CHENNAI METROPOLITAN WATER SUPPLY & SEWERAGE BOARD (CMWSSB)

QPR (02) / (April to June 2020)

PMC FOR CHENNAI PERUR 400 MLD DESALINATION PLANT AND ALLIED WORKS

Reference No. Loan ID-P267

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

Prepared for CMWSSB CMWSSB CMWSSB

15 July 2020

SMEC International Pty. Ltd., Australia *in consortium with*
NJS Engineers India Private Limited, Pune
Tata Consulting Engineers Limited, Mumbai
SMEC (India) Private Limited, Haryana

PMC Chennai Office Address

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

Member of the Surbana Jurong Group

Member of the Surbana Jurong Group

DOCUMENT CONTROL

Document:	**QPR (02) / (April to June 2020)**
File Location:	-
Project Name:	PMC FOR CHENNAI PERUR 400 MLD DESALINATION PLANT AND ALLIED WORKS
Revision Number:	0

REVISION HISTORY

Revision No.	Date	Prepared by	Reviewed by	Approved for Issue by
0	15 July 2020	PMC Team	S.Siddappaswamy	Dr.P.Dharmabalan

Issue Register

Distribution List	Date Issued	Number of Copies
CMWSSB	15 July 2020	10 copies

PMC DETAILS

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

Important Notice

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

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

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

Quarterly Progress Report No.2

1. Project Description: (Relevance)

1. Project Objective

Original:

To provide safe and reliable water supply by carrying out the construction of 400 Mld seawater desalination plant and its related water supply facilities, thereby improving living conditions of the residents including the poor people as well as the investment environment in the concerned areas in Chennai Metropolitan Area (CMA) in the State of Tamil Nadu

Modified objective and its reason(s): No change

2. Necessity and Priority of the Project:

- Consistency with development policy, sector plan, national/regional development plans and demand of target group and the recipient country.

Original:

1. Water Supply in India

Although India in its 12th Five-Year Plan (April 2012 — March 2017) and it is National Water Policy (2012) has set a national goal to provide access to drinking water for all its citizens, the ratio of households with sufficient drinking water has remained below 90% in 2012 even in urban India, as water source development and water supply service expansion have been fallen behind the population growth and the increasing water usage due to economic growth. Even in major cities where the water distribution networks are installed, the service continuity is limited to one to six hours per day due to the limited quantity of water supply. Technical and financial challenges in terms of operation and maintenance (O&M) of water supply facilities are also serious, including the high ratio of non-revenue water (40 to 50%), the low revenue amount due to lack of client management and promotion, and the low water tariff rate which is insufficient to cover the O&M cost. Besides, these challenges have been leading to the deterioration of water supply facilities. To tackle these challenges, India in its 12th Five-Year Plan (April 2012 — March 2017) and it is National Water Policy (2012) requests each state and local bodies to formulate a comprehensive urban development plan to supply water to all the urban population.

2. Current Situation of Water Supply in the Projected Area

Chennai is the capital city of the State of Tamil Nadu and the fourth largest city in India, with a population of about 8.7 million (2011). It is expected to exceed 15 million in 2035. The instalment of water supply facilities has not been able to catch up with population growth. In contrast, the amount of water demand in CMA in 2015 is more than 850 MLD (Million Liter per Day), the average water supply in 2015 is about 620 MLD due to rainfall shortage, etc.

As a result, the supply continuity in CMA is only 3 to 4 hours a day, and the water supply shortage has also been negatively affecting the investment for CMA. Besides, economic development has increased the water demand, which makes the water supply situation more serious. Since surface water and groundwater are not sufficient to satisfy the water demand and are vulnerable to drought, Chennai has the plan to promote utilize seawater as a safe and reliable water source, and the construction of seawater desalination plants have aspired.

Also, meter installation ratio in CMA is as low as 3.9%. This is because the flat rate for unmetered water usage and the minimum charge for metered usage is of the same price, and there is no incentive for customers to install meters. The revision of water tariff and promotion of meter installations are necessary for a sustainable water supply operation

3. The necessity of the Project

Although CMA is facing this chronic and severe water shortage, surface water and groundwater are not only insufficient as to satisfy the growing water demand from population growth and economic growth but also are vulnerable to drought. To secure additional water supply from a safe and reliable water source, construction of a new seawater desalination plant is necessary. The National Water Policy (2012) also states that alternate water sources should be assigned, where available, in addition to surface water and groundwater. Also, the revision of water tariff and promotion of meter installations are urgently needed to secure sustainable water supply operation. This project will provide a safe and reliable water supply to CMA by constructing a seawater desalination plant and its related facilities and will provide an opportunity for CMWSSB to review and revise the current water tariff policy including meter installation by supporting CMWSSB in formulating a new business plan

Actual: No Change

3. The rationale of Project Design:

- Timing, scale, the technology of the Project

Original:

