MINUTES OF THE REVIEW OF THE PROGRESS OF THE CONSULTANCY WORK BY THE PROJECT MANAGEMENT CONSULTANT M/s SMEC FOR THE PROPOSED 400MLD SWRO DESALINATION PLANT AT PERUR AND ITS ALLIED WORKS THROUGH VIDEO CONFERENCE BY THE CHIEF ENGINEER (O&M)–II ON 26.05.2020 AT 02.30 PM

Venue: Conference Hall 1st Floor, CMWSSB

Officials of CMWSSB	**PMC SERVICES**
1. Superintending Engineer (Desal) 2. Superintending Engineer (Con) – I/ Executive Engineer (Desal)$_{i/c}$ 3. Executive Engineer (Desal) 4. Assistant Executive Engineers (Desal) 5. Assistant Engineer (Desal)	1. Dr.P.Dharmabalan, Project Manager 2. Dr.Ghulam Mustafa, Desalination Expert 3. Dr. Alok Kumar, Environmental Specialist 4. Mr.Srinivasa Rao, Project Co-ordinator 5. Mr.R.Senthil, Civil Engineer 6. Mr. Siddappaswamy, Senior Civil Engineer 7. Mr.S.M.Karthikaeswaran, Process/ Environmental Specialist 8. Mr. Nagesh Chinnam, Senior Pipeline Engineer

*****

- The Chief Engineer (O&M)-II welcomed the Engineers of Desalinationwing and the PMC Consultant members.
- The PMC Consultant Dr.P.Dharmabalan, Project Manager has briefed about the progress of the project on all the four component of works viz packages CP-1 to CP-4 including Environmental review report. The Project Manager also thanked the PIU team of CMWSSB for their continued support in furnishing the required data, which helped the PMC team to achieve project progress.
- PMC informed that the labs have been identified for Sea Water sampling and quality analysis and that the names of recognized agencies will be shared shortly.
- PMC informed that the merits and demerits of RO train configuration would be analysed and discussed further.
- PMC presented the revised design envelop for the significant raw seawater parameters.

Criteria Description	Unit	Minimum	Median	Maximum
pH		8.00	8.10	8.20
Temperature	°C	26	28.75	31.50
TDS Dissolved	mg/L	32000	35500	39000
TSS	mg/L	10	75	300
TOC*	mg/L	3	5	8
Boron	mg/L	3.20	3.50	3.80

a. PMC explained that the Max TDS and Boron limits had been taken based on the five years Nemmeli Data. Regarding discussion on considering higher TDS up to 41000 mg/l in feed seawater, PMC suggested that in such case it would be difficult to maintain product water TDS within the desired 450 mg/l using a single RO pass. Further, the PMC informed that the maximum TDS value noticed in the sea water from the inception of Nemmeli 100 MLD Desalination plant is less than 39000 mg/l and if the maximum TDS value is assumed more than the realistic maximum value, cost may increase. After further deliberation, CMWSSB confirmed to proceed with the design with a maximum TDS limit of 39,000 mg/l.

b. Regarding TOC, the consultant suggested for considering a maximum TOC value of 8 mg/l. On observing this, Superintending Engineer (Con)-I suggested to consider a TOC value of atleast min of 20 mg/L since value of TOC as per the IIT report is 15 ml/L. The PMC Project Co-ordinator informed that upon receipt of their Seawater analysis report proposed to be carried out by them, the TOC value could be revised.

- PMC presented the treated water quality parameters based on IS:10500-2012

Parameter	Values as per IS : 10500-2012
Turbidity (NTU)	< 1
Chlorides (mg/L)	< 250
TDS (mg/L)	< 500
Boron (mg/L)	< 0.50 mg/l but tolerance upto 1.0 mg/l
LSI	> positive

a. Superintending Engineer (Con)-I insisted PMC to consider the TDS value of product water as ≤ 450 mg/L to have a safety margin of 50 mg/L to ensure that max limit of 500 mg/L may not exceed at the consumer end.

b. Superintending Engineer/ Desalination confirmed to consider the max Boron limit in product water within 1 mg/L as per IS standard 10500:2012.

- The Desalination Expert presented the Plant layout with two distinct streams and a comparison of Unit sizes between JICA preparatory report and PMC process sizing.The layout also includes the proposed Sludge treatment plant.PMC requested CMWSSB to review Plant layout and provide their observations.
- Executive Engineer/400 MLD requested to furnish readable plant layout and the PMC agreed to it.
- The Desalination Expert explained the proposed Sludge treatment facility at Perur and recommended treatment of sludge generated from Lamella Clarifier and DAF. Since, the sludge generation from Gravity dual media filter (GMDF) will be low compared to the first two processes. PMC indicated that the total cost for Sludge treatment is approximately INR. 61 Crores.
- Superintending Engineer/ Desalination informed PMC to share the Technical details of Three centre configuration, Pressure Centre Configuration and Conventional Configuration design with Pros and cos.
- The Senior Civil Engineer, PMC informed that the data Design files for a Product water pipeline from Perur, Beneficiary Population enroute to Porur from Perur and Demarcation of land for the reservoir at Porur were collected for CP-2.
- The Senior Civil Engineer,PMC presented the capacity calculations for the clearwater reservoir (Potable Water Sump) based on CPHEEO recommended retention time of 2 hrs and arrived at a capacity of 33 ML. Superintending Engineer (Con-I) suggested to give their opinion on this and requested to analyse the basis of arriving 3ML capacity product tank in the MoD. SE(Desal) requested to analyse the basis for arriving capacity of product water tank and portable water tank in the MoD of JICA and also the pros and cons of the reduction of Product water tank capacity of 36 ML and optimize the capacity of the Product water tank and Potable water tank to have adequate buffer storage capacity.
- PMC informed CMWSSB to confirm the demarcation of land for the reservoir at Porur.
- The Senior Civil Engineer, PMC informed that they had collected the CP3 Design file for the product water pipeline from Perur to Porur from CMWSSB. PMC requested CMWSSB to share the Details of exact demand and their location on the product water pipeline. PMC informed that upon receiving the data, the design should be reviewed, and the pumping head required at Perur will be cross-checked. Water hammer requirement will be reviewed upon confirming the design.
- The Senior Pipeline Engineer, PMC informed based on the CP4 package data collected to date, it has observed that the Arithmetic projection method, Geometric progression method, and Line of Best Fit method projections are in line with forecasts made by PMC to cross-check the values.
- The Senior Pipeline Engineer,PMC requested CMWSSB to share the datas like Project area Base map with Topo levels/ Contours details, details of the town/village /Panchayat which have been considered in demand projections and Year-wise population densities of town/villages/ Panchayat assumed for the population projection by Density method.

- The Environmental Specialist, PMC informed that based on the data collected for the Environmental Review Report till date, they had prepared the following:
    a. Identification of relevant regulatory requirements for CP1and CP2.
    b. Identification of responsibilities between CMWSSB and Contractor for obtaining Consents/NOC from various regulatory authorities.
    c. Preparation of implementation plan for CRZ conditions.
- PMC requested CMWSSB to review the draft Environmental review report and provide their feedback. PMC requested CMWSSB to share the Environment related portions of the CP3 bid document for review and updating.
- S.E (Desal) thanked the consultant for their detailed presentation and suggested to have progress review meeting on every fortnight to expedite the progress of consultancy work.

Sd/-xxx 29.05.2020
Chief Engineer (O&M) - II
CMWSSB

29/05/2020

Superintending Engineer
(Desalination)

Copy submitted to

1. M.D,
2. Executive Director
3. E.D i/c

Copy to: PMC Agency