

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

CORAM:

1. **Shri Ashok Basu, Chairman**
2. **Shri K.N. Sinha, Member**
3. **Shri Bhanu Bhushan, Member**

Petition No. 196/2004
(Suo motu)

In the matter of

Revision of O&M expenses for the years 2001-02 to 2003-04

Review Petition No.76/2003
In
Petition No.39/2001

In the matter of

Amendment of order dated 23.7.2003 on the limited issue of escalation factor for O&M expenses in the tariff for the period 1.4.2001 to 31.3.2004 in petition No.39/2001 in respect of Singrauli STPS.

And in the matter of

Uttar Pradesh Power Corporation Ltd., Lucknow

.....Petitioner

Vs

1. National Thermal Power Corporation Ltd.
 2. Rajasthan Rajya Vidyut Prasaran Nigam Ltd, Jaipur
 3. Delhi Vidyut Board, New Delhi
 4. Haryana Vidyut Prasaran Nigam Ltd, Panchkula
 5. Punjab State Electricity Board, Patiala
 6. Himachal Pradesh State Electricity Board, Shimla
 7. Power Development Department, Govt. of J&K, Srinagar
 8. Power Department Union Territory of Chandigarh, Chandigarh
 9. Uttaranchal Power Corporation Ltd., Dehradun
- ..Respondents**

Review Petition No.90/2004
In
Petition No.44/2001

In the matter of

Review of order dated 24.10.2003 in Petition No.44/2001

And in the matter of

Uttar Pradesh Power Corporation Ltd., Lucknow

.....**Petitioner**

Vs

1. National Thermal Power Corporation Ltd.
2. Rajasthan Rajya Vidyut Prasaran Nigam Ltd, Jaipur
3. Delhi Vidyut Board, New Delhi
4. Haryana Vidyut Prasaran Nigam Ltd, Panchkula
5. Punjab State Electricity Board, Patiala
6. Himachal Pradesh State Electricity Board, Shimla
7. Power Development Department, Govt. of J&K, Srinagar
8. Power Department Union Territory of Chandigarh, Chandigarh
9. Uttaranchal Power Corporation Ltd., Dehradun

..**Respondents**

The following were present:

1. Shri R. Suresh, DGM (Comml), NLC Ltd.
2. Shri S. Ramachandran, DGM (Plg), NLC Ltd.
3. Ms Ratna Chowdhury, DCE, NLC Ltd.
4. Shri S.D. Tripathi, ED (Comml), NHPC
5. Shri Prashant Kaul, NHPC
6. Shri A.K. Srivastava, NHPC
7. Shri Ansuman Ray, NHPC
8. Shri O.P. Srivastava, UPPCL
9. Shri M.M. Mondal, PGCIL
10. Shri U.K. Tyagi, DGM, PGCIL
11. Shri Prashant Sharma, DGM, PGCIL
12. Shri C. Kannan, PGCIL
13. Shri T.S.P. Rao, PGCIL
14. Shri R.P. Padhy, PGCIL
15. Shri Pranav Kapoor, NTPC
16. Shri V.B.K. Jain, NTPC
17. Shri I.J. Kapoor, NTPC
18. Shri S.K. Samvi, NTPC
19. Shri C.S. Gupta, NTPC
20. Shri S. Saran, NTPC
21. Shri D.G. Salpekar, NTPC
22. Shri Jagdish Roy, NTPC
23. Shri A. Sardana, Sr. Mgr. NTPC
24. Shri G.K. Dua, Sr. Mgr., NTPC
25. Shri Balaji Dubey, Dy. Mgr. (Law), NTPC
26. Shri K. Gopalakrishnan, KSEB
27. R. Balachandran, KSEB
28. Shri H.M. Sharma, ASEB
29. Shri D. Khandelwal, MPSEB
30. Shri Deepak Shrivastava, MPSEB
31. Shri T.K. Shrivastava, EE, UPPCL
32. Shri T.P.S. Bawa, OSD, PSEB
33. Shri R.K. Arora, XEN, HVPN

ORDER
(DATE OF HEARING : 22.2.2005)

Petition No. 196/2004

The terms and conditions for determination of tariff applicable during the period 2001-02 to 2003-04 were notified by the Commission on 26.3.2001 in terms of the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2001 (hereinafter referred to as the “notification dated 26.3.2001”). The tariff under the notification dated 26.3.2001 in respect of the generating stations and the inter-state transmission assets has been determined by the Commission in majority of the cases and is to be determined in due course of time in some cases. For the reasons noted in the succeeding paragraphs, a review of O&M expenses allowed by the Commission as part of tariff for the period 2001-02 to 2003-04 is required.