1. Water supply Service Area and Population

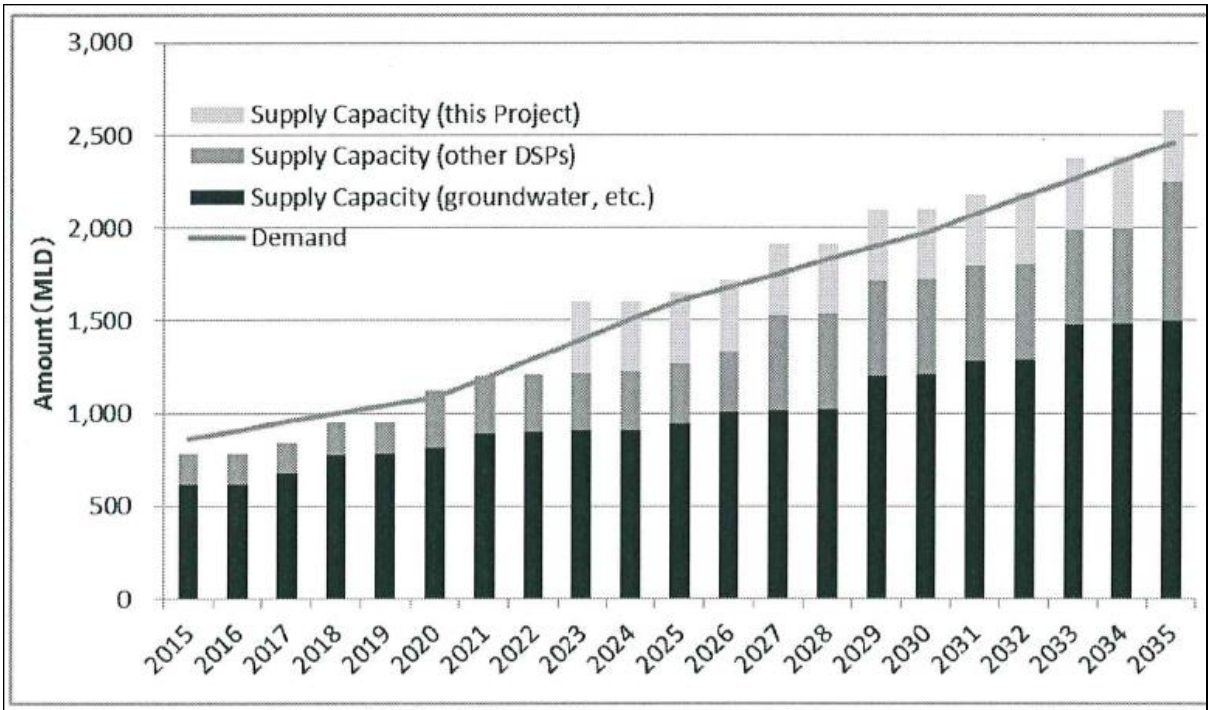
CMA could be categorized into three areas; (1) Chennai Core City (CCC) is the original municipal body of Chennai Corporation with 107 wards located in the center of CMA; (2) the Expanded Area, consisting of 93 wards, was integrated into the Chennai Corporation in 2011; (3) the Rest of CMA is the area around the current Chennai Corporation, consisting of 7 municipalities, 12 townships and 189 villages. The term "CMA" includes all these three areas. The jurisdiction of CMWSSB is the entire CMA, including the Rest of CMA. Currently, CMWSSB's water supply facilities practically cover only the Chennai Corporation and the water supply service for the Rest of CMA is provided by the local bodies, but CMWSSB is expected to take up the responsibility from the local bodies to provide water throughout CMA including the Rest of CMA. The future population of each area is likely to increase as follows.

Area	**Population in thousands)**			
	2015	**2025**	**2035**	**2050**
Chennai Core City	4,727.7	4,938.6	5,137.7	5,436.9
Expanded Area	2,326.1	3,034.9	4,042.4	5,535.7
Rest of CMA	2,883.2	4,104.2	6,299.9	9,711.8
CMA Total	**9,937.0**	**12,077.6**	**15,480.0**	**20,684.4**

Source: Master Plan

In addition to population growth, CMA has been experiencing rapid economic growth. The lack of water supply may have an adverse impact on economic growth and investment climate in the area, including the industrial zones such as One Hub Chennai.

CMWSSB owns 5 water treatment plants, 2 seawater desalination plants and wells, with the total production capacity of 1,623Mld. However, due to the severe water shortage, the actual water production remains lower than the capacity. The following graph shows the water demand prediction based on the population prediction compared with the water production in the scenario of moderate drought, including the planned water production from this Project.



Source: JICA Minutes on Discussion

2. The relevance of the Project scale

According to the forecast above, the water supply has been less than the demand, and without the Project, the water supply will continue to be insufficient from 2023 to 2035. Therefore, the Project scale, with the production capacity of 400MLD, is deemed relevant. In addition to bridging the gap between demand and supply, the Project will contribute to securing safe and reliable water supply by utilizing seawater as a water source which is not affected by drought than surface/groundwater.

