



MPR (04) / (May 2020)

PMC for Chennai Perur 400 MLD Desalination Plant and Allied Works

Reference No.: Loan ID-P267

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10 June 2020

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

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TABLE OF CONTENTS

| | | |
|----------|---|-----------|
| 1 | EXECUTIVE SUMMARY | 1 |
| 2 | ABBREVIATIONS & ACRONYMS..... | 3 |
| 3 | INTRODUCTION | 4 |
| 3.1 | This Progress Report | 4 |
| 3.2 | PMC Services | 4 |
| 3.3 | PMC Scope of Work | 4 |
| 4 | PROGRESS REPORT FOR PMC SERVICES | 6 |
| 4.1 | Achieved Activities – May 2020 | 6 |
| 4.2 | Deliverables Status at May 2020 | 7 |
| 4.3 | Actual Progress versus Planned Progress – Upto May 2020 | 9 |
| 4.4 | Financial Progress Upto May 2020 | 11 |
| 4.5 | Staffing Inputs – May 2020 | 12 |
| 4.6 | Meetings and Site Visits – May 2020 | 14 |
| 4.7 | Health & Safety – May 2020 | 14 |
| 4.8 | Variations | 16 |
| 4.9 | Communication and Correspondence | 16 |
| 5 | PROGRESS OUTLOOK FOR PMC SERVICES | 19 |
| 5.1 | Activities Planned Next Month | 19 |
| 5.2 | Managing Progress Risks | 21 |
| 6 | PROGRESS REPORT FOR PROJECT (THE WORKS)..... | 22 |
| 6.1 | Achieved Activities – May 2020 | 22 |
| 6.2 | Actual Progress versus Planned Progress – May 2020 | 22 |
| 6.3 | Financial Progress at May 2020 | 22 |
| 6.4 | Health & Safety – May 2020 | 22 |
| 6.5 | Environmental and Regulatory Compliance | 22 |
| 6.6 | Communication and Correspondence | 22 |
| 6.7 | Variations | 22 |
| 7 | PROGRESS OUTLOOK FOR PROJECT (THE WORKS)..... | 23 |
| 7.1 | Activities Planned Next Month | 23 |
| 7.2 | Managing Progress Risks | 23 |
| 8 | ANNEXURES | 24 |

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 May 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 report on separately:

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

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

Table 1: Key Messages upto May 2020

| Component | Key Message |
|---------------------------|---|
| PMC (Consulting) Services | <ul style="list-style-type: none"> • Revised Monthly Progress Report (MPR 01) for January & February 2020 submitted on 06.04.2020, 14.04.2020 and 26.05.2020 • Revised Inception Report submitted on 04.04.2020 and 16.04.2020 • Revised Design Criteria for CP4 components submitted on 16.04.2020 • Monthly Progress Report (MPR 02) for March 2020 submitted on 17.04.2020 and 26.05.2020 • Interim Report for the development of Concept Designs for Chennai Perur 400MLD Desalination Plant for CP1 components submitted on 23.04.2020 and 26.05.2020 • Quarterly Progress Report (QPR 01) for January to March 2020 submitted on 24.04.2020 and 22.05.2020 • Monthly Progress Report (MPR 03) for April 2020 submitted on 09.05.2020 and 22.05.2020 • Draft Environmental Impact Assessment (EIA) Review Report for CP1 submitted on 26.05.2020 |
| | <ul style="list-style-type: none"> • Progressive expenditure (at actuals i.e. based on bills passed till the end of May 2020) = Nil (INR) and Nil (USD) • For SMEC India Pvt. Ltd., the Mobilisation advance payment (5% of Contract value) received on 19.05.2020 as against Advance Bank Guarantee. |
| | <ul style="list-style-type: none"> • Progressive expenditure (Projected based on man-month consumed till the end of May 2020) = 1,20,47,309 (INR) and 374,906 (USD) |
| | <ul style="list-style-type: none"> • Activities generally progressing on schedule • Accelerated program being followed for CP1, which brings forward the issue of the RFP to market by 4 to 5 months |
| | <ul style="list-style-type: none"> • 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 the COVID-19 issues Pandemic across the globe, the Government of India announced the 2nd lockdown period from 15.04.2020 to 03.05.2020, further extended as 3rd lockdown period from 04.05.2020 to 17.05.2020 and also extended as 4th lockdown period from 18.05.2020 to 31.05.2020 throughout India. |
| Project (the Works) | <ul style="list-style-type: none"> • No Project site work has been commenced |
| | <ul style="list-style-type: none"> • Progressive expenditure = Nil |
| | <ul style="list-style-type: none"> • No activities scheduled to commence as of end May 2020 |

