

**Standing Finance Committee meeting held on 23rd January 2012 for
consideration of approval of 6 nos. LTTD Plants in Lakshadweep islands**

List of participants

Officials from Ministry of Drinking Water & Sanitation		
1.	Ms Vilasini Ramachandran	Secretary (DW & S) – in the Chair
2.	Shri T. M. Vijay Bhaskar	Joint Secretary (Water)
3.	Shri Sujoy Mojumder	Director (Water)
4.	Shri J. Bose	Deputy Secretary (Finance)
5.	Shri D Rajasekhar	Deputy Advisor (WQ)
6.	Shri S. K. Verma	Under Secretary (WQ)
7.	Dr. Brajesh Shrivastava	Consultant-WQ
Officials from other Ministry/GoI organizations		
8	Shri Padma Kant Jha	Deputy Advisor (WR) Planning Commission, Yojana Bhavan, New Delhi
9	Dr. J K Bassin	Sr. Principal Scientist NEERI-Delhi Zonal Laboratory
10.	Dr. Mushir Ahmed	Ministry of Water Resources
11.	Dr. M.P.Wakdikar	Scientist-F/Adviser, Ministry of Earth Sciences
12.	Dr. M V Ramanamurthy	Scientist-F, NIOT, Chennai
Officials from Union Territory of Lakshadweep islands		
11	Shri S.Attakoya	Superintending Engineer, PWD, Lakshadweep
13	Shri Arun Jadhav	Executive Engineer, PWD, Lakshadweep
14	Shri Asar Pal Singh	Dy. Resident Commissioner, Lakshadweep Bhawan, New Delhi

Minutes of the Standing Finance Committee meeting held on 23rd January 2012 for consideration of approval of 6 LTTD Plants in Lakshadweep Islands

The Standing Finance Committee meeting for consideration of approval of 6 nos. LTTD (Low Temperature Thermal Desalination) Plants in Lakshadweep islands was held on 23rd January 2012 from 2.30pm under the chairpersonship of Mrs Vilasini Ramachandran, Secretary, Ministry of Drinking Water and Sanitation, GOI, New Delhi in the conference hall attached to the office of Secretary, MDWS at #247, A-wing, Nirman Bhawan New Delhi. The list of participants is annexed. The total project cost for commissioning the 6 LTTD plants is Rs 125 crore (Rs 96 crore is capital cost).

After initial round of introduction of various members present, with the approval of the Chairperson, Shri M.V.Ramana Murthy, Scientist from NIOT, Chennai made a power-point presentation on various activities that were held with regard to commissioning of LTTD plants in Lakshadweep islands and requested for approval of 6 LTTD plants on behalf of UT Administration of Lakshadweep islands. The Lakshadweep Administration in their SFC Memo have informed that adequate funds are available with the UT Administration for construction of 6 Plants each costing Rs 16 crore as capital cost. He informed that there is no maintenance problems observed in any of the existing LTTD plants except for Vacuum system which gives problems twice a year and NIOT is working on this issue to overcome these problems.

During the deliberations, the following issues were raised.

- 1) 10 RO plants were installed in Lakshadweep many years ago and all have failed. There is no study as to why these plants failed and also regarding impact of discharge of reject water on the local environment. The Chairperson desired the UT Administration to take up an independent third-party study on these issues utilizing services of competent CSIR laboratories like NEERI, Nagpur or CSMCRI, Bhavnagar. The scope of work for this study shall also include aspects on whether the existing systems could be revived and quantify the impacts of reject water on the local ecology, if any.
- 2) Representative from NEERI, Delhi observed that the O&M costs for SWRO (Sea Water Reverse Osmosis) systems is very high and needs re-examination. He informed that better RO membrane cleaning chemicals are available now and they could be considered. He also informed that the zone of influence of dispersion of reject water into the sea is minimal and therefore environmental impacts could be negligible. He suggested taking up commissioning of one SWRO plant, studying its performance and later taking decision as to adopt LTTD technology or continue with SWRO plants in other islands.
- 3) The representative from Ministry of Water Resources, Planning Commission and Ministry of Earth Sciences supported the proposal of LTTD technology. The