3. Relevance of Technology

The seawater desalination plant will be constructed to fulfil the following requirements.

- Product water quality should conform with IS:10500: 2012 or its latest version.
- Recovery ratio should be 46%
- Product water quantity should be 400 MLD

The required water quality is consistent with the existing desalination plants in Nemmeli and Minjur. The plant will adopt the pre-treatment (Lamella filter / Dissolved Air Flotation (DAF) / Dual Media Filter (DMF)) and Reverse Osmosis Membrane (RO) with energy recovery.

Actual: No Change

2: Project Implementation (Efficiency)

2-1. Project Scope:

Table 2-1-1a: Comparison of Original and Actual Location

Location	**Original:** Chennai Metropolitan Area (CMA) **Attachment 1: Location Map**	**Actual: Same** **Attachment(s): Location Map**

Location Map

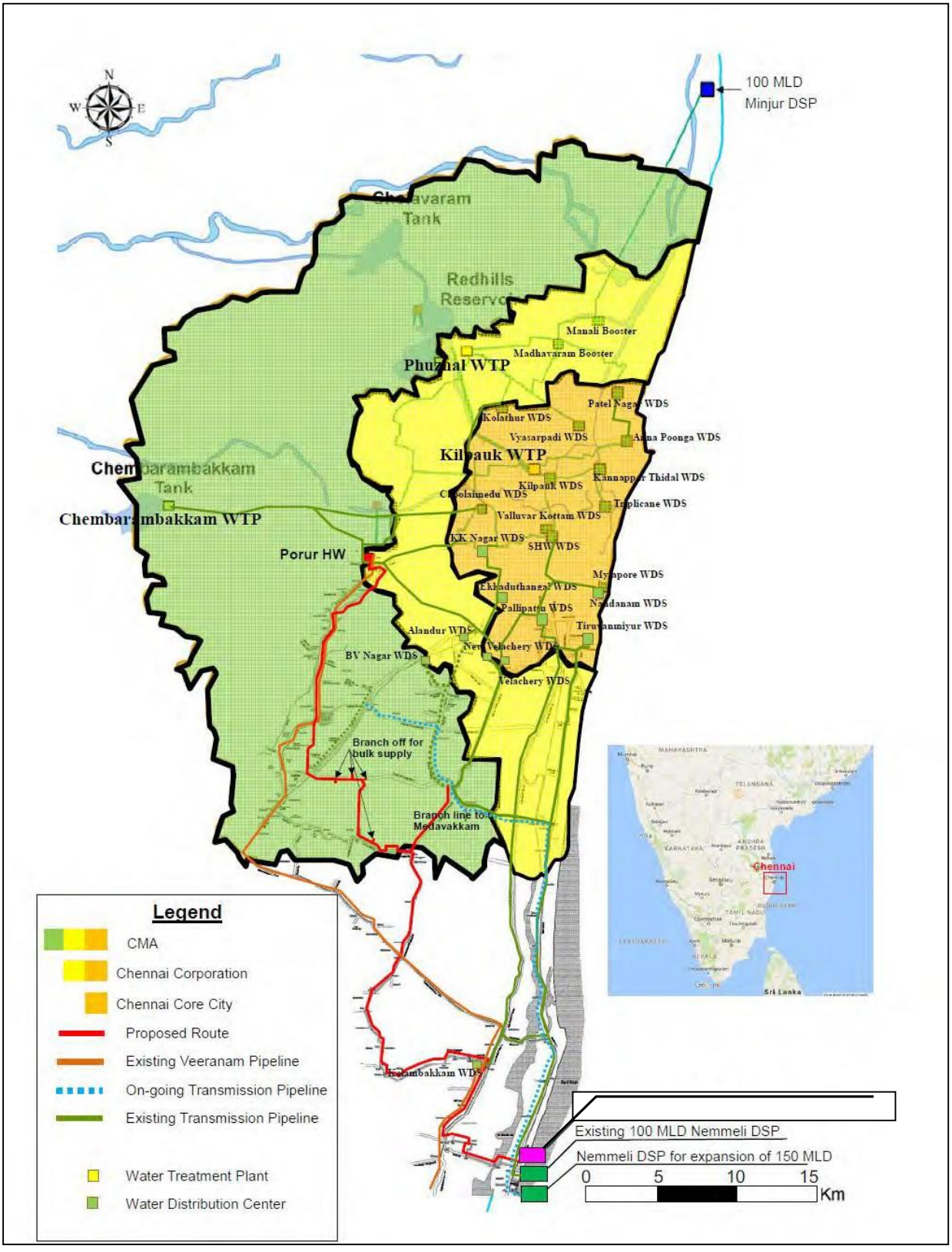


Table 2-1-1b: Comparison of Original and Actual Scope

Items	Original	Actual
Seawater Desalination Plant	1 (400 MLD)	No Change
Seawater intake facility	1 (1,140m * 2lines)	1800m
Brine discharge facility	1 (1,690m * 1line)	900m
Pump Station at Perur DSP	6 (4 Duty, 2 Stand-by)	No Change
Reservoir at Porur	1 (5,000m^3 * 2basins)	No Change
Pump Station at Porur HW	6 (4 Duty, 2 Stand-by)	No Change
Transmission main Section I	17.00km	No Change
Transmission main Section II	21.55km	No Change
Transmission main Section III	14.45km	No Change
Transmission main Section IV	12.22km	No Change
Reinforcement of the existing distribution networks	101km	No Change CMWSSB will take up the work with state Govt. fund
Replacement of old pipes	375km	
Provision of supplementary pipes	258km	
Underground tank	1 No. (4.33ML)	
Elevated Service Reservoir	16 Nos. (49.32ML)	
Establishment of District Metering Areas (DMA)	DMA: 58, nos. Sub-DMA: 116, nos.	
Service connections & meters	799,525	
Consulting Services (Engineering and Capacity Development)	1.Design works 2.Bid document preparation and Tender assistance 3.Construction supervision 4. Facilitation of implementation of the Environmental Management Plan and Environmental Monitoring Plan, and 5.Capacity development, organizational improvement and public awareness activities	No Change

2-1-2 Reason(s) for the modification if there have been any.

- No change in scope of work for the Project Management Consultancy Services
- 400 MLD SWRO Desalination Plant Capacity is the net production.
- Recommending Potable water tank capacity as 9 ML-1No. instead of 3ML-1No. for better operational flexibility and Product water tank capacity each of 10 ML -3 Nos. However, no change in the total storage capacity 39ML (Original proposal, i.e. 9ML-4 Nos. & 3ML-1No.)
- The exact length for seawater intake and brine discharge facility will be finalized after the brine dispersion study, and it is needed to verify this.