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

1. The impact of current 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 a discussion with CMWSSB officials, it is understood that the 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 trees at Perur DSP site to be obtained from Tamil Nadu Forest Department.
5. Approval for the erection of offshore structure to be obtained from the Tamil Nadu Maritime Board.
6. System hydraulic design for the clear water transmission 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 PMC work activities remotely requires resolution between CMWSSB and PMC, as the current COVID-19 virus Pandemic situation may introduce restrictions on travel and project remobilizations.
8. It is challenging to access the project site due to COVID-19 issues spread across the globe. Also, the Government of India announced the 2nd lockdown period from 15.04.2020 to 03.05.2020, further extended as 3rd lockdown period from 04.05.2020 to 17.05.2020 and further extended as 4th lockdown period from 18.05.2020 to 31.05.2020 throughout India.
9. Quick turn round of requests with approvals (Work From Home) 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 fourth (4th) monthly progress report and covers activities of the Project Management Consultant (PMC services) and the Project (the Works) during **May 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 following with a Contract dated 09 January 2020 for Consulting Services between the Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB or “the Client”) and 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 team with their role and person-months are mentioned in **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 |
| TOTAL | 1988 person-months |

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 the core area of Chennai City

- CP5 - Installation of external dedicated transmission line

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

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

1. CP-1: Review of the current 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, Minimum Functional Specification (MFS), Assistance in Bid evaluations and 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 and 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, the 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 environmental management and monitoring activities in all stages.

Also, 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, Interim Report for the development of Concept Design for the Chennai 400 MLD Desalination Plant at Perur for CP1 components and Draft Environmental Impact Assessment (EIA) Review Report for CP1 components.

4 PROGRESS REPORT FOR PMC SERVICES

4.1 Achieved Activities – May 2020

The activities achieved during May 2020 are listed at Table 3.

Table 3: Achieved Activities – May 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 <ul style="list-style-type: none"> 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 Preparation of SWRO Desalination plant layout, proposed foot print area, proposed sludge treatment facility at Perur, calculation of CAPEX cost, comparison of project capital cost (DPR cost estimate, JICA concurrence and Administrative sanction) Online Zoom Video conference call and discussion with CE (O&M)–II CMWSSB officials on 26.05.2020 for the progress of the consultancy work and technical discussion for CP1 to CP4 components |
| | Task 9: Revised Request for Qualifications (RFQ) document was prepared on the DBO basis and issued to the 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) <ul style="list-style-type: none"> Calculation of CWR Capacity at Perur Reviewed the beneficiary population from Perur to Porur and the observation were submitted to CMWSSB for feedback. |
| | |
| CP3 | No significant activities have been carried out during this period |
| CP4 | Task 1: Data and information collection commenced (JICA documents, Master Plan) <ul style="list-style-type: none"> Review of Population projection and preparation of observations on population projection and demand considered in the JICA and Master plan documents. Population projection by PMC to arrive the beneficiary details for the year 2025 |
| | Review of salient details and existing water distribution network drawings for CP4 components |
| | |
| CP5 | No activities have been carried out during this period |
| General | Monthly Progress Report (MPR 03) for April 2020 submitted on 22.05.2020 |
| | Draft Environmental Impact Assessment (EIA) Review Report for CP1 components submitted to CMWSSB on 26.05.2020 |
| | 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 May 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 in 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 | For Design and Tender Assistance for CP1 | |
| | 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 | August 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 | For Design and Tender Assistance for CP2 | |
| | 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 | For Design and Tender Assistance for CP4 | |
| | 4.1 Detailed Design Report and Drawings | December 2021 |
| | 4.2 Bid Document(s) | April 2022 |
| | 4.3 Bid Evaluation Report (Technical) | September 2022 |

| Sl.No. | Report / Document | Tentative Date / Frequency / Status ** |
|--------|---|---|
| | 4.4 Bid Evaluation Report (Financial) | November 2022 |
| 5 | For Construction Supervision of CP 1 | |
| | 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 | For Construction Supervision of CP 2 | |
| | 6.1 Quality and Quantity Control Report | Every Month |
| | 6.2 Final Inspection Report | At Appropriate timing |
| 7 | For Construction Supervision of CP 3-1 to CP 3-4 | |
| | 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 | For Construction Supervision of CP 4 | |
| | 8.1 Quality and Quantity Control Report | Every Month |
| | 8.2 Final Inspection Report | At Appropriate timing |
| 9 | Environmental and Social Safeguard | |
| | 9.1 EIA Review Report for CP 1 | Draft Environmental Impact Assessment (EIA) Review Report for CP1 components submitted to CMWSSB on 26.05.2020 |
| | 9.2 Environmental Monitoring Report | Every Month |
| 10 | Progress Report and Project Completion Report | |
| | 10.1 Monthly Progress Report (MPR) | <ul style="list-style-type: none"> 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 14.04.2020 Revised MPR 01 for Jan' & Feb'2020 (10 copies) submitted on 26.05.2020 MPR 02 for March 2020 (soft copy) submitted on 17.04.2020 MPR 02 for March 2020 (10 copies) submitted on 26.05.2020 MPR 03 for April 2020 (soft copy) submitted on 09.05.2020 MPR 03 for April 2020 (10 copies) submitted on 22.05.2020 |
| | 10.2 Quarterly Progress Report (QPR) | <ul style="list-style-type: none"> QPR 01 for Jan' to March 2020 (soft copy) submitted on 24.04.2020 QPR 01 for Jan' to March 2020 (10 copies) submitted on 26.05.2020 |
| | 10.3 Project Completion Report (PCR) | Within 3 months after completion of the services |

** The tentative date of deliverables has 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 a 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 Pandemic situation, an 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 (outside Chennai) working from home due to COVID-19 Pandemic across the globe.

