

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)

**Report on the recommendations of EPCA on the sharing of costs on CETPs between
the government and the CETP Societies**

January, 2007

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

1. Background

With regard to the sharing of cost of common effluent treatment plants (CETPs) in Delhi, the Hon'ble Supreme Court directed the Environment Pollution (Prevention and Control) Authority (EPCA) for the National Capital Region, on February 2, 2006, to examine the issue of liability of the CETP Society and the Government of India. Accordingly, the Hon'ble Court directed the State Government to place the requisite documents before the EPCA.

Since then, the EPCA has interacted with the various stakeholders—the CETP societies, government of NCT Delhi, the Delhi State Industrial Development Corporation (DSIDC) And the Delhi Jal Board (DJB). The National Environmental Engineering Research Institute (NEERI) which designed the CETPs was also called for discussion and clarification. EPCA set up a committee headed by senior officials of the Central Pollution Control Board (CPCB) to scrutinise and analyse the documents submitted by the government of Delhi and make recommendations on cost sharing.

An interim report on the progress made in the above directives was filed by the EPCA in July 2006. From February to December 2006 EPCA has convened 10 meetings to discuss issues with all stakeholders; to sort out the issues of cost liabilities and sharing; to monitor the handing over of operation and maintenance and to suggest ways of enhancing the utilization of CETPs. This is a final report on the above direction.

2. Action taken report:

EPCA in its special report titled *Status of Common Effluent treatment plants built to clean river Yamuna at the direction of the Hon'ble Court of March 2004* has apprised the Hon'ble Court that the capital costs of the CETPs in Delhi have escalated from Rs 90 crore to Rs 256 crore. On March 18 2006, EPCA directed the DSIDC to submit the details of cost incurred and forward a copy to the NEERI for evaluation and justification. NEERI was directed to comment whether the cost escalation and the additional costs incurred were justified. In response, NEERI filed their report on May 2, 2006.

EPCA authorised the CPCB in June 2006 to deliberate on the issue with various stakeholders and to finalise the computation and cost-sharing formula with different parties. CPCB held meeting with the CETP societies and DSIDC on July 25, 2006 to discuss the issues on cost sharing. In the meeting CETP Societies pointed out that DSIDC being a profit making body as well as a constructing agency, its report/documents cannot be considered as that of the government of Delhi. They demanded an authenticated and detailed report on costs from the government of Delhi. Based on the feedback from the CPCB, EPCA directed the Commissioner of Industries, Government of Delhi to place the requisite documents on costs of CETPs before the authority for circulation amongst the CETP Societies for their response. The Delhi Government vide letter dated September 13, 2006 informed EPCA that DSIDC has been asked to forward finalised cost details in respect of the eight handed over CETPs. On October 10, 2006, the information received from the DSIDC was forwarded by Commissioner Industries (CI), Delhi government to EPCA, which was then circulated to the societies and used by CPCB for final computation.

3. Examining the capital costs and expenditure

The focus of the investigation was to firstly, assess the actual amount spent by the DSIDC in constructing the ten CETPs, secondly, to assess how much it differed from the estimates prepared by NEERI and if so, what were the reasons for this difference; thirdly, based on this, what is the actual liability of the different stakeholders -- CETP Societies, government of Delhi (through the CI and DSIDC) and the union ministry of environment and forest (MoEF), which has committed funds to pay for the construction of the plants.

The overall expenditure statement as submitted by the DSIDC through the CI is as shown in Table 1: Summary of costs incurred on eight CETPs. This includes capital expenditure, O&M costs and the infrastructure costs that include land, charges paid to Delhi Vidyut Board (now DISCOMs) and the Delhi Jal Board (DJB). There was lack of clarity in the manner in which these infrastructure costs were presented by the DSIDC. EPCA, therefore, directed the DSIDC to submit a break up of the land cost mentioning the rate at which the land was acquired, the land area acquired and the agency from which the land was bought. A break up of the charges paid to the DISCOMs and the DJB and the basis on which the charges were calculated were also called for.

The overall costs as per the statement of the CI work out to Rs 133.83 crore. Besides this Rs 23.28 crore was spent as DJB charges for the fifteen CETPs (including eight handed over CETPs, two commissioned not yet handed over CETPs, one under construction, one partially constructed but stopped; three not yet commissioned CETP). (see table 1: Summary of costs incurred on eight CETPs)

Table 1: Summary of costs incurred on eight CETPs

	Item head	Rs crore
A	Capital cost +REPS + Rising mains excluding 10 per cent departmental charges	101.04
B	10 per cent departmental charge on Capital cost + REPS+ rising main	9.85
1	Subtotal capital cost	110.89
C	Operation and maintenance excluding 10 per cent departmental charges	9.35
D	10 per cent cost on O&M	0.44
2	Subtotal O&M cost	9.79
3	Land cost+ Electricity charges	13.15
	Total (1+2+3)	133.83
4	DJB Charges for fifteen CETPs	23.28

Note: DSIDC has submitted the DJB charges for fifteen CETPs. The corresponding values for the eight handed over CETPs is not known.