2-2 Implementation Schedule:

Table 2-2-1: Comparison of Original and Actual Schedule

Items	Original	Actual
L/A signing	March 2018	29th March 2018
1. Consulting Services		
Selection of Project Management Consultant	February 2018 to January 2019	January 2019 to November 2019
Consulting Service	February 2019 to June 2026	January 2020 to May 2027
2. CP 1: Construction of the Seawater Desalination Plant		
Conceptual Design	February 2019 to June 2019	February 2020 to August 2020
Preparation of Tender Documents	May 2019 to October 2019	February 2020 to August 2020
Tendering, Evaluation of Bids and Awarding the Contract	November 2019 to September 2020	September 2020 to May 2021 (February 2021)
Construction	October 2020 to March 2024	June 2021 to November 2024 (March 2021 to August 2024)
3. CP 2: Construction of Pumping Stations and Reservoir		
Detail Design	October 2019 to July 2020	May 2020 to April 2021
Preparation of Tender Documents	July 2020 to December 2020	May 2021 to July 2021
Tendering, Evaluation of Bids and Awarding the Contract	January 2021 to September 2021	August 2021 to April 2022
Construction	October 2021 to September 2023	May 2022 to April 2024

Items	Original	Actual
Defect Notification Period	October 2023 to September 2024	May 2024 to April 2025
4. CP 3: Installation of Product Water Transmission Mains		
Detailed Design (by CMWSSB)	December 2017 to February 2018	December 2017 to December 2019
Preparation of Tender Documents CMWSSB	February 2018 to Jul 2018	January 2020 to July 2020
Tendering, Evaluation of Bids and Awarding the Contract (by CMWSSB)	August 2018 to April 2019	August 2020 to February 2021
Construction (CP 3-1 and CP 3-2)	May 2019 to July 2022	March 2021 to May 2024
Defect Notification Period (CP 3-1 and CP 3-2	August 2022 to July 2023	June 2024 to May 2025
Construction (CP 3-3 and CP 3-4)	May 2019 to July 2023	March 2021 to May 2025
Defect Notification Period (CP 3-3 and CP 3-4)	August 2023 to July 2024	June 2025 to May 2026
5. CP 4: Improvement of the Existing Water Distribution Networks		
Detail Design	February 2019 to November 2020	January 2020 to December 2021
Preparation of Tender Documents	November 2020 to April 2021	January 2022 to April 2022
Tendering, Evaluation of Bids and Awarding the Contract	May 2021 to January 2022	May 2022 to January 2023
Construction	February 2022 to March 2025	February 2023 to March 2026
Defect Notification Period	April 2025 to March 2026	April 2026 to March 2027
6. CP 5: Installation of External Power Transmission Line		
Contract (by CMWSSB)	October 2020 to March 2021	July 2021 to December 2021
Construction	April 2021 to March 2023	January 2022 to December 2023
Project Completion Date *	March 2025	March 2027

*Project completion is defined as commissioning of all facilities.

