



Tenughat Vidyut Nigam Limited (TVNL)

(A Government of Jharkhand Undertaking)

Hinoo, Doranda, Ranchi-834 002

Annual Revenue Requirement

FY 2010-11

Submitted to

Jharkhand State Electricity Regulatory Commission (JSERC)

2nd Floor, Rajendra Jawan Bhawan-Cum Sainik Bazar
Main Road, Ranchi-834 001

2010

**BEFORE THE JHARKHAND STATE ELECTRICITY
REGULATORY COMMISSION**

Filing No: _____

Case No: _____

IN THE MATTER OF:

Petition for approval of Tariff for the financial year 2010-11, under Section 64 of the Electricity Act, 2003, read with Regulation 5 of the JSERC (Terms and Conditions for Determination of Thermal Generation Tariff) Regulations, 2004 issued by the Honourable Jharkhand State Electricity Regulatory Commission (JSERC), hereinafter referred to as Honourable Commission.

AND

IN THE MATTER OF:

Tenughat Vidyut Nigam Limited (“TVNL”)

Hinoo, Doraanda, Ranchi

Jharkhand – 834 002

.....**PETITIONER**

The Petitioner respectfully submits

Contents

1. Executive Summary & Truing.....	4
2. Background	10
2.1. Introduction.....	10
2.2. Need for the Petition	11
3. Status against Hon’ble Commission’s Directives.....	12
3.1. Improvement in performance of Operational parameters	12
3.2. Issues in accounting treatment of expenses	12
3.3. Loan restructuring.....	12
3.4. Adjustment of Bills & payments/receipt as per revised cost of power sold to JSEB 12	
3.5. Investment in Fixed Deposits	12
3.6. Break-up of Repair works.....	12
3.7. Data adequacy in next Tariff petition and timelines	12
4. Generation Parameters Projection.....	13
4.1. Generation Projection	13
4.2. Plant Load Factor (PLF).....	13
4.3. Auxiliary Consumption	13
4.4. Heat Rate	14
4.5. Specific Coal Consumption	14
4.6. Secondary Fuel Consumption	15
4.7. Summary.....	15
5. Fixed Charges.....	16
5.1. Project Cost	16
5.2. Elements of Fixed Costs.....	16
5.3. Interest on Loan	17
5.4. Depreciation.....	18
5.5. Operation and Maintenance (O&M) Expenses.....	23
5.6. Interest on Working Capital:.....	24
5.7. Return on Equity.....	25
5.8. Income Tax	26
5.9. Elements of Fixed Costs.....	26
6. Variable Charges	27
6.1. Coal Consumption	27
6.2. Specific Consumption of Oil	28
6.3. Fuel Prices and Costs.....	28
7. Revenue Requirement	30
7.1. Fixed Charges.....	30
7.2. Variable/Energy Charges	30
7.3. Other Income.....	30
7.4. Revenue Requirement & Proposed Tariff.....	30

1. Executive Summary & Truing

The Petitioner along with the information for FY'11, is also submitting the actual details of the operation during 2009-10 and requests Hon'ble Commission for truing the approved expenses based on actual expenses incurred by Petitioner.

Table 1: Generation Performance (MU)

	2009-10			2010-11
	Petition	Approved	Actual	Petition
Generation (MUs)				
Unit –I			1345	1320
Unit-II			704	1435
Total	2490	2088	2049	2755
Station PLF (%)	67.68	56.75	55.68	74.88
Auxiliary Consumption (%)	9.00	9.00	9.45	9.00
Heat Rate (kCal/kWh)	3100	2500	3418	3000
Gross Calorific Value of Coal	4300	4300	4300	4300
Specific Oil Consumption (kg/kWh)	2.5	2.0	3.296	2.5

With these parameters as base, the actual fixed costs for the year 2009-10 and projected costs for 2010-11 are summarized below:

Table 2: Summary of Fixed Costs (Rs.Crores)

	2009-10			2010-11
	Petition	Approved	Actual	Petition
Interest on Loan	83.15	83.06	83.06	83.06
Depreciation	45.55	46.34	45.62	47.06
O&M Expenses	124.10	75.68	125.34	97.60
Interest on Working Capital	18.05	12.90	23.76	21.38
Return on Equity	19.43	21.82	19.99	23.73
Income Tax	-	-	-	-
Total			297.78	272.82

Petitioner would also like to state that the actual heat rate observed in 2009-10 was 3418 Kcal/kWh.