Source: SC Poddar 2006, 'Letter to the Chairman EPCA with the expenditure details of 8 CETPs', October 10, New Delhi – **Annexure – I.**

a. Examining the difference between NEERI estimate and actual

The total capital cost of eight CETPs including ten per cent departmental charges and the miscellaneous expenditure incurred on press advertisement, boundary walls and horticulture worked out to Rs 110.89 crore. (See **Annexure A**: Capital expenditure incurred by DSIDC on the eight handed over CETPs till August 2006).

The original cost as of 1996 as per NEERI's basic design was Rs 46.53 crore for these eight CETPs. This did not account for the infrastructure costs (land, electricity and DJB charges). When the DSIDC's actual expenditure is compared with that of NEERI's basic estimates, the cost over-run is to the tune of Rs 64.35 crore.

NEERI has estimated the cost index (escalation factor) based on the year of completion of the CETP. As per the analysis of the NEERI, the escalation factor varied from 11.26 per cent in the case of Mangolpuri CETP completed in the year 1999 to 23.90 per cent in the case of Jhilmil completed in 2002. Thus the NEERI's estimated cost of Rs 46.53 crore in 1996 escalated to Rs 57.47 crore in 2006. If we account for this, then the cost over run is Rs 53.42 crore for the eight CETPs. (See Annexure B and C: NEERI's estimates adjusted for cost escalation)

In summary: the DSIDC's capital expenditure (Rs 110.89 crore including departmental charges) on eight CETPs was almost twice the NEERI's design cost adjusted for cost escalation (Rs 57.47 crore). This also indicates that delays were not the only reason for the cost over-run.

b. Examining the reasons for cost difference and escalation

1. Cost difference because of time over run: The cost escalation on NEERI estimates due to time delay was estimated to be Rs 10.94 crore¹. This accounts for 19.5 per cent of the cost over runs.

2. Cost difference because of non-inclusion of items in original cost: According to the Delhi government representation, there are several reasons for the cost difference. These differences are regarding additional items that were not present in the original design, the land and other infrastructure costs not included in the original estimation and the effluent conveyance systems and electricity feeder lines for which provision had not been made.

The Delhi government has submitted the extra items which were not included in the NEERI design, but incorporated during detailed design. According to this submission, an expenditure of Rs 37 crore (on the total 12 CETPs including the non-commissioned Naraina and Najafgarh CETPs) was made on these essential items without which commissioning of CETPs wouldn't have been possible. The corresponding figures for the eight CETPs were Rs 24.63 crore. This list was forwarded by EPCA to NEERI to examine its appropriateness and justification.

The NEERI in its response endorsed the DSIDC position that these items were incorporated based on detailed engineering and site conditions. EPCA then directed CPCB to examine this claim.

¹ NEERI's estimated cost was Rs 46.53 crore in 1996. By 2006 due to cost escalation it became Rs 57.47 crore. Whereas DSIDC has spent Rs 110.89 crore till August 2006 on the eight CETPs on account of capital cost.

The CPCB found out that items worth Rs 1.84 crore were not certified by the NEERI. NEERI also pointed out that “in the case of few CETPs, additional items such as screen chamber, sumps, agitators, dosing pumps, dosing tanks, HT cables, feed pumps, cable trenches, street lighting etc, are not agreed as the items have already been considered in NEERI’s basic design.” Accordingly the DSIDC has shifted this head to the capital cost.

As can be seen from table 2 (See **Table 2:** Items not taken in basic engineering design of NEERI) below, the cost of additional items varies from Rs 6.18 crore at Okhla industrial area CETP to Rs 1 crore at Mangolpuri CETP.

