

Report on Common Effluent Treatment Plants (CETPs)

(In the matter of W.P.(C) No.4677 of 1985; M.C. Mehta v/s UOI & others)

Status Report on the handing over, operation and maintenance of the CETPs

January, 2007

**ENVIRONMENTAL POLLUTION (PREVENTION AND CONTROL) AUTHORITY FOR
THE NATIONAL CAPITAL REGION
New Delhi**

1. Background

In compliance with the Hon'ble Court's order of April 26, 2005, EPCA is also facilitating the handing over operation and maintenance of CETPs to the industrial societies. On August 31, 2005, the Hon'ble Court directed the EPCA, to examine the problem of under utilization of CETPs and issue necessary directions to parties concerned.

An interim report on the progress made in the above directives was filed by the EPCA in July 2006. In the meanwhile, EPCA has worked, with various stakeholders, to sort out the issues of cost liabilities and sharing, handing over of operation and maintenance and enhancing the utilization of CETPs. This is a status report highlighting the progress made in handing over of the CETPs to the CETP Societies, operation and maintenance and monitoring of CETPs.

2. Status of handing over of the remaining 2 CETPs

As reported in July 2006, **eight** CETPs out of the ten CETPs have been handed over to the CETP Societies for operation and maintenance. The remaining two—the SMA and Lawrence road CETP—despite the directives of the EPCA and the assurances from the DSIDC have not been handed over till date.

SMA: In SMA, there is a recurrent issue with respect to the conveyance system. DSIDC has pointed out that the conveyance here has settled and as a result the effluents are not reaching the CETP. On September 30, 2006 EPCA directed the DSIDC to carry out an independent assessment of the conveyance system and prepare a schedule for the trial run and handing over. On October 7, 2006 DSIDC informed the EPCA that trial run was conducted but due to issues pertaining to conveyance system, the CETP society is unwilling to take over the O&M. EPCA on October 7, 2006 directed the chief secretary to sort out the deficiencies in the conveyance system.

Lawrence road CETP: The CETP Society has refused to take over the O&M on the grounds that the CETP is unable to meet the effluent discharge standards prescribed for BOD.

A survey conducted by EPCA in July 2006 found that the BOD values at the inlet of the CETP were higher than the design values, indicating changes in the industrial processes affecting the performance of the CETPs. (See Annexure I: Survey on the major industries in Lawrence road). The survey assessed the performance of the CETP during January to June 2006. During this period BOD at inlet was found to vary from 140-250 mg/l and the corresponding BOD at outlet was found to be ranging from 24 mg/l to 35 mg/l. As far as the efficiency of CETP is concerned the BOD removal was in the range of 75 to 86 per cent. Accordingly EPCA on August 26, 2006 directed the following:

- a. DPCC to notify the BOD values at outlet of the individual industries connected to CETPs. The DPCC shall submit a proposal for notifying inlet parameters for all CETPs
- b. Lawrence road CETP shall be handed over within 2 months (one month for trial run and one month for rectifying the defects if any found during trial run)

The CETP has not yet been handed over

3. Status of utilisation of installed capacity

There has been insignificant improvement in capacity utilisation. As per the status report submitted by DPCC capacity utilisation is 27 to 29.3 million litres a day (mld) out of 133 mld installed capacity. In other words only 20 to 22 per cent of the installed capacity of the functional plants is being utilised. In the month of June 2006 the range was 13-22 per cent (or 18-30 mld) (see Table 1: Operational status of CETPs as on October, 2006).

The Okhla industrial area CETP did not receive any effluent on October 16, 2006 when the DPCC officials visited the site for monitoring.

Table 1: Operational status of CETPs as on October, 2006

S.N o.	Name of CETP	Design Capacity in million litres per day (mld)	Status of handing over of O&M to CETP Society	Effluents received in (mld)
1	GT Karnal Road Industrial Area	6	Handed over	2.5-3.0
2.	Mangolpuri Industrial Area	2.4	Handed over	1-1.5
3	Mayapuri Industrial Area	12	Handed over	5.3
4.	Nangaloi & DSIDC Industrial area	12	Handed over	2-2.5
5	Wazirpur Industrial Area	24	Handed over	4.0
6	Jhilmil & Friends Colony Industrial Area	16.8	Handed over	2.5-3.0
7	Badli Industrial Area	12	Handed over	5.0
8	Okhla Industrial Area	24	Handed over	0
9	Lawrence Road Industrial Area	12	Not handed over	3.0
10	SMA Industrial Area	12	Not handed over	2.0
	Total	133	8 out of 10 CETPs handed over	27-29.3