Any impacts on the timing of deliverables will be communicated to CMWSSB regularly.

4.3 Actual Progress versus Planned Progress – Upto May 2020

Actual progress during the month's upto May 2020 is with planned progress.

Table 5: Actual Progress vs Planned Progress

| Sl. No. | Deliverable | Planned | Actual | Remarks/reasons for the 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 |

| Sl. No. | Deliverable | Planned | Actual | Remarks/reasons for the delay |
|---------|---|------------|------------------------|---|
| 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 | |
| | | 26.05.2020 | 26.05.2020 | Hard copies submitted |
| 7 | Monthly Progress Report (MPR 02) for March 2020 | 17.04.2020 | 17.04.2020 | |
| | | 26.05.2020 | 26.05.2020 | Hard copies submitted |
| 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 (soft copy) | |
| | | 23.04.2020 | 26.05.2020 | Hard copies submitted |
| 9 | Quarterly Progress Report (QPR 01) for January 2020 to March 2020 | 24.04.2020 | 24.04.2020 | |
| | | 22.05.2020 | 22.05.2020 | Hard copies submitted |
| 10 | Monthly Progress Report (MPR 03) for April 2020 | 10.05.2020 | 09.05.2020 | |
| | | 10.05.2020 | 22.05.2020 | Hard copies submitted |
| 11 | Draft Environmental Impact Assessment (EIA) Review Report for CP1 components | 20.04.2020 | 24.05.2020 (soft copy) | Delay has happened for the Environmental data collection from CMWSSB (Due to COVID-19 pandemic issues across the globe and continuous lockdown in India). Accordingly submission has been made. |
| | | 20.04.2020 | 26.05.2020 | Hard copies submitted |

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

4.4 Financial Progress Upto May 2020

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

Table 6: Financial Progress (Actual based on the bill passed) on PMC Services at the end of May 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% |
| May 2020 ** | INR 0 | INR 0 | 0.00% |
| | USD 0 | USD 0 | 0.00% |

** For SMEC India Pvt. Ltd., the Mobilisation advance payment (5% of Contract value) received on 19.05.2020 as against Advance Bank Guarantee.

However, a summary of financial progress (projected based on man-month consumed) for the PMC Services contract at the end of May 2020 is included in 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 May 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 | INR 22,26,340 | INR 97,17,566 | 1.69% |
| | USD 90,351 | USD 315,518 | 3.35% |
| May 2020 | INR 23,29,743 | INR 1,20,47,309 | 2.09% |
| | USD 60,913 | USD 374,906 | 3.98% |

4.5 Staffing Inputs – May 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 May 2020 end) | Balance man-months available (June 2020 onwards) |
|--|---|----------|----------------|--------------------------|--------------------------|------------------------|---|--|
| Project Manager (Team Leader) | Dr. P.Dharma Dharmabalan | I | 14.02.2020 | 26.02.2020 | 07.04.2020 | 70 | 1.35 | 68.65 |
| Desalination Expert | Dr.Ghulam Mustafa | I | 10.02.2020 | 22.02.2020 | 01.04.2020 | 32 | 2.18 | 29.82 |
| 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 | 2.85 | 12.15 |
| 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 | 4.21 | 67.79 |
| Senior Civil Engineer (Deputy Team Leader) | Mr.S.Siddappaswamy | N | 27.01.2020 | 22.02.2020 | 01.04.2020 | 72 | 2.137 | 69.863 |
| Senior Pipeline Engineer | Mr.Nagesh Chinnam | N | 04.02.2020 | | | 72 | 3.318 | 68.682 |
| Environmental Specialist | Dr.Alok Kumar | I | 24.02.2020 | 07.03.2020 | 25.04.2020 | 15 | 0.772 | 14.228 |
| Environmental Specialist | Mr.S.M.Karthikaeswaran | N | 25.02.2020 | | | 30 | 3.000 | 27.000 |
| 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 | 01.05.2020 | 30 | 1.86 | 28.14 |
| 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 | 4.17 | 65.83 |
| Accountant | Mr.K.Manikandan | N | 09.03.2020 | | | 70 | 2.72 | 67.28 |
| Office Boy-1 | Mr.R.Jagan (Replacement to Mr.Thukaram) | N | 03.02.2020 | | | 70 | 3.86 | 66.14 |
| Office Boy-2 | Mr.G.Arjun (Replacement to Mr.Ramesh) | N | 03.02.2020 | | | 70 | 3.86 | 66.14 |

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 600 097. 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 has been permanently demobilized from the Project. However, some resources with intermittent or staged inputs were temporarily demobilized during the period due to COVID-19 pandemic issues.