Table 2: Additional items not taken in basic engineering design of NEERI

S No	Name of CETP	Designed capacity	Items not taken in basic engineering by NEERI but essential items incorporated during detailed engineering by DSIDC (Rs lakh)	Additional cost per million litres per day (Rs lakh)
1	Okhla industrial area	24	614.41	25.76
2	Nangloi	12	395	32.91
3	Wazirpur	24	350.71	14.61
4	Mayapuri	12	296.17	24.72
5	G.T.Karnal	6	274.19	45.76
6	Jhilmil	16.8	264.51	15.74
7	Badli	12	162.34	13.52
8	Mangolpuri	2.4	105.18	43.82
	Total/average	109.2	2462.5	22.55 average

Note: SMA, Lawrence road, Naraina and Najafgarh CETP not included

Source: DSIDC and NEERI reports, May 2006

The only explanation offered by NEERI is that its cost estimates were arrived at considering the basic unit operations and processes and did not include items, which are governed by the specific site conditions. They also pointed out that the sites were even not identified in 1996, when NEERI submitted its feasibility report. NEERI also pointed out that detailed engineering design was recommended to identify such items and facilities if necessary.

NEERI also pointed out that it’s scope of work included preparation and evaluation of tenders, assisting DSIDC in selection of implementing agency, supervision during implementation and assistance in plant commissioning. However, the DSIDC since February 1999, engaged consultants for preparation and issue of tender documents and its subsequent processing.

NEERI also pointed out that while processing the tender documents it insisted the DSIDC to look into the deviations from NEERI’s basic design before finalising the tender. However, NEERI was not consulted in finalisation of tenders documents based on detailed engineering. It has also informed EPCA that DSIDC did not

associate NEERI in site supervision or plant commissioning. (See **Annexure D: NEERI's response to EPCA's queries on additional items as listed by DSIDC**)

c. Examining the appropriateness of the original cost and design

The MoEF, CETP Societies and the DSIDC brought to the notice of EPCA that the CETPS are over-designed, which has led to high costs in the first place. According to them, the average flow observed during the pre-design investigations conducted in 1996 by NEERI formed the basis of the design capacity of the CETPs. But as the CPCB brought to the notice of EPCA, Okhla Industrial Area CETP was designed at higher capacity for unspecified and untraceable reasons. This turned out to be an over-estimation as the closure and relocation of industries has resulted in a reduction of flow.

The MoEF in its letter dated March 17, 2006 to chairman, EPCA informed that the ministry has asked the DSIDC way back in October 2005 to identify the responsibility of the over design of the CETPs. EPCA has forwarded this letter to the government of Delhi for which response have not yet been filed despite repeated reminders. Similarly, the Delhi Pollution Control Committee (DPCC), on whose behalf NEERI has prepared the designs, have also not clarified the reasons of the over design of the CETPs.

d. Examining the cost in relation to the capacity being actually utilised

EPCA has in its reports brought to the attention of the Hon'ble Court that the installed capacity is not being utilised because of inadequate drainage systems or over-design. As a result of this, the cost of the CETPs and the escalation becomes even more prohibitive – high expenditure to treat little waste (See **Table 3: Unit cost incurred on constructing the CETPs**). For instance, the unit cost for treating a million litres of effluents increased from Rs 101 lakh to Rs 397 lakh due to under utilisation.

Table 3: Unit cost incurred on constructing the CETPs

Sl. No.	CETPs	Design flow (mld)	Actual flow being treated as of October 2006 (mld)	Total cost incurred by DSIDC	Cost per mld of design flow (Rs lakh)	Cost per mld of actual flow treated (Rs lakh)
1	Wazirpur	24	4	2283.1	95	571
2	Okhla industrial area	24	3.6	2305.6	96	640
3	Jhilmil	16.8	3	1366.57	81	456
4	Mayapuri	12	5.3	1246.89	104	235
5	Nangloi	12	2.5	1419.42	118	568
6	Mangolpuri	2.4	1.5	647.76	270	432
7	Badli	12	5	989.3	82	198
8	G.T.K	6	3	830.15	138	277
	Total 8 CETPs	109.2	27.9	11088.79	101	397

Note: Flow observed in Okhla Industrial Area corresponds to the maximum in June 2006. During the October 2006 monitoring of DPCC there was no flow in this CETP. Source: Flow data is taken from the DPCC monitoring report October 2006 and the cost data taken from the statement of expenditure submitted by the DSIDC through Commissioner Industries, October 2006

4. The points of differences over cost

EPCA has sought the opinion and comments of all stakeholders before arriving at the final cost sharing formulae.

The following section details the comments from different stakeholders.

Comments of CETP Societies

Four CETP societies have submitted their comments and objections on the information provided by DSIDC. Two societies –Nangloi and Mangolpuri CETPs have submitted only interim comments and two societies – Mayapuri and Badli CETP- had sought time but have not sent their comments.