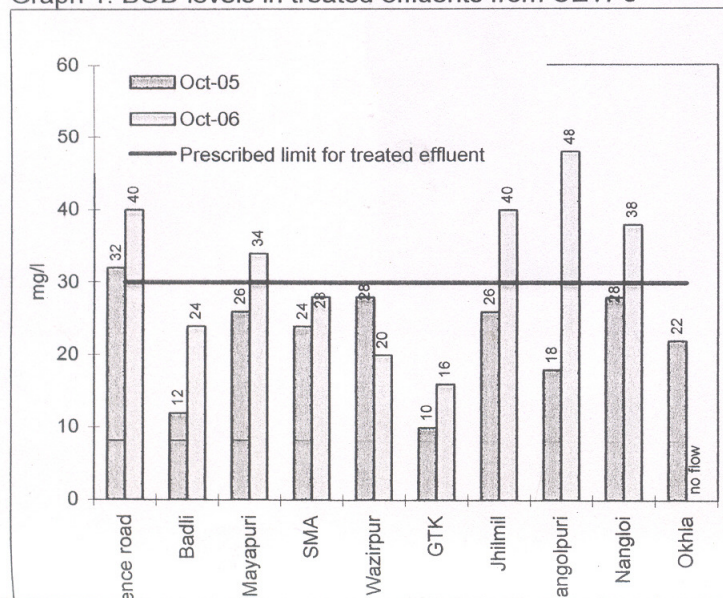
Note: mld-million litres per day

4. Status of quality of treated effluents

EPCA has directed the regulatory agencies to monitor the functioning of the CETPs regularly and to report to it regarding the actions taken.

BOD: As compared to October 2005, CETPS are found to be violating the effluent discharge standards for BOD. (See graph 1: BOD levels in treated effluents from CETPs). Except for GT Karnal and SMA all the other CETPs violate the BOD standards. This is rather a worrying trend as most of the CETPs are unable to meet the standards even at lower levels of utilisation.

Graph 1: BOD levels in treated effluents from CETPs



Source: DPCC monitoring report of October 2006

TDS: The treated effluents from all CETPs had TDS levels greater than 2100 mg/l except for GT Karnal (1,380 mg/l) and Badli CETP (1,730 mg/l).

5. Issues related to monitoring of the CETPs

1. On August 26, 2006, EPCA asked the DPCC to highlight the following in their future monitoring reports: a. Action to be taken on each CETPs; b. Actions pending on the previous reports
2. Though the quarterly monitoring by DPCC is in progress the Department of Industries and its appropriate authority are not taking action against defaulting CETPs and its operator as pointed out by DPCC from time to time. The Department of Industries have informed the EPCA that it is consulting legal experts regarding the legal action possible within the CETP act against individual industries and CETP societies. A note regarding the same as directed by the EPCA has not yet been submitted.
3. DPCC in the meanwhile shall take actions against the CETPs violating the Environment Protection Act (EPA) and the Water Act.
4. DPCC pointed out that the consent for operation of CETPs is issued to DSIDC. On August 26, 2006, EPCA therefore directed the CETP societies to apply for fresh consent to operate.

6. Enhancing the utilisation of CETPs

As submitted in the July 2006 to the Hon'ble Court, EPCA ordered the DSIDC to direct a study on increasing flow of effluents to CETPs. As per the directives, DSIDC's report would highlight the designed treatment capacity, the quantity of effluents received from the date of handing over at the various CETPs and the recommendations on the strategies required to improve the amount of waste received and treated at these CETPs. Accordingly the first report was to be filed on September 30, 2006. As on date no such reports were submitted and the DSIDC informed that tenders from five consultants were obtained and all of them requested for six months time for the study.

EPCA is of the view that the DSIDC is not interested in resolving the issues at the earliest and hence at every step seeks more time or a delayed deadline. The Hon'ble Court may therefore direct the Delhi government to undertake the aforesaid study and submit a report in 8 weeks time.

7. Reuse of treated effluents

EPCA directed the DPCC to file a consolidated report on the effluents generated in the catchment of each CETPs, the effluents treated at CETP, the quality of wastewater generated and where the untapped effluents are flowing. The report will also examine the possibilities of reuse of treated effluents. On July 22, 2006, the DPCC informed EPCA that based on sodium absorption and total dissolved solids concentration in treated effluent, reuse may be a difficult proposition. DPCC appointed a committee with Prof B K Guha, Indian Institute of Technology as the Chairman to look into the matter. The committee filed a report on November 8, 2006. The committee recommended that the source of high TDS need to be identified and then may be isolated and addressed. It also recommended the CETP Societies to undertake a detailed study to apportion the effluent load from each member industry not only in terms of volumetric flow but also in terms of specific contaminants like TDS. The committee also observed that even with high TDS, the treated water could be reused in steel pickling units without affecting the quality of the product.