After the COVID-19 pandemic issues resolved and the end of the 5th extended lockdown period in India, several of these team members are scheduled to return to Chennai for further inputs to this Project in the coming month of July 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 | Category | Total Number of Days (As per Contract Agreement) | Total Number of Days (As per Allocation of Consortium) | Number of Days of Claim upto April'2020 | Number of Days of Claim in May 2020 | Cumulative Number of Days of Claim upto May 2020 | Balance Number of Days for Claim |
|---------|--------------------------------|---|--|--|---|-------------------------------------|--|----------------------------------|
| 1 | NJS Engineers India Pvt. Ltd. | International | 2250 | 1,440 | 12 | 0 | 12 | 1,428 |
| 2 | SMEC India Pvt. Ltd. | International | | 810 | 178 | 0 | 178 | 632 |
| | | National | 50 | 50 | 0 | 0 | 0 | 50 |
| 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 | | | | | | |
| | TOTAL | | 2,300 | 2,300 | 190 | 0 | 190 | 2,110 |

4.5.3 Summary of Personnel Inputs for the Period

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

Planned mobilisation of PMC personnel for the next three (3) month period (upto August 2020) is presented in **Annexure 7**.

4.5.4 Team Structure

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

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

As at the end of May 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 from March 2020 onwards.

4.6 Meetings and Site Visits – May 2020

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

Table 10: Meetings and Site Visits (May 2020)

| Date | Meeting | Location | Attendees |
|------------|---|---|---------------------|
| 05.05.2020 | Discussion on the preparation of the Monthly Progress Report (MPR 03) for April 2020 | | PMC members |
| 15.05.2020 | Discussion on population projection to arrive beneficiary details | | PMC members |
| 18.05.2020 | Meeting conducted by Project Manager (PMC) for a discussion on the sea water sampling procedures, chemical availability on India, data collection on Electricity bills of existing DSPs in Chennai, Draft EIA Review Report for CP1 and data collection status for CP4 components | Online Zoom Meeting Video Conference Call | PMC members |
| 23.05.2020 | Meeting conducted by Project Manager (PMC) for a discussion on the preparation of presentation slides, CAPEX cost, Foot print area of proposed units, Wastewater treatment facility for CP1 components | Online Zoom Meeting Video Conference Call | PMC members |
| 26.05.2020 | Discussion on Action Taken Report, Technical presentation and status on the progress of the consultancy work conducted by CE (O&M)–II CMWSSB with PIU Team (CMWSSB) | Online Zoom Meeting Video Conference Call | CMWSSB, PMC members |

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

Also, some other meetings/technical discussions have been conducted by PMC team on preparation of updated Report including CAPEX cost calculation, Wastewater Treatment facility for CP1 components, observation on population projection, review of salient details and water distribution network drawings for CP4 components, Monthly Progress Report for April 2020, Draft Environmental Impact Assessment (EIA) Review Report for CP1 components. Also, regular interactions, discussions with CMWSSB officials and other Project aspects until May 2020. Where formal minutes have not been recorded, these meetings are not listed in the above.

4.7 Health & Safety – May 2020

There are no health and safety incidents to report for May 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 restricted travel movements may impact mobilisation of international (and possibly national) staff. 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 Pandemic 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 for 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 are listed in 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 |
|---------------------------------------|--|--|---|-----------------------|---------------------|
| SMEC International Pty. Ltd. | 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 | - | - | - |
| SMEC India Pvt. Ltd. | Third Party Motor Vehicle Liability Insurance | SBI General Insurance | INR 100 Million | 10.01.2020 | 09.01.2021 |
| | 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 | Bajaj Allianz General Insurance Company Ltd. | INR 8.40 Million | 30.04.2020 | 29.04.2021 |
| NJS Engineers India Pvt. Ltd. | Third Party Motor Vehicle Liability Insurance | | To be provided as and when vehicles are mobilised monthly | | |
| | 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 | - | - | - |
| TATA Consulting Engineers Ltd. | 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 1145 Million | 01.04.2020 | 31.03.2021 |
| | 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. Also, 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 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 | Letter Correspondence reference number, date | Date of submission / received |
|---------|--|---|-------------------------------|
| 1 | Reply to clarification on the Interim Report for CP1 | Sent by email to CMWSSB on 07.05.2020 | 07.05.2020 |
| 2 | Request for release of Mobilisation Advance Payment (Sent by email on 07.05.2020) | Ref: SMEC/ CMWSSB /5061185/051 dated 07.05.2020 | 07.05.2020 |
| 3 | Submission of Monthly Progress Report (MPR 03) for April 2020 | Soft copy sent by email to CMWSSB on 09.05.2020 | 09.05.2020 |
| 4 | Submission of Invoice for the month of March 2020 for SMEC International Pty Ltd in Foreign Currency | Ref: SMEC/ CMWSSB /5061185/052 dated 31.03.2020 | 11.05.2020 |
| 5 | Submission of Invoice for the month of March 2020 for SMEC India Pvt. Ltd. in Foreign Currency | Ref: SMEC/ CMWSSB /5061185/053 dated 31.03.2020 | 11.05.2020 |
| 6 | Submission of Invoice for the month of March 2020 for SMEC India Pvt. Ltd. in Local Currency | Ref: SMEC/ CMWSSB /5061185/054 dated 31.03.2020 | 11.05.2020 |
| 7 | Submission of Invoice for the month of April 2020 for SMEC International Pty Ltd in Foreign Currency | Ref: SMEC/ CMWSSB /5061185/056 dated 11.05.2020 | 11.05.2020 |
| 8 | Submission of Invoice for the month of April 2020 for SMEC India Pvt. Ltd. in Foreign Currency | Ref: SMEC/ CMWSSB /5061185/057 dated 11.05.2020 | 11.05.2020 |
| 9 | Submission of Invoice for the month of April 2020 for SMEC India Pvt. Ltd. in Local Currency | Ref: SMEC/ CMWSSB /5061185/058 dated 11.05.2020 | 11.05.2020 |
| 10 | Details of Invoices for the month of January 2020 for all Consortium Members | Ref: SMEC/ CMWSSB /5061185/059 dated 24.03.2020 | 11.05.2020 |
| 11 | Detail of Invoices for the month of February 2020 for all Consortium Members | Ref: SMEC/ CMWSSB /5061185/060 dated 31.03.2020 | 11.05.2020 |