The societies, which have submitted comments, have the following to say:

1. DSIDC has not provided details of expenditure to enable the societies make detailed comments despite requests from societies.
2. CPWD Works manual stipulate that works in general should be done on item rate basis whereas contracts were awarded as Lump-sum basis. This is also contravention of GFR Govt of India decision xi (a) under rule 12 (2). DSIDC has not made public how much percent above the estimate the tenders were accepted. CETP cannot be considered a simple structure.
3. Audit reported by DSIDC is their in-house audit.
4. There is huge escalation in capital cost. Societies were not consulted for goods and services purchased at much higher prices. Deviation statement in quantity and specification should be given to societies for scrutiny and differences in approved statement and estimate prepared should be explained by DSIDC.
5. CETPs are over designed that resulted in increased burden on industries towards capital cost and also in increase in operation cost, which is going to be a perpetual burden on industries due to fault of others.
6. Considering undue escalation in costs and over design of CETPs for which CETP societies are not responsible, industrial stakeholders need not be unduly disadvantaged to share the higher cost.
7. Some costs-such as DJB charges, DVB charges, cost of trial run for three months, electrical charges for trial run cost of REPS and rising mains-need to be fully established as they appear overlapping, superfluous or exaggerated.
8. Cost of trial run and O & M cost are extremely high, details needed. Exact months of operation are not informed to enable societies arrive at per month cost and compare it with the present O & M cost since CETPs operation by societies.
9. Changes have been made in NEERI's design. In some case the volume of civil construction has been drastically reduced from the design and in some other cases the unit sizes have been arbitrarily increased. Deviation statements for allowing change in the design specifications from the tendered specification need to be explained and verified.
10. Works that were supposed to be completed before handing over CETPs to societies but are not complete should be completed by DSIDC without any additional cost. Charges for works that do not exist or have not been executed must be deleted.
11. Cost of CETP land, DJB charges, and DVB charges must be borne by the government of Delhi as already committed before Supreme Court.

12. In consideration of assertion before the Supreme Court that DSIDC is carrying out the work of CETP construction on no-profit-no-loss basis, 10 per cent departmental charge is not justified. Ten Per cent departmental charge is also not justified in view of undue escalation and oversize of CETPs.
13. Date wise details of payments made by Governments towards their contribution should be made available.

Comments of DSIDC

1. DSIDC has certified that works have been executed as per prescribed procedure in CPWD Works Manual after accord of technical sanction to the estimates by the competent authorities.
2. DSIDC has further certified that expenditure shown are as per audited books of accounts upto 31st March 2006 and those between 1.4.2006 and 31.8.2006 are subject to audit.
3. CI has indicated agreement of Govt of Delhi on DSIDC's information and explanations.

Comments of Government of India

MoEF vide letter dated March 17, 2006 informed EPCA that a meeting was held in the ministry on October 26, 2005 and following details has been sought from Government of Delhi:

1. DSIDC would identify who is responsible for over-designing of the CETPs due to which cost had escalated, and
2. Delhi government would provide a list of industries along with action taken in respect of those industries, which are not connected to the CETP and are discharging their effluent into the drains, which ultimately pollute the Yamuna River.

5. Final recommendations of EPCA regarding cost-sharing

At the very outset EPCA would like to bring to the attention of the Hon'ble Supreme Court that the situation is far from satisfactory. The fact of the matter is:

- i. The CETPs were designed by NEERI, which did not take into account various infrastructure and component costs, thus under-estimating the final bill. The DSIDC, which appointed NEERI in the first place, did not consult NEERI regarding these additional costs before finalisation.
- ii. The capacity of the CETPs was estimated by NEERI on the basis of pre-feasibility studies during 1996. This capacity was not verified by the DPCC or the DSIDC at the time of commissioning. This has led to over-design and high costs.
- iii. The operational CETPs get a fraction of the total effluents that they were designed and built to treat. This is due to the problems in the conveyance systems as well as due to the industries not connecting to the CETPs. As a result, the capital cost per million litres of effluent treated goes up and makes the operation of the plants more difficult.
- iv. As a result of these factors, the cost difference between the original estimation of NEERI – Rs 46.53 crore for first 8 CETPs – and the total cost incurred of Rs 133.83 crore (including trial run, departmental charges, land and electricity costs) is disproportionately high. Besides this the DSIDC paid Rs 23.28 crore to DJB for laying conveyance systems in the 15 CETPs. Break up of DJB charges for the eight CETPs have not been furnished.

Based on the above unfortunate position, EPCA is recommending the following so that this matter is resolved as far as possible.

