

## CPHEEO

### Appraisal Note for Consideration of Projects under JNNURM by Central Sanctioning & Monitoring Committee of M/o UD

#### (Water Supply)

Proposal	:	30 MGD (Phase - 1) Water Treatment Plant at Dhapa, under The Kolkata Municipal Corporation, Kolkata
Name of State / UT	:	West Bengal
Name of City	:	Kolkata
Objectives	:	To augment treated surface water supply Eastern Part of the Kolkata and also reduce dependencies on ground water.
Whether CDP is prepared	:	Not furnished to CPHEEO
Background	:	The Kolkata Municipal Corporation area, at present, is mostly having water supply based on surface water supplemented with ground water. The eastern fringe of Kolkata i.e., areas adjoining Eastern Metropolitan Bypass in particular, are supplemented with ground water drawn from Tube Wells, which is having both quantity and quality problems, such as iron etc
Present Status	:	The water supply in eastern fringe of Kolkata is sourced from ground water. Ground water in Kolkata / West Bengal is depleting at an alarming rate and eastern zone of the city of Kolkata is adjacent to arsenic threatened area like Sonarpur and Baruipur area. Thus, there is need to develop water supply based on surface source and supply it to the residents of eastern part of Kolkata.
Water availability	:	
• Availability of source	:	Surface water from River Hooghly
• Total (MLD)	:	About 31.73 MLD at present.

- Per capita (lpcd) : 135 (Including both 54 from Surface water and 81 from Ground water)
- UFW (existing) : 35%

Need of the Project : The Eastern part of the Kolkata City i.e. adjoining to Eastern Metropolitan Bypass is lacking adequate surface water supply. The area is adjoining arsenic affected areas. The existing water supply is a mix of surface and ground water having quantity and quality problem due to presence of iron and possibly arsenic. The proposed water supply system is required to replace the supply from ground water & also to provide surface water supply as per national standards.

Population :  
 As per 2001 Census : 594410  
 Base year 2006 : 669776  
 Design year 2026 Demand (mld) : 1079698

Vase year 2006 : 59  
 Design year 2026 : 136

Proposed Source :  
 Interface : River Hooghly  
 Ground : Nil  
 Project Components : 3. Raw water Rising Main from existing Jetty of Kolkata Municipal Corporation on the-Bank of River Hooghly at the Mullickghat Raw Water Pumping Station. 4. 30 MGD Water Treatment Plant and Filter Water Pumping Station.

Estimated cost (Proposed) : Rs. 98.75 crore  
 Period of Implementation : 3 years  
 Funding Pattern : Gol : 35% (JNNURM Scheme) GoWB : 15%(Budgetary Support) Kolkata Municipal Corporation

17	Financial Phasing	:	FY 06-07: 2962.50 (1 st Year) – 30%, FY 07-08: 3950 (2 nd Year) – 40%, FY 08-09: 2962.50 (3 rd Year) – 30%,
18	Implementing Agency	:	Kolkata Municipal Corporation
19	Annual O&M Expenditure (Rs in Lakh)		
	Existing	:	Nil
	Proposed (Year 2011)	:	384.10
20	Agency Responsible for O&M	:	Kolkata Municipal Corporation
21	Tariff (Rs./kl)		
	Existing	:	5.00 Domestic 10.00 industrial, Commercial & Institutional
	Proposed (year 2010)	:	5.00 Domestic 10.00 industrial, Commercial & Institutional
22	Revenue generation (Rs. Lakh)	:	
	Existing	:	100
	Proposed (year 2011)	:	628.83
23	Estimated cost for consideration & approval (Rs. Crore)	:	Rs. 98.75 crore

#### CPHEEO's Technical Comments:

1. The proposal is for providing treated water supply based on surface water source; to the fast developing area of Eastern part of the Kolkata City adjoining Eastern Metropolitan Bypass. Present Water supply in this area is supplemented by ground water, which is facing quality problems related to iron & arsenic.
2. The population projections of the project areas have been furnished and found to be in order. Similarly, water demand projections have been made in the revised DPR,
3. The raw water source is River Hooghly (a branch of River Ganga), which is a perennial source.
4. Raw water quality analysis reports have been furnished with the revised DPR.
5. Design of the various, components such as raw water rising main, water treatment plant has been furnished and are in order. Drawings of the proposal have also been furnished.
6. Annual O&M Estimate of the proposed scheme has been framed and appended with the revised DPR.
7. The DPR also furnishes the proposal for water tariff.

8. Cost estimates all the components of the project, based on current schedule of rates (SOR) applicable in the state have been furnished with DPR.
7. The revised DPR for 30 MGD (Phase - I) Water Treatment Plant at Dhapa, under The Kolkata Municipal Corporation (KMC), Kolkata for consideration under JNNURM has been examined and technically approved at a cost of Rs. 98.75 crore for execution, subject to the condition that:-
  - a. All works proposed in the DPR shall be carried out as per the detailed standard specifications and the relevant code of practice published by the Bureau of Indian Standards.
  - b. The pumping machinery and electrical equipment shall conform to the relevant Indian Standards published by the Bureau of Indian Standards."-
  - c. The execution and O&M of the project shall also be carried out as per the technical comments appended.
  - d. No change in the scope of work shall be effected without prior approval of CPHEEO,

**Technical comments for execution and O&M of water supply projects:**

1. Metering of all the service connections should be done to ensure the recovery of user charges.
2. Leak detection & control measures should be taken up in the projects area to reduce leakage estimated at 35%, to enable the replacement of worn out pipes, if any, and reduce water & energy losses.
3. Bulk meters should be installed in all the transmission mains to monitor the quantity of water produced & introduced into the distribution system.
4. Water samples should be picked up after each unit operation at WTP to ensure water of desired quality.
5. The execution of water treatment plants should be done on turn key basis and agency should be asked to operate & maintain the plant for a minimum period of at least one year from the date of commissioning and train the staff of local body who are likely to operate & maintain the plant later.
6. Water quality surveillance mechanism should be put in place by the local body and regular water samples should be procured from consumer end and strategic locations to ensure quality of water being supplied to consumer.
7. Pumping equipment & machinery should be procured directly from the manufacturers to ensure quality of product and manufacturer may be asked to install the pumps.
8. For the water treatment plants, care should be taken at every unit operation in order to produce treated water of desired quality and also to reduce the O&M cost.