Petitioner is making all efforts to reduce the heat rate and has therefore targeted to achieve heat rate of 3000 Kcal/kWh for FY 11. Petitioner requests Hon'ble Commission to allow petitioner a higher heat rate than the approved value for 2009-10.

Petitioner would also like to state that the normative value of 2500 Kcal/kWh is applicable for plants coming after 1.4.2004 as per terms and conditions for determination of thermal generation tariff) regulations, 2004 notified by Hon'ble Commission.

For plants existing prior to 1.4.2004, which is applicable for the Petitioner the tariff order states “In case of existing generating stations the norms of operation shall be fixed based on past performance of the generating station and on efficiency improvement measures, as approved by the Commission.”

Petitioner would therefore request Commission to take cognizance of the past performance of the Petitioner, which is amongst one of the best in the region, and thus allow a higher heat rate.

In the mean while, Petitioner is also committed to bring down the heat rate from present values to 3000 Kcal/kWh.

In the last tariff order, Hon'ble Commission prescribed a cap on O&M as 2.5% of project cost at the time of CoD, where the project cost has been taken as Rs.1304.91 Cr. Petitioner would like to bring into notice of Hon;ble Commission that the notes in the Form 15 of the Thermal Generation tariff order states that the base O&M calculated as 2.5% of project cost at the time of CoD should be escalated at the rate of 10% to bring it to 1999-2000 level and escalation of 6% to be applied. Petitioner requests the Hon'ble Commission to kindly consider the base cost of O&M at the level of 1999-2000, for capping the O&M cost. An illustration of our understanding has been tabulated below.

Table 3: O&M for 2009-10

Calculation of O&M Costs	
Particulars	
Capital Cost at the time of COD year 1996-97	1304.91
2.5% of the Capital Cost	32.65
Escalating the cost to bring it to year 2000 level at the rate of 10%	43.42
Applying 6% escalation from year 2000 to 2010	77.76
O&M as per norms only on initial project cost for 2011	82.43
O&M approved including capitalization of 90.46 Cr and employee expense of 6.50 Cr for 2010	75.68

Petitioner would also like to submit that the O&M expenses as being observed are much higher than the normative value even by the above mentioned calculations and hence has initiated a diagnostic test for the same. With the information available as of now, Petitioner considers that inadvertently certain particulars which should have been under the head of capital expenditure, has been put in the O&M head resulting in a higher O&M expense in the past and also lower return to Petitioner severely impacting its financial position. This infirmity creeps into the system at the time any item is bought and not properly tagged. Petitioner is making all efforts to correct this at the earliest and has also considered the partial results of the actions already initiated in this petition, and thus has projected O&M at a lower value than made in the previous petition. In terms of percentage, Petitioner projects a reduction of approximately 22% from the actual O&M cost of 2009-10.

Petitioner had projected the delivered coal price to be Rs.1300 per MT for FY 10, whereas based on actual expenditure the delivered coal price observed was Rs.1343 per MT. This includes, transportation (including fuel for dozer), loss at 0.3%. Petitioner requests Commission to kindly consider the increased cost while truing the expenses for 2009-10.

The actual coal consumption (including transit loss of 0.3%) was 1547305 MT in FY 10, whereas Commission approved a consumption of 1207834 MT. As this is directly related to heat rate, Petitioner requests Commission to take a considerable view.

For FY '11 Petitioner has assumed an increase of 10% on coal cost and hence has projected the delivered cost as 1477.70 per MT and a total consumption of 1934303 per MT.

Petitioner in FY '10 observed oil price at Rs.38 086 per kL which is lower than the approved cost of Rs.39.045 per kL. For FY 11 oil price has been assumed to be at 43,269 per kL which is an increase of 13.6%. The oil prices have increased in recent times and thus the assumption made.

Table 4: Summary of Variable Costs (Rs.Crores)

	2009-10			2010-11
	Petition	Approved	Actual	Petition
Coal Cost	233.77	157.02	207.80	285.75
Oil Cost	24.32	16.30	25.72	29.80
Total Fuel Cost	258.09	173.32	233.52	315.56

The non-tariff income of Rs. 9.85 Crores was observed in FY 2011 against an approved cost of Rs. 15.83 Crores and hence request Hon'ble Commission to kindly consider this as the non tariff income while truing the expenses.