1. The infrastructure cost which include the cost of land, feeder electrical line charges (Delhi Vidyut Board (DISCOM) charges) and relaying/repair charges incurred in the conveyance system (DJB charges) should be fully borne by the government of NCT Delhi and should not be considered for sharing by the CETP societies. The land and the DISCOM charges accounts for Rs 13.15 crore for the eight handed over CETPs. Besides this the DJB charges for the eight CETPs shall be worked out and borne by the government of Delhi.
2. The capital cost of the rising mains, excluding the rising mains from the REPS within the CETP premises, should be borne by the government of Delhi. This works out to Rs. 4.2642 crore for the eight already handed over CETPs.
3. The 10 per cent departmental charges accounted by the DSIDC Rs 9.85 crore in the capital costs and Rs 0.44 crore in the O&M costs for the eight already handed over CETPs shall not be passed on to the CETP Societies by DSIDC.
4. The expenditure incurred and accounted for as 'miscellaneous', which include boundary wall, insurance, press advertisement and horticulture shall not be passed on to the industries. This accounts for another Rs 5.68 crore for the eight already handed over CETPs. This will be borne by the government of Delhi.
5. This expenditure on Operation & Maintenance cost for the period after commissioning/completing of trial run and before handing over to CETP societies shall be borne by the government of Delhi. This accounts for another Rs. 9.35 crore for the eight already handed over CETPs. This will be treated as the compensation for the delays and the related cost escalation.
6. Based on the above the Delhi government will be responsible for expenses totalling to about Rs 51.38 crore for the eight already handed over CETPs. This will not be shared with the CETP societies. Over and above this, the government of Delhi shall also bear the DJB charges for the CETPs (Rs 23.28 crore for fifteen CETPs). (See **Annexure E**: Summary of costs to be borne by the Delhi government).
7. It is understood that due to the delay in construction of CETPs, the DSIDC has earned interest on the share received from the CETP Societies and the Government. The amount should be adjusted against the recoverable on a pro-rata basis of the share received from the all the 15 Societies.
8. The balance of Rs 82.45 crore after accounting for the interest accrued will be recoverable from CETP societies on the agreed sharing basis of 50 per cent. As per the information available and reported in EPCA's special report to the Hon'ble Court in March 2004, the 8 CETP societies, which have already taken over the operation and maintenance, have contributed Rs 16.26 crore. The balance will have to be paid, based on the agreed formulae.
9. The sharing of recoverable cost will be done on the agreed ratio of 25:25:50 – between the Delhi government, MoEF and the eight CETP Societies.

10. The government of Delhi and DPCC shall respond to the query of the MoEF on fixing the responsibility of over designing of the CETPs. Thereafter, the MoEF may be directed to release its share of capital cost. The MoEF has already released Rs 22.5 crore towards capital expenditure.
11. The Comptroller and Auditor General (CAG) of India be directed to investigate the concern over the volume of civil works in the CETPs.
12. The eight CETP societies be directed to pay three-fourth of the agreed amount of Rs 47.68 crore to the Delhi government. If the CETP societies raise the level of utilisation of the plants to 70 per cent of the planned capacity within one year, the balance can be waived off as an incentive.
13. The two completed but not handed over CETP's – namely SMA and Lawrence Road – which have to be handed over to the societies should follow the same principle for cost sharing.
14. The one almost complete CETP – namely at Naraina – should be handed over the society as soon as it is complete and the same principle followed in relation to cost sharing.
15. The one partially complete CETP – namely at Najafgarh – must be decided upon in terms of its schedule and necessity before further construction is done.
16. The three non built CETP's – namely Mohan Cooperative, Anand Parbat and Okhla Industrial Estate – should not be built. The waste, if any, in these areas, should be transported to the existing under-utilised CETPs.

6. Recommendations regarding operation and maintenance (O&M) costs

1. The O&M cost till the time of handing over in the case of eight CETPs shall be borne by the Delhi government. Thereafter, it will be the responsibility of the CETP Societies to operate and maintain the CETPs and handle the sludge in environmentally safe manner.
2. All the Raw Effluent Pumping Stations (REPS) within the CETP premises shall be maintained by the CETP Society. This includes the rising mains between the different pump houses located inside CETP premises as they are an integral part of the CETP. These shall be maintained by CETP societies and their costs shall also be borne by the CETP Society.
3. The maintenance of rising main & Raw Effluent Pumping Stations (REPS) outside the CETP premise will be the responsibility of government of Delhi.
4. Sludge management and disposal shall be the responsibility of the CETP societies incurring its cost. The government of Delhi and the DPCC shall develop the Treatment Storage & Disposal Facility (TSDF) by February 2007 and the sludge accumulated in the CETPs shall be scientifically disposed off in the TSDF.