2-2-2 Reasons for any changes in the schedule, and their effects on the Project.

- Letter of Acceptance issued by CMWSSB to the PMC on 06th November 2019
- Project Kick-off meeting at JICA Headquarters held on 26th November 2019
- Project Kick-off meeting at CMWSSB held on 11th December 2019
- Contract Agreement signed between CMWSSB and PMC on 09th January 2020
- Notice to Proceed issued to PMC on 13th January 2020
- Team Mobilization by the PMC on 20th January 2020

- Prevailing Covid-19 Pandemic issue over the Globe including India have an impact on the mobilization of the team, various site investigations/surveys and data collection and verification

2-3 Project Cost:

2-3-1 Total Project Cost

Table 2-3-1a: Comparison of Original and Actual Cost by Item

Breakdown of the cost	Foreign Currency Portion (Million JPY)			Local Currency Portion (Million INR)			Total (Million JPY)		
	Total	JICA Portion	Others	Total	JICA Portion	Others	Total	JICA Portion	Others
CP-1 Construction of the Seawater Desalination Plant	9735	9735	0	21049	21049	0	45938	45938	0
CP-2 Construction of the Pumping station and reservoirs	0	0	0	562	562	0	967	967	0
CP 3-1 Installation of Product Water Transmission Mains	0	0	0	1606	1606	0	2763	2763	0
CP 3-2 Installation of Product Water Transmission Mains	0	0	0	1614	1614	0	2776	2776	0
CP 3-3 Installation of Product Water Transmission Mains	0	0	0	995	995	0	1711	1711	0
CP 3-4 Installation of Product Water Transmission Mains	0	0	0	751	751	0	1291	1291	0
CP-4 Improvement of the Existing Water Distribution Networks	0	0	0	7496	0	7496	12893	0	12893
CP-5 Installation of External power transmission line	0	0	0	960	960	0	1651	1651	0
Price Escalation	807	807	0	7116	5204	1913	13047	9757	3290

Breakdown of the cost	Foreign Currency Portion (Million JPY)			Local Currency Portion (Million INR)			Total (Million JPY)		
	Total	JICA Portion	Others	Total	JICA Portion	Others	Total	JICA Portion	Others
Physical Contingency	527	527	0	2107	1637	470	4152	3343	809
Consulting Services	1942	1942	0	735	735	0	3207	3207	0
Land Acquisition	0	0	0	0	0	0	0	0	0
Administration Cost	0	0	0	526	0	526	904	0	904
GST	0	0	0	4897	0	4897	8424	0	8424
Import Tax	0	0	0	0	0	0	0	0	0
Interest during Construction	4678	0	4678	0	0	0	4678	0	4678
Front end fee	147	0	147	0	0		147	0	147
Total	**17,835**	**13,011**	**4,825**	**50,414**	**35,112**	**15,302**	**104,548**	**73,404**	**31,144**
Total INR	**10,369**	**7,564**	**2,805**	**50,414**	**35,112**	**15,302**	**60,784**	**42,677**	**18,107**

Breakdown of Cost	Actual								
	Foreign Currency Portion			Local Currency Portion			Total		
	Total	JICA Portion	Others	Total	JICA Portion	Others	Total	JICA Portion	Others
Item	( )	( )	( )	( )	( )	( )	( )	(	( )
Total									

(Note) 1. Exchange Rate: US$1=Rs. 64.4, US$1=111.0 Japanese yen, Rs.1 = JPY 1.72
2. Price Escalation (a) Foreign Currency Portion: 1.7% p.a.
(b) Local Currency Portion: 3.92% p.a.
3. Physical Contingency: 5%
4. Base Year for Cost Estimation: October 2017

Table 2-3-1b: Comparison of Original and Actual Cost by Year

Unit: (JPY Mil)

Breakdown of Cost	Original				Actual			
	JICA Portion		Others	Total	JICA Portion		Others	Total
	Tranche 1	Tranche 2			Tranche 1	Tranche 2		
2018	92		148	240				
2019	3,038		369	3,406				
2020	11,055		1,562	12,617				
2021	15,815	4,746	3,946	24,508				
2022		20,176	8,580	28,756				
2023		18,111	8,778	26,889				
2024		327	6,708	7,035				
2025		44	1,054	1,098				
Total	**30,000**	**43,404**	**31,1444**	**104,548**				

(Note) 1. Exchange Rate: US$1=Rs. 64.4, US$1=111.0 Japanese yen, Rs.1 = JPY 1.72
2. Price Escalation (a) Foreign Currency Portion: 1.7% p.a.
(b) Local Currency Portion: 3.92% p.a.
3. Physical Contingency: 5%
4. Base Year for Cost Estimation: October 2017

2-3-2 Reason(s) for the wide gap between the original and actual, if there have been any, the remedies you have taken, and their results.