| Sl. No. | Details of Correspondence letter | Letter Correspondence reference number, date | Date of submission / received |
|---------|--|---|-------------------------------|
| 12 | Detail of Invoices for the month of March 2020 for all Consortium Members | Ref: SMEC/ CMWSSB /5061185/061 dated 31.03.2020 | 11.05.2020 |
| 13 | Detail of Invoices for the month of April 2020 for Consortium Members | Ref: SMEC/ CMWSSB /5061185/062 dated 11.05.2020 | 11.05.2020 |
| 14 | Submission of Bank accounts details for SMEC India Pvt Ltd and copy of acknowledgment and Receipt for Registration of Consortium Agreement at SRO, Chennai and request for reimbursement of 1% registration fees | Ref: SMEC/ CMWSSB /5061185/063 dated 18.05.2020 | 13.05.2020 |
| 15 | Submission of Contract Agreement (2 copies) | Ref: SMEC/ CMWSSB /5061185/064 dated 18.05.2020 | 18.05.2020 |
| 16 | Mobilisation Advance Payment for SMEC India Pvt. Ltd. | Invoice no.09389/2020, dated 08.05.2020 | 19.05.2020 |
| 17 | List of Additional Data / Documents required for CP1 | Ref: SMEC/ CMWSSB /5061185/065 dated 20.05.2020 | 20.05.2020 |
| 18 | Observation on population projection | Sent by email to CMWSSB on 21.05.2020 | 21.05.2020 |
| 19 | Details of PMC office address in Chennai | Ref: SMEC/ CMWSSB /5061185/066 dated 22.05.2020 | 22.05.2020 |
| 20 | Submission of Monthly Progress Report (MPR 03) for April 2020 (10 copies) | Ref: SMEC/ CMWSSB /5061185/067 dated 22.05.2020 | 22.05.2020 |
| 21 | Submission of Quarterly Progress Report (QPR 01) for Jan' to March 2020 (10 copies) | Ref: SMEC/ CMWSSB /5061185/068 dated 22.05.2020 | 22.05.2020 |
| 22 | Submission of Draft Environmental Impact Assessment (EIA) Review Report for 400 MLD Desalination Plant (CP-1) at Perur (soft copy) (Sent by email to CMWSSB on 24.05.2020) | Ref: SMEC/ CMWSSB /5061185/072 dated 24.05.2020 | 24.05.2020 |
| 23 | Submission of Monthly Progress Report (MPR 01) for Jan' & Feb'2020 (10 copies) | Ref: SMEC/ CMWSSB /5061185/069 dated 26.05.2020 | 26.05.2020 |
| 24 | Submission of Monthly Progress Report (MPR 02) for March 2020 (10 copies) | Ref: SMEC/ CMWSSB /5061185/070 dated 26.05.2020 | 26.05.2020 |
| 25 | Submission of Interim Report for Development of Concept Designs for 400 MLD Desalination Plant (CP-1) at Perur (5 copies) | Ref: SMEC/ CMWSSB /5061185/071 dated 26.05.2020 | 26.05.2020 |
| 26 | Submission of Draft Environmental Impact Assessment (EIA) Review Report for 400 MLD Desalination Plant (CP-1) at Perur (2 copies) | Ref: SMEC/ CMWSSB /5061185/073 dated 26.05.2020 | 26.05.2020 |
| 27 | Request for release of reimbursable of 1% Registration fees, Mobilisation Advance Payments and Monthly Invoice Amount from January to April 2020 | Ref: SMEC/ CMWSSB /5061185/076 dated 28.05.2020 | 28.05.2020 |
| 28 | ToR for Sea Water Sample Survey and list of NABL approved lab. | Sent by email to CMWSSB on 29.05.2020 | 29.05.2020 |

| Sl. No. | Details of Correspondence letter | Letter Correspondence reference number, date | Date of submission / received |
|---------|---|---|-------------------------------|
| 29 | Minutes of Discussion on Interim Report for the development of Concept Design of CP1 components conducted by SE (Desal) with PMC team on 30.04.2020 | Received by email from SE (Desal), CMWSSB on 05.05.2020 | 05.05.2020 |
| 30 | Mobilization Advance & Monthly Bills | Received by email from SE (Desal), CMWSSB on 12.05.2020 | 12.05.2020 |
| 31 | Population details – to arrive Beneficiary details | Received by email from SE (Desal), CMWSSB on 13.05.2020 | 13.05.2020 |
| 31 | Proceed the work as per the scheduled time line furnished in QPR | Received by email from SE (Desal), CMWSSB on 15.05.2020 | 15.05.2020 |
| 32 | Clarification on Monthly Bills - Returned with Remarks | CMWSSB Letter no. Lr.no.CMWSSB/SE(Desal)/400 MLD Plant / PMC-007/2020, dated 26.05.2020 | 26.05.2020 |

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 June 2020 is provided at Table 13.