Civil		568.5	49.89	5.08	15.96	0.00	639.43	63.94	703.37
Electrical		634.25	2.20	0.34	3.77	11.43	651.99	64.06	716.05
Total		1202.75	52.09	5.42	19.73	11.43	1291.42	128.00	1419.42
Mangolpuri	2.4								
Civil		315.22	31.46	3.35	1.78	0.00	351.81	35.18	386.99
Electrical		210.17	6.38	9.36	5.22	6.53	237.66	23.11	260.77
Total		525.39	37.84	12.71	7.00	6.53	589.47	58.29	647.76
Badli	12								
Civil		364.93	89.44	14.69	21.32	0.00	490.38	49.04	539.42
Electrical		369.75	5.16	2.79	6.00	27.81	411.51	38.37	449.88
Total		734.68	94.60	17.48	27.32	27.81	901.89	87.41	989.30
SMA	12								
Civil									
Electrical									
Total									
G.T.K	6								
Civil		323.14	47.06	5.45	22.36	0.00	398.01	39.80	437.81
Electrical		335.00	5.46	4.38	0.00	13.02	357.86	34.48	392.34
Total		658.14	52.52	9.83	22.36	13.02	755.87	74.28	830.15
8 CETPS	Total	8863.78	568.35	114.68	414.96	142.16	10103.93	984.86	11088.79

Source: SC Poddar 2006, 'Letter to the Chairman EPCA with the expenditure details of 8 CETPs', October 10, New Delhi

Annexure B: NEERI's estimate (1996) plus escalation on capital costs, costs of REPS & RM and DJB charges

CETPs	Design flow (MLD)	Escalation factor based on Cost Index (CI) %	NEERI's estimated capital cost (1996)	NEERI's estimated capital cost adjusted with CI	NEERI's estimated cost of REPS and RM (1996)	NEERI's estimated cost of REPS and RM adjusted with CI	NEERI's estimated (capital+REPS & RM) cost adjusted with CI	NEERI's estimated DJB charges (1996)	NEERI's estimated DJB charges adjusted with CI
1	2	3	4	5	6	7	8 (=5+7)	9	10
Wazirpur	24	14.08 (2000)	937.26	1069.61	51.32	58.55	1128.16	98.01	111.81
Okhla	24	14.08 (2000)	767.58	876.02	0	0	876.02	0	0
Jhilmil	16.8	23.90 (2002)	540.86	671.62	74.19	91.92	763.54	150.07	185.94
L. Road	12	16.9 (2001)	400.73	468.61	26	30.39	499	0	0
Mayapuri	12	16.9 (2001)	436.56	510.53	60.12	70.28	580.81	3	3.51
Nangloi	12	16.9 (2001)	511.63	598.32	49.63	58.02	656.34	33.33	38.96
Mangolpuri	2.4	11.26 (1999)	165.69	184.58	33.61	37.39	221.97	0	0
Badli	12	14.08 (2000)	671.51	766.35	19.4	22.13	788.48	98.01	111.81
SMA	12	16.9 (2001)	978.53	1144.34	36.09	42.19	1186.53	137.75	161.03
G.T.K	6	14.08 (2000)	619.49	706.97	22.2	25.33	732.3	27.24	31.08
Total			6029.84	6996.95	372.56	436.2	7433.15	547.41	644.13

Source: NEERI's response to the queries raised by the EPCA, May 2006

Annexure C: Capital costs comparison (NEERI's estimates plus escalation v/s actual DSIDC expenditure)

CETPs	Design flow (MLD)	NEERI's estimated (capital+REPS & RM) cost adjusted with CI	Actual DSIDC expenditure on (capital+REPS & RM) cost (without adding 10% DC)	Actual DSIDC expenditure to NEERI's estimate ratio	Actual DSIDC expenditure on O & M cost (without adding 10% DC)	10% DC on capital cost expenditure**	10% DC on O & M cost expenditure**
1	2	3	4	5 (4 over 3)	6	7	8
Wazirpur	24	1128.16	2088.07	1.8509	306.8	195.03	18.56
Okhla	24	876.02	2099.04	2.3961	43.29	206.56	1.19
Jhilmil	16.8	763.54	1243.47	1.6286	133.34	123.1	6.21
L. Road	12						
Mayapuri	12	580.81	1134.7	1.9537	218.77	112.19	9.27
Nangloi	12	656.34	1291.42	1.9676	43.24	128	1.64
Mangolpuri	2.4	221.97	589.47	2.6556	103.45	58.29	3.33
Badli	12	788.48	901.89	1.1438	22.92	87.41	0.75
SMA	12						
G.T.K	6	732.3	755.87	1.0322	63.06	74.28	2.88
Total for 8 CETPs	133.2	5747.62	10103.93	1.7579	934.87	984.86	43.83

*(to be born by Govt. of Delhi) ** (not to be charged by DSIDC)

Source:

1. SC Poddar 2006, 'Letter to the Chairman EPCA with the expenditure details of 8 CETPs', October 10, New Delhi
2. NEERI's response to the queries raised by the EPCA, May 2006

Annexure D: NEERI's response to EPCA's queries on additional items as listed by DPCC

Annexure E: Summary of costs to be borne by the Delhi government for the eight handed over CETPs

S No	Item head	Rs crore
1	10 per cent departmental charge on Capital cost*	9.85
2	Operation and maintenance	9.35
3	10 per cent cost on O&M*	0.44
4	Land cost+ Electricity charges	13.15
5	Miscellaneous items	5.68
6	Rising mains outside CETP premises	4.26
	Total cost for the 8 CETPs to be borne by govt of Delhi (1+2+3+4+5+6)	42.73
7	DJB Charges for 15 CETPs to be borne by government of Delhi	23.28
8	Rest of the costs to be shared between government of Delhi, MoEF and the societies in the ratio (25:25: 50)	=133.83-42.73

Note:

1. See also Annexure F, G & H: O&M and infrastructure and rising main costs

Source: SC Poddar 2006, 'Letter to the Chairman EPCA with the expenditure details of 8 CETPs', October 10, New Delhi

- 2 * Not to be charged by DSIIDC

Annexure F: DSIDC expenditure on operation & maintenance cost up to 31.8.2006 for 8 CETPs handed over to societies (in Rs. Lakhs)

CETP/Costs	Design flow (MLD)	Operation & maintenance including insurance, chemicals, manpower cost, supervision, repair & spaires, deficiencies etc.	Electricity cost during O & M	Committed liability	Total	Departmental charges @ 10% excluding on electricity	Grand total
1	2	3	4	5	6	7	8
Wazirpur	24						
Civil		0.00	0.00	0.00	0.00	0.00	0.00
Electrical		172.94	121.22	0.64	294.80	17.36	312.16
Lifting station (C)		0.00	0.00	0.00	0.00	0.00	0.00
Lifting station (E)		0.00	0.00	12.00	12.00	1.20	13.20
Total		172.94	121.22	12.64	306.80	18.56	325.36
Okhla	24						
Civil		0.00	0.00	0.00	0.00	0.00	0.00
Electrical		11.94	21.35	10.00	43.29	1.19	44.48
Total		11.94	21.35	10.00	43.29	1.19	44.48
Jhilmil	16.8						
Civil		0.00	0.00	0.00	0.00	0.00	0.00
Electrical		59.66	71.15	2.53	133.34	6.21	139.55
Total		59.66	71.15	2.53	133.34	6.21	139.55
L. Road	12						
Civil							
Electrical							
Total							
Mayapuri	12						
Civil		0.00	0.00	0.00	0.00	0.00	0.00
Electrical		91.23	126.07	1.47	218.77	9.27	228.04
Total		91.23	126.07	1.47	218.77	9.27	228.04
Nangloi	12						
Civil		0.00	0.00	0.00	0.00	0.00	0.00

Electrical		16.44	26.80	0.00	43.24	1.64	44.88
Total		16.44	26.80	0.00	43.24	1.64	44.88
Mangolpuri	2.4						
Civil		0.00	0.00	0.00	0.00	0.00	0.00
Electrical		31.86	70.12	1.47	103.45	3.33	106.78
Total		31.86	70.12	1.47	103.45	3.33	106.78
Badli	12						
Civil		0.00	0.00	0.00	0.00	0.00	0.00
Electrical		0.00	15.38	7.54	22.92	0.75	23.67
Total		0.00	15.38	7.54	22.92	0.75	23.67
SMA	12						
Civil							
Electrical							
Total							
G.T.K	6						
Civil		0.00	0.00	0.00	0.00	0.00	0.00
Electrical		28.81	34.25	0.00	63.06	2.88	65.94
Total		28.81	34.25	0.00	63.06	2.88	65.94
G. Total	133.2	412.88	486.34	35.65	934.87	43.83	978.7

1. SC Poddar 2006, 'Letter to the Chairman EPCA with the expenditure details of 8 CETPs', October 10, New Delhi

Annexure G: DSIDC expenditure on infrastructure cost to 31.8.2006 for 8 CETPs handed over to societies (in Rs. Lakhs)

CETPs	Design flow (MLD)	Land cost	DVB	DJB	Total
1	2	3	4	5	6
Wazirpur	24	133.91	164.82		298.73
Okhla	24	0.00	221.86		221.86
Jhilmil	16.8	0.00	61.61		61.61
L. Road	12				
Mayapuri	12	40.84	184.25		225.09
Nangloi	12	80.34	66.78		147.12
Mangolpuri	2.4	24.65	21.74		46.39
Badli	12	133.73	55.49		189.22
SMA	12				
G.T.K	6	39.20	85.47		124.67
DJB charges for 15 CETPs				2328.37	2328.37
G. Total for 8 CETPs	133.2	452.67	862.02	2328.37*	3643.06