No changes in noted as none of the packages are under implementation stage at the end of the Quarter – April 2020 to June 2020

2.4 Organizations for Implementation

2-4-1 Executing Agency:

- Organization's role, financial position, capacity, cost recovery etc.
- Organization Chart, including the unit in charge of the implementation and number of employees.

Original:

1. Project Executing Agency

Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB) was established in the year 1978 for planning, development, operation, maintenance and regulation Water Supply and Sewerage system in CMA. CMWSSB is under Administrative Supervision of Department of Municipal Administration and Water Supply (MA &WS), Government of Tamil Nadu.

Given the above, CMWSSB will be the overall Project Implementation Agency for the entire project period consists of; (i) Construction of 400 MLD Desalination plant at Perur and other related water supply facilities and (ii) consulting services.

CMWSSB will ensure timely completion of all project activities in line with the agreed schedule

and quality. CMWSSB confirmed that it would take all the necessary measures, required from time to time, effectively and be fully responsible for the Project, including physical construction and also Operation and Maintenance.

2. Project Implementation Unit (PIU):

(i) Project Director — Chief Engineer, CMWSSB
(ii) Deputy Project Director — Superintending Engineer, CMWSSB
(iii) Finance Manager — Controller of Finance, CMWSSB
(iv) 3 Project Managers —Executive Engineers
(v) 6 Senior Field Engineers —Assistant Executive Engineers
(vi) 12 Field Engineers —Assistant Engineers/Junior Engineers
(vii) 1 Environmental Officer —Assistant Executive Engineer
(viii) Management Info System Officer
(ix) Senior Accountants Officer
(x) Assistant Accounts Officer
(xi) Personal Assistant/ Computer Operators
(xii) Field Worker/Office Assistants