Table 13: Planned Activities until the month of June 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 sea water quality sampling etc. |
| | Task 3: Confirm the scope of services for proposed site sea water sampling and topographic survey investigation <ul style="list-style-type: none"> Preparation of Terms of Reference for carrying out the sea water quality analysis Preparation of Terms of Reference for carrying out the topographical survey at Perur site |
| | Task 4: Conceptual Design Report – complete data collection activities and commence the conceptual design |
| | Task 5 : Preparation & Submission of Concept Design Report <ul style="list-style-type: none"> Preparation of Draft Conceptual Design Report |
| | Task 9: Request for Qualification (RFQ) – issue document to market (early July) <ul style="list-style-type: none"> Comments from JICA will be incorporated in the updated PQ documents Obtaining concurrence from JICA for PQ documents for CP1 components |
| | Task 10: Request for Proposal (RFP) – commence document preparation in late June 2020 |
| 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 the preferred location of the new reservoir and pumping station on Porur HW site <ul style="list-style-type: none"> Pumps combination at Perur will be reviewed. Review of the preliminary design in the DPR. Reviewing the AECOM report about Pumping Station at Perur and WDS and PS at Porur and giving our observations, if any. |
| | Task 3: Confirm scope of services for proposed site topographic survey and geotechnical investigation <ul style="list-style-type: none"> Preparation of Terms of Reference for carrying out the topographical survey at Porur site Implementation of the topographical surveys for the construction area of the pumping stations in the premises of the Perur DSP and the pumping station and reservoir in the Porur WDS |
| CP3 | Task 1: Design reviews – undertake the review of design and bid document deliverables (by others), if prioritised by CMWSSB <ul style="list-style-type: none"> Hydraulic analysis of the product water transmission main for final determination of the pump head and countermeasure for water hammer. Received the product water pipeline transmission design, we will review the design to arrive at the pumping head required at Perur pumping station. |
| | Task 2: Review of draft CP3 bid documents (prepared by CMWSSB) performed and the issue of comments |

| Contract Package | Activities (Planning for next months) |
|------------------|---|
| CP4 | Task 1: Data collection – collect and verify data on the existing CMWSSB water distribution network according to agreed prioritization of WDZs <ul style="list-style-type: none"> Review of Technical information about the project and revision of population and demand details with CMWSSB consent. Collect and review of the topographical survey for the Chennai core city Review of the inventory data of the zone-wise distribution network provided by CMWSSB |
| | 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 – a document for proposed design criteria for water distribution system modelling and design <ul style="list-style-type: none"> Preparation and submission of PMC observations on various components of the Master plan/ JICA report |
| CP5 | No planned activities during this period |
| General | <ul style="list-style-type: none"> Draft Final Report for the development of Concept Designs for CP1 components – finalise based on Client/JICA reviews Preparation and Submission of Monthly Progress Report for June 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 Updated 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 <ul style="list-style-type: none"> Preparation of Environmental Management Plans and Environmental Monitoring Plans for CP-1 and CP-2 (for Perur pumping station). Presentation of Draft environmental review report and finalization of the EIA draft by incorporating the comments, if any, from CMWSSB. |
| | Land acquisition/access status review – review and Report on the status of all land acquisition and access requirements for all Project sites/routes and develop an 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 in Table 14.

Table 14: Managing Progress Risks (PMC activities)

| Contract Package | Risk | Control measure | Status |
|------------------|---|---|--------|
| All | COVID-19 virus Pandemic 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 the 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 the 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 | Porur Headworks / WDS: 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 a change in the layout plan for the proposed reservoir and pumping station in the nearby area. | Details of existing assets on the Porur Headworks / WDS site to be provided by CMWSSB as a priority to allow the PMC to review the site layout concept urgently. 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. | ● |
| CP4 | Lack of available digital data on the existing water distribution network (in AutoCAD drawing format) to develop an 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 the 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 May 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 specific reporting format will be issued once works commence.

6.1 Achieved Activities – May 2020

There are no achieved activities (Works) to report.

6.2 Actual Progress versus Planned Progress – May 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 in May 2020

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

6.4 Health & Safety – May 2020

There are no health and safety matters to report.