Source: SC Poddar 2006, 'Letter to the Chairman EPCA with the expenditure details of 8 CETPs', October 10, New Delhi

Annexure H: Cost of REPS and Rising mains as informed by DSIDC (in Rs. Lakhs)

CETPs	REPS & RM	Cost	Total cost	REPS cost	RM cost	Total cost of extra length
Wazirpur	REPS & Rising Main*	65.02		65.02		
	Lift station (u/c)	220	285.02	220		
Okhla	REPS -Phase I	52		52		
	Rising Main -Phase I	20			20	
	REPS -Phase II	59		59		
	Rising Main -Phase II	114.8	245.8		114.8	
Jhilmil	REPS -Friends colony	36.5		36.5		
	Rising Main -Friends colony	6.5			6.5	
	REPS -Jhilmil	41.5		41.5		
	Rising Main -Jhilmil	7.5	92		7.5	
L. Road	REPS	32.73		32.73		
	Rising Main	37.2			37.2	
	Ext length of RM 418 m	12.96	82.89		12.96	12.96
Mayapuri	REPS -Phase I	12		12		
	Rising Main -Phase I	3.5			3.5	
	REPS -Phase II	19.5		19.5		
	Rising Main -Phase II	78			78	
	Ext length of RM 330.35 m	20.41	133.41		20.41	20.41
Nangloi	REPS -Nangloi	18.45		18.45		
	Rising Main -Nangloi	1.95			1.95	
	REPS -Udyopg Nagar	22.68		22.68		
	Rising Main -Udyopg Nagar	22.51			22.51	
	Ext length of RM 810 m	25	90.59		25	25
Mangolpuri	REPS & Rising Main* -Phase I CETP site	19.71		19.71		
	REPS -Phase II	10.2		10.2		
	Rising Main -Phase II	82.5			82.5	
	Ext length of RM 1085 m	11.5	123.91		11.5	11.5
Badli	REPS	64		64		
	Rising Main	6			6	
	Ext length of RM 1085 m	26.25	96.25		26.25	26.25
SMA	REPS	83	83	83		
G.T.K	REPS	46.19	46.19	46.19		
G. Total		1279.06	1279.06	802.48	476.58	96.12

Source: SC Poddar 2006, 'Letter to the Chairman EPCA with the expenditure details of 8 CETPs', October 10, New Delhi

ENVIRONMENT POLLUTION (PREVENTION & CONTROL) AUTHORITY
for the National Capital Region

BHURE LAL
Chairman

EPCA/3/2003
January 3, 2007

To

The Registrar General,
Supreme Court of India,
Tilak Marg, New Delhi – 110 001

Kind Attention : *Shri Vinod Kumar, Assistant Registrar (PIL)*

Sub.: M.C. Mehta Vs. Union of India and others – Writ Petition (civil) No. 4677 of 1985 (I.A. No.1531 IN I.A. No. 22)

Dear Sir,

The Hon'ble Supreme Court, vide its order, dated February 2, 2006 had directed the EPCA to examine the issue of liability of the industry and the Government of India to bear the cost of CETPs. It also directed the State Government to place before the EPCA, the requisite documents. EPCA has held various meetings with CETP Societies, DSIDC, DJB, DPCC, CI and NEERI to sort out various issues. EPCA has prepared a Report on the recommendations of EPCA on the sharing of costs on CETPs between the government and the CETP Societies. 10 copies of the above report is enclosed for kind consideration of the Hon'ble Court.

Yours faithfully,

Encl: *as above*

(BHURE LAL)

Copy with a copy of report to:

- 1 The Managing Director, Delhi State Industrial Development Corporation
Bombay Life Line Building, Connaught Place, New Delhi – 110 001
2. The Commissioner of Industries, Industry Department, Govt. of NCT Delhi, Udhog Sadan, Patparganj Industrial Area , Delhi 110092
3. The Secretary (Environment) & Chairperson, Delhi Pollution Control Committee, Delhi Secretariat, I.P. Estate, New Delhi – 110 002,
4. The Chief Executive Officer, Delhi Jal Board, Varunalaya, Phase II, Karol Bagh, New Delhi – 110 005

(BHURE LAL)

Central Pollution Control Board,
Parivesh Bhawan East Arjun Nagar, Delhi-110 032
Tele: 22305792 Ext. 208/212 Tele/Fax: 22301955
