).

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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.