2. As per the notification dated 26.3.2001, operation and maintenance (O&M) charges, including insurance for the generating stations belonging to the Central Power Sector Utilities, in operation for 5 years or more in the base year of 1999-2000, are derived on the basis of actual O & M expenses, excluding abnormal O & M expenses, if any, for the years 1995-1996 to 1999-2000 as certified by the statutory auditors. The average of actual O & M expenses for the years 1995-1996 to 1999-2000 is considered as O & M expenses for the year 1997-1998, which is escalated twice at the rate of 10% per annum to arrive at O & M expenses for the base year 1999-2000. Thereafter, the base O & M expenses for the year 1999-2000 are escalated at the rate of 6% per annum to arrive at permissible O & M charges for the relevant year during 2001-02 to 2003-04. The notification dated 26.3.2001 further provides that if the actual escalation factor computed from the observed data lies within 20% of the notified escalation factor of 6%, that is, the escalation factor is in the

range of 4.8% to 7.2%, this variation is to be absorbed by the Central Power Sector Utilities or the beneficiaries, as the case may be. In case of escalation factor being beyond these limits, adjustment is required to be made by applying actual escalation factor arrived on the basis of weighted price index of CPI for industrial workers (CPI_IW) and index of selected components of WPI (WPIOM).

3. While determining O&M charges, the escalation of yearly expenses from the published data for the tariff period was computed as follows:

$0.4 \times \text{Infl}_{\text{CPI}} + 0.6 \times \text{Infl}_{\text{WPIOM}}$ in case of thermal power generating stations and
 $0.55 \times \text{Infl}_{\text{CPI}} + 0.45 \text{Infl}_{\text{WPIOM}}$ in case of hydro power generating stations.

where:

$\text{Infl}_{\text{CPI}} = \text{Annual Average Inflation in CPI_IW}$

$\text{Infl}_{\text{WPIOM}} = \text{Annual Average Inflation in WPIOM}$

4. CPI_IW to be considered for this purpose is published by Labour Bureau, Ministry of Labour, and WPIOM is to be computed from disaggregated data on wholesale prices published by Ministry of Industry. The special index of wholesale prices for thermal and hydro power generating utilities (WPIOM) is to be obtained as a weighted average of relevant components selected from disaggregated WPI series (1993-94=100) as given below:

COMMODITIES	WEIGHTS
1. Lubricants	0.16367
2. Cotton Cloth	0.90306
3. Jute, Hemp and Mesta Cloth	0.37551
4. Paper & Paper Products	2.04403
5. Rubber & Plastic Products	2.38819
6. Basic Heavy Inorganic Chemical	1.44608
7. Basic Heavy Organic Chemical	0.45456

8. Paints Varnishes & Lacquers	0.49576
9. Turpentine, Synthetic Resins, Plastic materials etc	0.74628
10. Matches Explosives & Other Chemicals	0.94010
11. Non-Metallic Mineral Products	2.51591
12. Basic Metals Alloys & Metals Products	8.34186
13. Machinery & Machine Tools	8.36331
14. Transport Equipment & Parts	4.29475
All the Above (WPIOM)	33.47307

$$WPIOM = \frac{\sum_{i=1}^{14} wiWPIi}{\sum_{i=1}^{14} wi}$$
 where $WPIi$ is the wholesale price index of the i th commodity and wi is the respective weight

5. In the case of computation of O & M charges in respect of the inter-state transmission assets, the following methodology has been prescribed:

- (a) Where the O&M expenses, excluding abnormal O&M expenses, if any, on sub-stations (OMS) and lines (OML), are separately available for each region, these are normalised by dividing them by number of bays and line length respectively. Where data as aforesaid is not available, O&M expenses in the region are apportioned to the sub-stations and lines on the basis of 30:70 ratio and are normalised as below:

O&M Expenses per unit of line length in Kilometres (OMLL)

OMLL = O&M expenses for lines (OML)/Average line length in kms (LL)

O&M expenses for sub-stations (OMBN)

OMBN = O&M expenses for substations (OMS)/Average number of bays (BN)

- (b) The five years average of the normalised O&M expenses for lines and for bays (for the period 1995-1996 to 1999-2000) are escalated @ 10 per cent per annum for two years (1998-99 and 1999-2000) to arrive at

the norm for O&M expenses per unit of line length and per bay for the base year 1999-2000.

- (c) NOMLL and NOMBN for the regions derived in the preceding subparagraph are escalated at the rate of 6 percent per annum to obtain the normative values of O&M charges per unit of line length and per bay in the relevant year. These normative values are multiplied by the line length and number of bays (as the case may be) in a given system in that year to compute the permissible O&M charges for that system.
- (d) The escalation factor of 6 percent per annum is used to revise the normative base figure of O&M expenses. A deviation of the escalation factor computed from the actual inflation data that lies within 20 percent of the above notified escalation factor of 6 percent (which works out to be 1.2 percentage points on either side of 6 percent) is absorbed by the utilities/beneficiaries. In other words, if the escalation factor computed from the observed data lies in the range of 4.8 to 7.2 percent, this variation is to be absorbed by the utilities. Deviations beyond this limit need to be adjusted on the basis of the actual escalation factor arrived at on the basis of a weighted price index of CPI for industrial workers (CPI_IW) and an index of select components of WPI (WPITR) as per formula given below from the published data:

$$\text{Escalation} = 0.55 \times \text{Infl}_{\text{CPI}} + 0.45 \times \text{Infl}_{\text{WPITR}}$$

Where

Infl_{CPI} = Annual Average Inflation in CPI_IW

$\text{Infl}_{\text{WPITR}}$ = Annual Average Inflation in WPITR

- (e) WPITR is computed as a weighted average of the components listed below selected from disaggregated WPI series (1993-94 = 100).

COMMODITIES	WEIGHT
1. Cotton Cloth	0.90306
2. Paper & Paper Products	2.4403
3. Paints & Plastic Products	2.38819
4. Paints Varnishes & Lacquers	0.49576
5. Turpentine, Synthetic Resins, Plastic materials etc	0.74628
6. Non-Metallic Mineral Products	2.51591
7. Basic Metals Alloys & Metals Products	8.34186
8. Machinery & Machine Tools	8.36331
9. Transport Equipment & Parts	4.29475
All the above (WPITR)	30.0931

$$WPITR = \frac{\sum_{i=1}^9 w_i WPI_i}{\sum_{i=1}^9 w_i}$$

where WPI_i is the Wholesale Price Index for the i th sub-group and w_i is its respective weight

- (f) O&M charges on account of network expansion in a given Financial Year are computed on the basis of relevant normative O&M charges per unit of line length or number of bays. The normative O&M charges for 1999-2000 (NOMLL and NOMBAN, as the case may be), are to be escalated at 6% per annum to bring them to level of relevant year. These normative expenses multiplied by the line length or the number of bays, as the case may be, added in the year in which expansion has taken place give O&M expenses on account of net work expansion per year. For the year of commissioning, O&M expenses for lines and bays

added shall be apportioned for on the basis of their months in operation during that year.

6. The tariff in the past has been determined by applying O&M escalation factor of 6% from 1999-2000 and onwards.

7. The published data of CPI_IW and component-wise WPI (from which WPIOM and WPITR are to be calculated) for the period ending 31.3.2004 has since become available. Based on this published data of CPI_IW and WPI, the staff of the Commission had calculated O&M escalation factor for thermal and hydro generating stations and also the inter-state transmission system in keeping with the methodology specified in the notification dated 26.3.2001. The year-wise inflation rates (escalation factor) for the years 2000-01 to 2003-04 as computed by the staff of the Commission are extracted below:

	(in percentage)			
	2000-01	2001-02	2002-03	2003-04
Thermal Power Generating Stations	4.45	3.49	2.70	4.62
Hydro Power Generating Stations	4.29	3.69	3.02	4.43
Inter-state Transmission System	4.36	3.62	3.11	4.41

8. By our order dated 4.1.2005, the details of year-wise inflation rates computed by the Commission's staff were circulated among the Central Power Sector Utilities and the concerned State Utilities who were to file their views and suggestions thereon. The views and suggestions have been filed on behalf of Neyveli Lignite Corporation Ltd. (NLC), National Thermal Power Corporation Ltd. (NTPC), National Hydro-electric

Power Corporation Ltd. (NHPC), Power Grid Corporation of India Ltd (PGCIL) among the Central Power Sector Utilities. The State Utilities who have filed their responses are Kerala State Electricity Board (KSEB), Madhya Pradesh State Electricity Board (MPSEB) and Uttar Pradesh Power Corporation Ltd (UPPCL). None of the utilities, whether Central or State, has disputed the correctness of the inflation rates calculated by the Commission's staff. Accordingly, we approve the inflation rates as calculated and given in para 7 above.

9. Now we consider certain other issues raised on behalf of the utilities in their responses. NLC in its response has submitted that the proposal for revision of O&M charges based on the escalation factors by applying CPI_IW and WPIOM should not be pursued and O&M norms of applicable escalation factor @ 6% as per the Commission's notification dated 26.3.2001 should be adopted. According to NLC, revision of O&M charges in accordance with the proposal made in the order dated 4.1.2005 would unsettle the position settled based on the terms and conditions notified by the Commission. It is stated that NLC has incurred heavy O&M expenses for various reasons, including the inferior quality of fuel used by it, which do not get re-imbursed even by applying the escalation factor of 6%.

10. We have considered the submission made by NLC. The submission is devoid of any merit. As we have noted above, the terms and conditions of tariff applicable for the period 1.4.2001 to 31.3.2004 provided for adjustment of O&M charges based on the actual escalation factor, where the actual factor was beyond the prescribed normative limits. In the present proceedings the Commission has proposed to give effect to the provisions made in the notification dated 26.3.2001. From the response,

it appears that NLC nourishes an apprehension that such a revision will have its implications on fixation of O&M charges for the tariff period commencing on 1.4.2004. We make it clear that the present proposal relates to revision of O&M expenses for the period up to 31.3.2004. So far as O&M charges from 1.4.2004 onwards are concerned, these are to be regulated in terms of the Commission's notification dated 26.3.2004, published in the Gazette on 29.3.2004.

11. NTPC, NHPC and PGCIL have raised certain common issues and, therefore, we propose to consider these issues in the first instance. It has been stated that O&M charges need to be revised only for deviations beyond the limit of 4.8% and 7.2%. It has been illustrated that in case the actual escalation factor is 8%, revision of O&M charges is to be effected by applying adjustment of 0.8%, that is, 8% minus 7.2%. Similarly, in case actual escalation is 4%, then again revision of O&M expenses is to be made only for deviation of 0.8%, that is, 4.8% minus 4%. NTPC has further illustrated this methodology with the help of the calculations given in the table below:

(in percentage)

	2000-01	2001-02	2002-03	2003-04
Actual escalation factor as provided in the order dated 4.1.2005	4.45	3.49	2.70	4.62
Adjustment beyond absorption range	6-(4.8 - 4.45)	6-(4.8-3.49)	6-(4.8-2.70)	6-(4.8-4.62)
Adjusted escalation factor	5.65	4.69	3.9	5.82

12. We do not find any force in this submission made on behalf of the Central Power Sector Utilities. Undoubtedly, the notification dated 26.3.2001 provides that there would be no adjustment when the escalation factor lies between 4.8% to 7.2%. However, where escalation factor is beyond these limits, O&M expenses are to be worked out by applying the actual escalation factor and not the marginal adjusted

escalation factor as contended. There is an apparent fallacy in the argument made by the Central Power Sector Utilities. In case the contention of Central Power Sector Utilities is accepted, there cannot be revision of O&M expenses for the years 2000-01 and 2003-04 for the reason that adjusted escalation factor, as calculated by NTPC and extracted above, falls within the range of 4.8% to 7.2%, even though the actual escalation factor is outside the prescribed range. We, therefore, direct that O&M expenses for the period 1.4.2001 to 31.3.2004 shall be revised by applying the actual escalation factor as given under para 7 above, correctness of which is not disputed by any of the utilities. This is in accordance with the letter and spirit of the provisions made in the notification dated 26.3.2001.