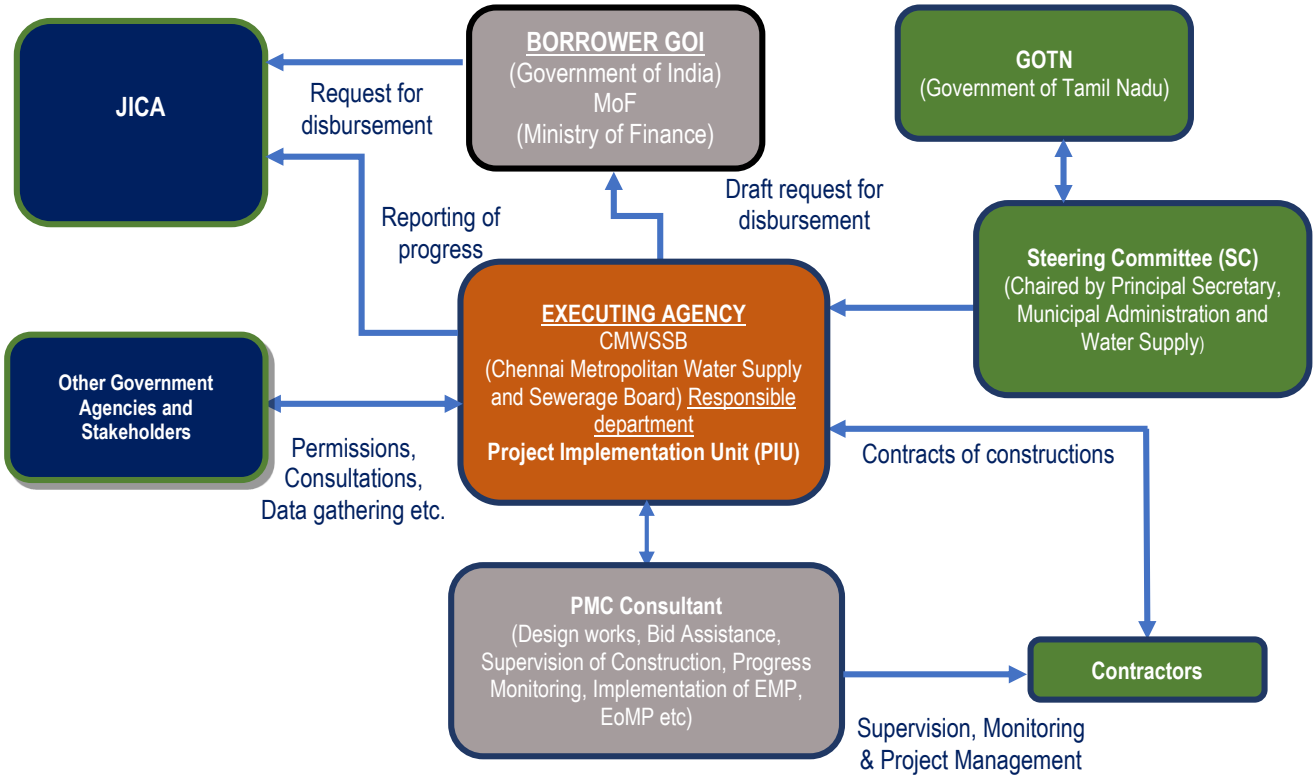
3. Coordination Committee

- TOR : (a) coordination among concerned organizations on pending issues and overall project monitoring.
- Frequency of the meetings is when required.
- Members
  (i) Managing Director, CMWSSB (Chairperson)
  (ii) Project Director (PIU)
  (iii) Representative (Forest Department)
  (iv) Representative (Public Works Department)
  (v) Representative (National Highway Authority of India)
  (vi) Representative (Indian Railways)
  (vii) Representative (Tamil Nadu Generation and Distribution Corporation Ltd.)
  (viii) Representative (Tamil Nadu Maritime Board)
  (ix) Representative (Concerned District Administration)
  (x) Representative (State Police Department)

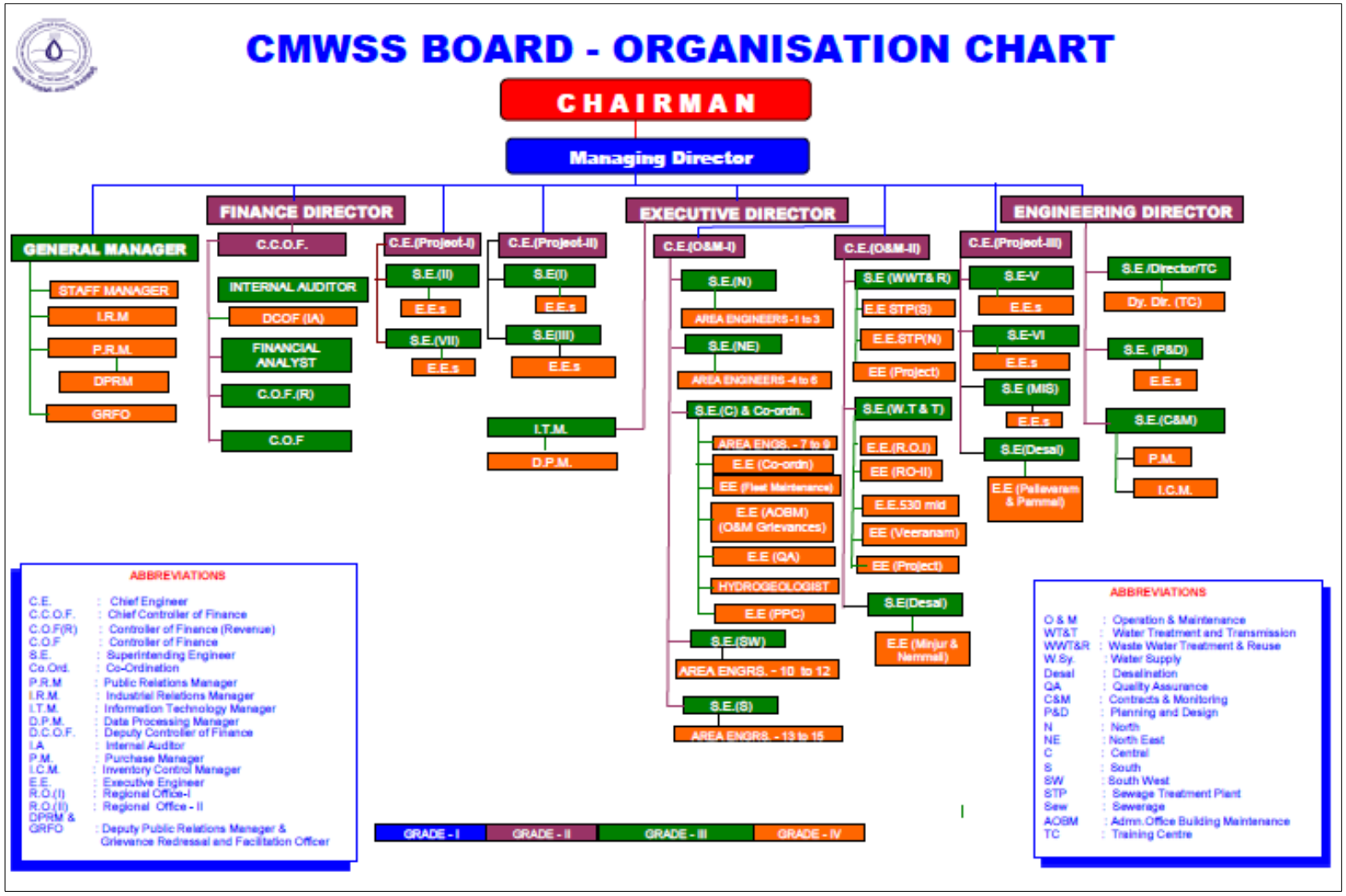
4. Steering Committee

- TOR: (a) provision of overall strategic guidance, (b) review on project performance, (c) decision on major issues such as funding, manpower resource,
(d) removal of implementation bottlenecks, (e) resolving land-related disputes, (f) carrying out policy reforms where needed, etc.
- Frequency of Meetings: Semi-annually and when required.
- Members:
  (i) Principal Secretary, MA&WS (Chairperson)
  (ii) Deputy Secretary (Budget), Finance Department, GoTN
  (iii) Managing Director, CMWSSB
  (iv) Engineering Director, CMWSSB
  (v) Finance Director, CMWSSB
  (vi) Project Director (Member Secretary)