6.5 Environmental and Regulatory Compliance

There are no regulatory and compliance matters to be reported for the Project during the May 2020 period. We note that before 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 June 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 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) |
|---------------------------------------|---|--|---------------------|
| KEY EXPERT | | | |
| 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 |
| | Sub Total | | 396 |
| NON KEY EXPERT - INTERNATIONAL | | | |
| 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 | Shanmuganathan 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 |
| | Sub Total | | 133 |
| NON KEY EXPERT - NATIONAL | | | |
| 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 |
| | Sub Total | | 739 |
| SUPPORTING STAFF | | | |
| 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 |
| | Sub Total | | 720 |
| | Total | | 1988 |

Annexure 2 Project Scope

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

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 MAY 2020

| Sl. No. | Key activity / significant task carried out | List of PMC team members | Working on Delivery |
|---------|---|--|---|
| 1 | <ul style="list-style-type: none"> Due to COVID-19 Pandemic issues, the Government of India announced the 2nd lockdown period from 15.04.2020 to 03.05.2020, further extended as 3rd lockdown period from 04.05.2020 to 17.05.2020 and further extended as 4th lockdown period from 18.05.2020 to 31.05.2020 throughout India, so some the National staff (outside Chennai) and International staff are allowed to work on the project as Work From Home option. Review of technical information on DPR & various study report Preparation of SWRO Desalination plant layout Preparation of proposed foot print area Preparation of proposed sludge treatment facility at Perur DSP Calculation of present project capital cost Preparation of comparison of project capital cost (DPR cost estimate, JICA concurrence and Administrative sanction) | <p>Dr.P.Dharmabalan (Project Manager, International Expert)</p> <p>Mr.S.Srinivasa Rao (Project Co-ordinator);</p> <p>Dr.Ghulam Mustafa (Process Expert, Desal)</p> <p>Mr.Michel Morillon (Mechanical Engineer, Desal);</p> <p>Mr.R.Senthil (Civil Engineer);</p> <p>Mr.S.M.Karthikaeswaran (Environmental Specialist)</p> | Preparation of updation on the Design Report for the development of Concept Designs for CP1 |
| 2 | <ul style="list-style-type: none"> Online Zoom Meeting Video Conference Call meeting conducted by Project Manager (PMC) for a discussion on sea water sampling procedures, chemical availability on India, data collection on Electricity bills of existing DSPs in Chennai, Draft EIA Review Report for CP1 and data collection status for CP4 components on 18.05.2020 | <p>Dr.P.Dharmabalan (Project Manager, International Expert)</p> <p>Mr.S.Srinivasa Rao (Project Co-ordinator);</p> <p>Dr.Ghulam Mustafa (Process Expert, Desal);</p> <p>Mr.Michel Morillon (Mechanical Engineer, Desal);</p> <p>Mr.Siddappaswamy (Sr.Civil Engineer);</p> <p>Mr.R.Senthil (Civil Engineer);</p> <p>Mr.Nagesh Chinnam (Senior Pipeline Engineer);</p> <p>Mr.S.M.Karthikaeswaran (Environmental Specialist)</p> | <p>Preparation of updation on the Design Report for the development of Concept Designs for CP1 and the Draft EIA Review Report.</p> <p>Data collection status for CP4</p> |
| 3 | <ul style="list-style-type: none"> Online Zoom Meeting Video Conference Call meeting conducted by Project Manager (PMC) for a discussion on the preparation of presentation slides, CAPEX cost, foot print area of proposed units, Wastewater treatment facility for CP1 components on 23.05.2020 | <p>Dr.P.Dharmabalan (Project Manager, International Expert)</p> <p>Mr.S.Srinivasa Rao (Project Co-ordinator);</p> <p>Dr.Ghulam Mustafa (Process Expert, Desal)</p> <p>Mr.Siddappaswamy (Sr.Civil Engineer);</p> <p>Mr.R.Senthil (Civil Engineer)</p> | Preparation of presentation slides on CP1 to CP4 |

| Sl. No. | Key activity / significant task carried out | List of PMC team members | Working on Delivery |
|---------|--|--|---|
| 4 | <ul style="list-style-type: none"> Preparation of list of Environmental Regulations relevant to the project Review of available data and Identification of data gaps and Data collection w.r.to environment Development of specific Regulatory Compliance Requirements for the project Preparation of list of clearances and permissions required for the project and to be obtained by the DBO Contractor List of CRZ conditions for design and recommendations Review and implementation plan for CRZ clearance condition Preparation of Action Plan for TNCZMA conditions Identification of Scope of work related to the Environment for all packages. Preparation of Terms of Reference for Sea water Sample analysis and updation of comments. Identification and shortlisting of agencies for Sea Water Sampling and characterization for CP1 Follow-up with NABL Lab agencies for Due diligence for CP1 components | 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 and submission of Draft EIA Review report (2 copies) for CP1 on 26.05.2020 |
| 5 | <ul style="list-style-type: none"> Revised Monthly Progress Report (MPR 01) for January & February 2020 Monthly Progress Report (MPR 02) for March 2020 Preparation of Monthly Progress Report (MPR 03) for April 2020 Quarterly Progress Report (QPR 01) for January to March 2020 | 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 (10 copies) submitted on 26.05.2020 MPR 02 (10 copies) submitted on 26.05.2020 MPR 03 (10 copies) submitted on 22.05.2020 QPR 01 (10 copies) submitted on 22.05.2020 Interim Report for CP1 (5 copies) submitted on 26.05.2020 |
| 6 | <ul style="list-style-type: none"> Review of available Data / Drawings for CP4 components | Mr.Siddappaswamy (Sr.Civil Engineer); Mr.Shane Farquharson (Water Supply Engineer); Mr.Nagesh Chinnam (Senior Pipeline Engineer) Mr.R.Senthil (Civil Engineer) | Note on findings of preliminary base work for CP4 |