13. It is further submitted by Central Power Sector Utilities that the notification dated 26.3.2001, applicable for the period 1.4.2001 to 31.3.2004 provides for revision of O&M charges by applying the actual escalation factor for the tariff period only. It is contended that the escalation factor of 6% notified for the year 2000-01 as per the notification dated 26.3.2001 does not call for any adjustment based on actual escalation factor. It has been submitted that the notional O&M expenses for the year 2000-01, which are the basis for computation of these charges, already considered by the Commission need not be disturbed based on the actual escalation factor for that year. For this purpose, reliance has been placed on clause 2.7 (d) (v) which lays down the manner of computation of the escalation of yearly expenses from the published data for the tariff period.

14. This submission made on behalf of the Central Power Sector Utilities has been considered. We may note that to resolve the issue, we have to consider by reading

clause 2.7 (d) and as a whole. The interpretation cannot be restricted to clause 2.7 (d) (v) only. The notification dated 26.3.2001 provides for escalation factor of 6% per annum applicable to the base O&M expenses for the year 1999-2000 and onwards. (The year 1999-2000 has been considered as the base year as per the notification dated 26.3.2001). It is further provided that when the escalation factor is within the range of 20% of the notified escalation factor 6%, that is, when the actual escalation factor lies in the range of 4.8% to 7.2%, the variation is to be absorbed by the Central Power Sector Utilities or the beneficiaries, as the case may be. In case of deviation beyond these limits, adjustment is required to be made by applying actual escalation factor arrived at in the manner indicated. O&M expenses are to be revised after the base year of 1999-2000, based on actual escalation factor, since the escalation factor of 6% has been applied from that year onwards. O&M expenses need revision by applying the actual escalation factor wherever the notified escalation factor of 6% has been considered while computing O&M expenses. Thus, on overall reading of clause 2.7 (d), we have arrived at the conclusion that the notional O&M expenses for the year 2000-01 which form the basis for computation of O&M charges for the tariff period have also to be revised on the basis of actual escalation factor for that year. When so construed, clause 2.7 (d) (v) reads as under:

“(v) The escalation of yearly expenses, from the published data, for the tariff period shall be computed as follows:

.....
.....
.....”

15. NTPC in its response has sought revision of O&M charges on account of consumption of spares and expenditure on certain items like furniture, PCs, IT equipment, light equipment, tools and tackles etc, the capitalisation of which was

disallowed by the Commission while approving tariff for the period prior to 1.4.2001. In our considered opinion, revision of O&M expenses based on the suggestion made by NTPC cannot be entertained in the present proceedings. The scope of the present proceedings is confined to revision of O&M charges computed earlier, based on actual escalation factor. Recalculation of O&M charges by considering consumption of spares and other items, capitalisation of which was disallowed by the Commission earlier cannot be considered in present proceedings. It is also noted that capitalisation of spares as per accounting standard was started by NTPC for the year 2000-01 onwards. However, for the purpose of computing of O&M charges applicable from 1.4.2001, O&M data for the years 1995-96 to 1999-2000 was considered. It is presumed that during the years 1995-96 to 1999-2000, consumption of spares other than initial spares capitalised, must have been included at their actual cost value.

16. PGCIL has submitted that O&M expenses for network expansion should not be revised because no such revision has been prescribed in the notification dated 26.3.2001. For this purpose, PGCIL has placed reliance on note below clause 4.4(d) (v) of the notification dated 26.3.2001, reproduced below.