OVERALL ORGANIZATION STRUCTURE FOR PROJECT



Organization Structure of CMWSSB



Actual, if changed:

2-4-2 Contractor(s)/ Supplier(s), and Consultant(s) and Their Performance:

2-4-2-1 Procurement and Consultant

Table 2-4-2: Procurement of Contractor(s)/Supplier(s) and Consultant(s)

No.	Contract Package	Selection Method	
		Original:	**Actual:**
1	Construction of the Seawater Desalination Plant	ICB with PQ	ICB with PQ
2	Construction of Pumping Stations and Reservoir	ICB with PQ	ICB with PQ
3-1	Installation of Product Water Transmission Mains (L=17.00km)	ICB with PQ	ICB with PQ
3-2	Installation of Product Water Transmission Mains (L=21.55km)	ICB with PQ	ICB with PQ
3-3	Installation of Product Water Transmission Mains (L=14.55km))	ICB with PQ	ICB with PQ
3-4	Installation of Product Water Transmission Mains (L=12.22km)	ICB with PQ	ICB with PQ
4	Improvement of the Existing Water Distribution Networks (CMWSSB) (L=734km)	LCB	LCB
5	Installation of External Power Transmission Line	LCB	LCB
6	Consulting Service	Shortlist with QCBS	Shortlist with QCBS

2-4-2-2 Performance

Name(s) and Nationality(s) of the Contractor(s)/ Supplier(s):
Evaluation:

Name(s) and Nationality(s) of the Consultant(s):

1. SMEC International Pty Ltd, Australia in Consortium with
2. NJS Engineers India Pvt. Ltd, Pune, India
3. Tata Consulting Engineers Limited, Mumbai, India
4. SMEC India Pvt. Ltd, Haryana, India

Evaluation:

1. Inception Report: Revised and final Inception Report prepared and submitted to CMWSSB on 16th April 2020.
2. Interim Soft copy Report for the development of Concept Designs for Chennai Perur 400 MLD Desalination Plant for CP1 component submitted on 23.04.2020 with hard copies on 26.05.2020.
3. Draft Environmental Impact Assessment (EIA) Review Report for CP1 component submitted to CMWSSB on 26.05.2020

Detailed Design:

Cost Estimates:

Bid Documents:

1. Revised Pre-qualification (PQ) documents on DBO basis with the response to JICA Comments for CP-01 submitted to CMWSSB on 24.06.2020.

Progress Reports:

1. Revised and Final Monthly Progress Report (MPR01) of Jan' and Feb'2020 hard copies of the report have been submitted to CMWSSB on 26.05.2020
2. MPR 02 for March 2020, MPR 03 for April 2020 and MPR 04 for May 2020 hard copies of the reports submitted on 26.05.2020, 22.05.2020 and 11.06.2020 respectively.
3. QPR 01 (Jan 2020-Mar 2020) hard copies of the report submitted on 22.05.2020

2-5 Photographs of Output of the Project:

None available at this stage as none of the Packages are under implementation stage.

3: Benefit Derived from the Project (Effectiveness)

3-1 Operational and physical condition of each facility developed/supplied by the Project

Facilities	Description of condition	Problems, its Background and Remedial Action Plan

3-5 Monitoring Plan

- Monitoring methods, section(s)/department(s) in charge of monitoring, frequency, the term and so forth.

- CMWSSB will be in charge of monitoring activities for the Project. CMWSSB, with the assistance of the consultants, will conduct monitoring of the Project, including operation and effective indicators above and report to JICA quarterly.

- The timely submission of the following documents is required by CMWSSB to JICA India office.
  (a) Quarterly Progress Reports (QPR), in such a form and such details as JICA, may reasonably request with monitoring form agreed between CMWSSB and JICA.

  (b) Project Completion Report (PCR), not later than 6 months after completion of the Project and in such a form and such details as JICA may reasonably request.

- JICA would carry out the evaluation activities 2 years and 7 years after the project completion, in cooperation with CMWSSB. At that moment, CMWSSB is requested to submit a performance evaluation result including Operation and Effect Indicators, economic internal rate of return and other supporting data. CMWSSB will be responsible for the same. In case organizational structure changes, the relevant departments will be responsible for undertaking this task. Smooth taking over of the data should be carried out to maintain institutional memory for continuous monitoring and evaluation of the Project.

Actual*:*

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 consortium 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.

www.smec.com