| Sl. No. | Key activity / significant task carried out | List of PMC team members | Working on Delivery |
|---------|---|--|--|
| 7 | <ul style="list-style-type: none"> Online Zoom Video conference call and discussion with CE (O&M)–II CMWSSB officials for the Action Taken Report, the progress of the consultancy work and technical discussion for CP1 to CP4 components on 26.05.2020 | Dr.Dharmabalan (Project Manager, International Expert) Mr.S.Srinivasa Rao (Project Co-ordinator); Mr.Siddappaswamy (Sr.Civil Engineer); Dr.Ghulam Mustafa (Process Expert, Desal) Dr.Alok Kumar (Environmental Specialist); Mr.R.Senthil (Civil Engineer); Mr.Nagesh Chinnam (Senior Pipeline Engineer) Mr.S.M.Karthikaeswaran (Environmental Specialist) | Presentation on Action Taken Report, the progress of the consultancy work and technical discussion for CP1 to CP4 components |

Annexure 7 Team Deployment Schedule for Next months

Annexure 8 Organisation Chart

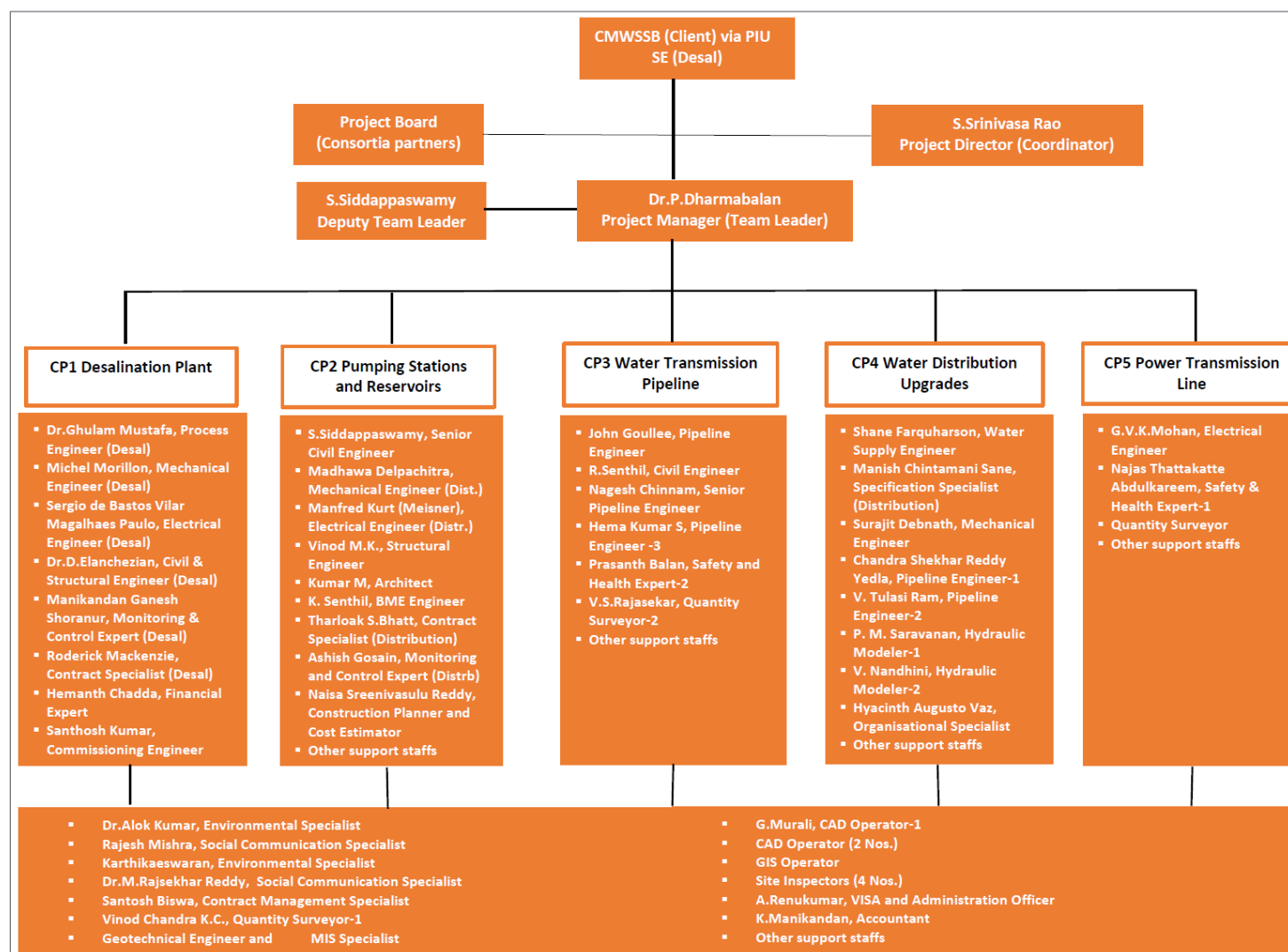


Figure 1: PMC Organisation Chart

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.