“Note

O&M expenses on account of network expansion in a given Financial Year shall be computed on the basis of relevant normative O&M expenses per unit of line length or number of bays. The normative O&M expenses for 1999-2000 (NOMLL and NOMBN as the case may be) shall be escalated at 6 percent per annum to bring them to level of relevant year. These normative expenses multiplied by the line length or the number of bays, as the case may be, for added the year in which expansion has taken place shall give the O&M expenses on account of network expansion per year. For the year of commissioning, the O&M expenses for lines and bays added shall be apportioned for on the basis of their months in operation during that year.”

17. There does not appear to be any merit in the argument made by PGCIL. O&M charges for the network expansion are based on the regional O&M charges for the transmission system which itself is subject to revision in accordance with the notification dated 26.3.2001. Accordingly, O&M charges for network expansion also need to be revised.

18. It has been submitted on behalf of Kerala State Electricity Board that as a follow up of revision of O&M expenses, Interest on Working Capital component of the fixed charges also needs revision for the reason that O&M expenses are considered as a part of the working capital also. It is further submitted that the cost of maintenance spares should also be revised by applying the actual escalation factor applicable for revision of O&M charges. A similar prayer has been made on behalf of MPSEB.

19. We are not considering revision of Interest on Working Capital component of the fixed charges or the transmission charges presently for the reason that the consideration of the matter falls outside the scope of present proceedings. These proceedings be restricted to revision of O&M charges already allowed.

20. UPPCL has submitted that the excess O&M charges paid to the Central Power Sector Utilities should be refunded along with interest at bank rates applicable. The representative of UPPCL has relied upon Section 62 (6) of the Electricity Act, 2003, the relevant provision in which is extracted below:

“(6) If any licensee or a generating company recovers a price or charge exceeding the tariff determined under this section, the excess amount shall be recoverable by the person who has paid such price or charge along with

interest equivalent to the bank rate without prejudice to any other liability incurred by the licensee.”

21. It is noticed that where a licensee or a generating company recovers a price or charge exceeding the tariff determined by the Commission, the excess amount is recoverable along with interest equivalent to the bank rate. In our opinion, sub-section (6) of Section 62 cannot be invoked in the facts and circumstances of the present case since the tariff (including O&M charges) charged by the Central Power Sector Utilities initially was as determined by the Commission. O&M charges are proposed to be revised by the Commission ex post facto keeping in view the provisions of the notification dated 26.3.2001. It is not a case where the Central Power Sector Utilities have charged tariff exceeding that determined or approved by the Commission. Therefore, no interest is payable on the excess O&M charges paid by the State Utilities.

22. In the light of above discussion, we direct that O&M charges for the period 1.4.2001 to 31.3.2004 shall be worked out by Central Power Sector Utilities afresh by applying the actual escalation factors given under para 7 of this order. The excess amount, if any, shall be adjusted or refunded to the State Utilities concerned by 10.5.2005 and a compliance report in this regard shall be submitted by the Central Power Sector Utilities to the Commission.

23. Having regard to the conclusion reached above, the computation of revised O&M charges based on the actual escalation factor have been illustrated (for a thermal station) as under by hypothetically considering the notional O&M expenses of Rs.100 for the base year 1999-2000:

Description	Normalized O&M expenses	O&M Charges			
		1999-2000	2000-01	2001-02	2002-03
Escalation rate considered as per notification %		6.00	6.00	6.00	6.00
O&M charges (Rs.)	100.00	106.00	112.36	119.10	126.25
Actual escalation rate (%)		4.45	3.49	2.70	4.62
O&M charges worked out taking actual escalation rates (Rs.)	100.00	104.45*	108.10	111.01	116.14
Benefit to be passed on to the beneficiaries (Rs.)			4.26	8.09	10.11
Total benefit (Rs.)		22.46			

* In case water charges or any other expenses are provided separately in the year 2000-01 in the tariff order, the figure for 2000-01 shall be worked out taking into consideration the water charges also.

Petitions No.76/2003 and 90/2004

24. In view of the above order, no separate orders need be passed in these petitions, which also get disposed of since in these petitions the prayers are made for revision of O&M charges based on the actual escalation factor.

Sd/-
(BHANU BHUSHAN)
MEMBER

Sd/-
(K.N. SINHA)
MEMBER

Sd/-
(ASHOK BASU)
CHAIRMAN

New Delhi dated the 28th February, 2005