As immediate action points the Court

- a. Treated wastewater at GTK shall be used in the MCD, DDT or DDD for maintaining the nearby parks.
- b. The concerned association of automobile service stations, steel pickling units be directed to conduct trial runs on the reuse of treated water of GTK CETP.
- c. The Badarpur thermal power plant be asked to conduct trial runs for using the water from Okhla industrial area CETP as make up water in cooling towers.

(See Annexure 2: Report on reuse of treated effluents)

8. Sludge management

On August 26, 2006 EPCA directed DPCC to submit a time schedule for the Ghuman Hera sludge disposal site. According to the schedule submitted on October 4, 2006, the site development and commencement of operation of the sites by the operator would begin by February 28, 2007. (See Annexure 3: Tentative time bound programmed for schedule of operation of Ghuman Hera site)

9. Directives sought from the Hon'ble Court

As per the directive of the Hon'ble Supreme Court, EPCA is continuing to do the following:

- a. Oversee and direct the handing over the remaining CETPs to the industry societies;
- b. Oversee the monitoring of the CETPs by regulatory agencies to ensure that the plants function effectively and meet the objective of pollution control;
- c. Oversee the work regarding increased utilisation of capacity of the existing CETPs;
- d. Oversee the work regarding the reuse of effluents so that the treated waste is not mixed with untreated waste, thus negating the efforts for pollution control.

EPCA is however finding that the work assigned to agencies is being poorly implemented and or is delayed. EPCA would request the Hon'ble Court to issue clear directives to the concerned agencies to address the outstanding issues expeditiously and seriously. The Hon'ble Court may consider directing the senior most official of the department of industries to be held personally responsible for the implementation of these directives. This is critical for the successful operation of this programme.

Annexures: I

Annexure I: Survey of industries in Lawrence road industrial area

1. On June 10, 2006 EPCA appointed a committee to survey 5-6 major industrial units belonging to meat processing, ice cream manufacturing, food processing, pickles, soft drinks and electroplating in the Lawrence road with the following objectives:
 - to estimate quality and quantity of effluents
 - Whether these industries have effluent treatment plants
 - What records exist with the units on the effluents released
 - Arrangements for reuse of treated effluents
2. As per directives of EPCA seven industries were surveyed on June 30, 2006 and July 3, 2006 and found the following:
 - Five out of the six industries surveyed had effluent treatment plants (ETPs). One of them Melody ice cream did not have an ETP.
 - All the five industries with ETPs were meeting the PH, BOD and TSS standards.
 - BOD was found to be in the range of 14 mg/l in Britannia industries to 37 in Sushil ice factory (meat processing).
 - All the units met the pH and TSS limits

- The record keeping of water use was poor with half of the industries having no records of water use and waste generated
 - Record keeping of ETPs was also poor.
 - Sludge management was a concern at all the units
 - Monitoring system is not good enough to identify the discharge of untreated waste from industries into sewer lines. For instance at Brittania there were a few outlets from the industry to the MCD's open drain and this drain was in turn punctured and connected to the sewer line leading to CETP. Also the sewage manhole was also leaking into the MCD drain and hence not flowing into the sewer system.
3. The survey assessed the performance of the CETP during January to June 2006. BOD at inlet was found to vary from 140-250 mg/l and the BOD at outlet was found to be ranging from 24 mg/l to 35 mg/l. As far as the efficiency of CETP is concerned the BOD removal efficiency was in the range of 75 to 86 per cent

Sl. No	Date of monitoring	bod inlet design mg/l	bod inlet observed mg/l	bod outlet observed mg/l	bod standard mg/l	% BOD removal
1	Joint monitoring (june-july 2005)	89.00	375.00	133.00	30.00	64.53
2	Jan-06	89.00	160.00	40.00	30.00	75.00
3	Feb-06	89.00	140.00	24.00	30.00	82.86
4	Apr-06	89.00	180.00	34.00	30.00	81.11
5	May-06	89.00	140.00	32.00	30.00	77.14
6	Jun-06	89.00	250.00	35.00	30.00	86.00

Source: DPCC monitoring reports

The survey concluded that if the inlet BOD at CETP is maintained with in 140-160 mg/l the effluent BOD of 30 mg/l can be maintained. Hence discipline of the industries and not the performance of the CETPs was a concern.

Based on the findings of the survey the EPCA directed the following:

- a. DPCC to notify the BOD values at outlet of the individual industries connected to CETPs. The DPCC shall submit a proposal for notifying inlet parameters for all CETPS
- b. Lawrence road CETP shall be handed over within 2 months (one month for trial run and one month for rectifying the defects if any found during trial run)

Annexure 2: Report on reuse of treated effluents

Annexure 3: Time schedule for development of TSDF at Ghuman Hera