- representative of MoWR informed that this technology was recommended as there could be impact on local coral reefs due to reject water discharged from RO plants.
- 4) The representative from Planning Commission intimated that the costs of hiring consultants and NIOT charges varies between the original document sent to them and in the SFC note. Shri Ramana Murthy clarified the issue stating there is interchange of some items between the two sub-heads but the overall costs for both of the items is the same.
 - 5) SE, Lakshadweep Administration informed that in Bitra island where the population is very small, they are considering setting up of SWRO plant.
 - 6) Shri TM Vijay Bhaskar, JS(Water) made the following observations:
 - a. CSMCRI, Bhavnagar had developed technology for producing high quality membranes and therefore these may be considered in SWRO plants
 - b. The SWRO plant constructed in Chennai is 100 MLD and is successfully commissioned. The capacity of treatment plants proposed is only 0.1 MLD and therefore, SWRO could be successfully commissioned.
 - c. While calculating the present value of LTTD and SWRO plants, it is observed that the present value is lesser in case of SWRO plant (Rs 4.75 cr+9.70 cr = Rs 14.45 cr) when compared to LTTD plant (Rs 16 cr+Rs 2.81 cr = Rs 18.81 cr).
 - d. Since SWRO plant operates only for 2-3 hours or so, only one shift personnel are required while for LTTD plant, personnel are required for all the 3 shifts. Therefore, manpower costs for O&M in SWRO plant should be far lesser than that of LTTD plant.
 - e. The SFC Memo suggested creation of 120 posts while additional information provided suggested 10 persons per plant i.e., 60 persons for the 6 plants proposed.
 - 7) Shri D.Rajasekhar, DA(WQ) suggested that the following issues may be re-examined:
 - a. Comparison of all the three possibilities viz., LTTD, SWRO and ground-water based RO system.
 - b. Power consumption costs in RO plants should be far lesser as 2-3 hours working in a day could produce the requisite 100 cum/day safe water while LTTD plant has to operate on 24x7 basis.
 - 8) The following observations were made by the Chairperson
 - a. There are no clear cut cost break up given and the cost components are lumped together. She recalled the presentation made wherein the capital cost of LTTD plant for Agatti was Rs 22 crore while that for Minicoy was only Rs 13 crore. Since the project costs varies with locations and that bathymetric survey has already been conducted, detailed project reports of all 6 new projects shall have to be submitted to the SFC for further consideration.
 - b. Tendering process should start only after obtaining approval of the SFC. Tendering the project before SFC approval and indicating the lowest tendered cost by M/s NIOT and Lakshadweep administration is against financial integrity. SFC shall not consider such proposals.
 - c. LTTD plants could be subject to natural vagaries like strong tidal waves, tsunami, etc., as seen in the process of commissioning Agatti plant, where the project cost had to be enhanced to provide stability to marine structures erected. Therefore Andrott, Kamini and Kadamat islands where similar

conditions are prevalent could be considered for commissioning SWRO plants instead of LTTD plants.

- d. The sponsoring agency should be corrected as Ministry of Home Affairs and not Ministry of Drinking Water and Sanitation. Also, the scheme is not a "State scheme" and should be rectified as "Central scheme" as 100% funding is proposed from GOI. The memo should also be corrected as "SFC Memo" and not "EFC Memo".
 - e. There is no project justification as detailed notes on various alternative technologies have not been included.
 - f. The current O&M costs of Kavaratti plant is not mentioned. SE, PWD, Lakshadweep submitted that the O&M cost for Kavaratti plant is Rs 50 lakh per year. This means O&M cost is approximately Rs 137 per KL of water produced. The Chairperson advised the UT Administration to properly calculate O&M costs for all options so that the Committee could take a decision.
 - g. SWRO can also be considered with longer periods of AMC for sustained performance.
- 9) The representative from Ministry of Earth Sciences raised the issue of Rs 15 crore already spent by them for construction of 3 LTTD plants. The Chairperson informed that the sponsoring Ministry is Home Affairs and this issue may be raised to them.

The Chairperson summarized the deliberations made and requested the UT Administration to prepare:

- (a) DPRs for all the 6 proposed LTTD plants
- (b) Show the present value cost comparisons of various technologies both for capital and O&M cost
- (c) To get an independent report from NEERI, Nagpur or CSMCRI, Bhavnagar, etc. of the existing RO plants and feasibility of RO plants in the islands.

The meeting ended with thanks from and to the Chair.