The revenue requirement less other income will be the revenue to be raised through tariff. This has been worked out in the Table 5 below:

Table 5: Revenue Requirement (Rs. Crores)

	2009-10			2010-11
	Petition	Approved	Actual	Petition
Fixed Charges	290.28	239.80	297.78	272.82
Energy Charges	258.08	173.32	233.52	315.55
Revenue Requirement	548.36	413.12	531.30	588.38
Other Income	2	15.43	9.85	10.97
Total	546.36	397.70	521.45	577.41

The Petitioner has estimated a revenue requirement of Rs 577.41 Crores after adjusting for its non-tariff income and derived the following fixed and energy components of tariff:

Table 6: Proposed Tariff Increase

	2009-10			2010-11
	Petition	Approved	Actual	Petition
Fixed Charges/unit	1.272	1.143	1.597	1.044
Energy Charges/unit	1.139	0.91	1.253	1.259
Tariff	2.411	2.053	2.85	2.303

The Petitioner requests the Honourable Commission to approve the estimated Rs. 0.25 per unit increase from the existing tariff of 2.053.

2. Background

2.1. Introduction

Tenughat Vidyut Nigam Limited (hereinafter referred to as “Petitioner”), a wholly owned Generating Company of Government of Jharkhand was constituted in 1987 under Indian Company’s Act, 1956. The Petitioner owns and operates an installed power generation capacity of 420 MW with two units of 210 MW each. The units were commissioned as detailed below:

Unit I - September 1996

Unit II - September 1997

With the creation of Jharkhand state on 15th November 2000 from the erstwhile Bihar State, the Petitioner has become an undertaking of Government of Jharkhand. But all the papers relating to Tenughat Thermal Power Station (TTPS) are still lying with Bihar State Electricity Board, Patna and in spite of the orders of the Jharkhand High Court the documents are not made available to the Petitioner. As such the details of estimated costs of various items related to the project are not available with the Petitioner. However, based on expenditure details available with TTPS the total cost of the project including interest during construction (IDC) is estimated at Rs.1304.91 Crores. This has been audited by Chartered Accountants. The Capital Cost of the project is discussed later in the petition.

The petitioner would like to inform the Hon’ble Commission the investment made by BSEB of the amount Rs.168 Crores, which though included in our earlier submission under capital cost, was never treated as an investment. This was due to the fact that the matter has been sub judice since the time TVNL was transferred. Recently there are certain developments and an amount of Rs.427 Cr has been raised by Bihar State Electricity Board which includes an initial investment of 168 Cr and carrying cost. The issue is still being debated and an early order from Central and State Government is expected. Petitioner wants to bring this into consideration of Hon’ble Commission as submit that due to this, the loan restructuring as was directed, has not been initiated.

2.2. Need for the Petition

The Honorable Commission has notified the regulations on Terms and Conditions for Determination of Thermal Generation Tariff on 28th July 2004 in exercise of the powers conferred by Section 61 and 62 read with Section 181 of the Electricity Act, 2003. The sub-clause (2) of Clause 5 of these regulations require the generating company, in case of existing generating station, to make an application for determination of tariff as per Appendix I to these regulations for getting the same approved by the Honourable Commission. In compliance to this provision, the Petitioner is filing this petition.

The Honourable Commission had passed tariff order dated March 05, 2010 for the financial year 2008-09 approving a tariff of Rs 2.05 per unit (Energy Charge of 0.89/unit) and for 2009-10 approving a tariff of Rs2.053 per unit (Energy Charge of 0.91/unit).

The Petitioner seeks revision in tariff on account of increased cost on account of fuel, employee, maintenance, increase in new capital works and higher operation, repair and maintenance expenditure on account of aging of the existing units of the plant.

3. Status against Hon'ble Commission's Directives

3.1. Improvement in performance of Operational parameters

Petitioner is making all efforts to improve the operational parameters. Petitioner has targeted stiff targets for itself for FY 11.

3.2. Issues in accounting treatment of expenses

On the direction of Hon'ble Commission, Petitioner has engaged consultants to rectify the deficiencies in the accounting treatment of expenses.

3.3. Loan restructuring

The subject is under consideration of Govt of Jharkhand, wherein Petitioner has requested conversion of loan to equity. However, there has been no progress on the same.

3.4. Adjustment of Bills & payments/receipt as per revised cost of power sold to JSEB

Petitioner is constantly following up with JSEB, but JSEB has expressed their inability to pay the dues shortly.

3.5. Investment in Fixed Deposits

As the issue of loan restructuring is still pending, no change has been made in the investment pattern.

3.6. Break-up of Repair works

This issue has been discussed at length with Hon'ble Commission and Commission considered the cost incurred by the Petitioner.

3.7. Data adequacy in next Tariff petition and timelines

Petitioner would like to submit that all efforts have been made to provide complete data in this petition. However, these data are based on provisional balance sheet which is available as of now.

4. Generation Parameters Projection

4.1. Generation Projection

The Petitioner has existing generation facility of 420 MW (2x210 MW) coal based thermal power plant at Bokaro. Petitioner is making all efforts to improve the generation and has significantly targeted higher generation for FY 11.

Table 7: Generation Parameters Projection (MU)

Year	Generation (MUs)		Total
	Unit -I	Unit-II	
2010-11	1320	1435	2755

4.2. Plant Load Factor (PLF)

A PLF of 74.88% is being projected for the plant in FY11.

Table 8: Projected Generation Performance for FY11

Year	PLF (%)
2010-11	74.88

4.3. Auxiliary Consumption

The auxiliary consumption is specific to a particular power station and depends on its configuration, age and related technical parameters. Auxiliary power is required for different equipments like feed pumps, cooling water pumps, air fans, coal grinding mills, ash handling equipments, common auxiliaries etc. of the generating station. The auxiliary consumption was 9% in FY 2010 Petitioner projects its auxiliary consumption at 9% for FY 11.

Table 9: Auxiliary Consumption for FY'11

Year	Auxiliary Consumption (%)
2010-11	9

4.4. Heat Rate

Petitioner is increasing its efforts to reduce the heat rate and hence has targeted a stiffer target of 3000 kCal/kWh for 2010-11.

Table 10: Projected Heat Rate for FY'11

Year	Heat Rate (kCal/kWh)
2010-11	3000

4.5. Specific Coal Consumption

The Petitioner sources D grade coal from the collieries of Central Coal Fields Limited with calorific value of about 4300 kCal/kg.

Table 11: Specific Coal Consumption

Year	Specific Coal Consumption (kg/kWh)
2010-11	0.7

Petitioner in line with an aim for achieving better operation targets to achieve specific coal consumption of 0.7 kg/kWh.

4.6. Secondary Fuel Consumption

Due to the large number of outages experienced by the station due to transmission line trippings etc., the Petitioner was not been able to achieve the norm of 2 ml/kWh fixed by the Honourable Commission for specific oil consumption.

The Petitioner observed a specific oil consumption of 3.296 ml/kWh during FY 2009-10. Petitioner is planning to reduce its oil consumption and improve the specific oil consumption figure. Petitioner projects a specific oil consumption of 2.5 ml/kWh.

Table 12: Projected Specific Oil Consumption for FY'11

Year	Specific oil consumption (ml/kWh)
2010-11	2.5

4.7. Summary

The Petitioner projects the following for 2010-11:

Table 13: Projected Generation Parameters for FY'11

Year	Generation (MU)	PLF (%)	Auxiliary Consumption (%)	Heat Rate (kCal/kWh)	Specific Coal Consumption (kg/kWh)	Specific Oil Consumption (ml/kWh)
2010-11	2755	74.88	9	3000	0.7	2.5

5. Fixed Charges

5.1. Project Cost

The station comprises of 2 units of 210 MW each, the first unit was commissioned in September 1996 and the second unit in September 1997.

Hon'ble Commission in its Tariff Order dated 5 March, 2010 considered the project cost as Rs.1395.37 Crores for FY 2009-10. The petitioner has taken this as the starting point for FY 2010-11. In the earlier petition of FY 2009-10, the Commission considered additional capitalization of Rs.43.47 Crores. However, as of now Rs.8.68 Crores have been capitalized. More explanation has been provided while discussing the return on equity..

The details of funding the project cost are given in Table 16 below:

Table 14: Project Cost – Funding

S.No.	Funding Source	Amount (Rs. Crores)
Phase 1: 2x210 MW		
1	Project cost at the start of 2009-10	1350.39
2	Additional Capitalization in 2009-10	8.68
3	Total Project Cost	1359.07
5	Outstanding Debt Component at the start of 2010-11	638.90
6	Total Debt	
7	Equity Component at the start of 2010-11	142.8
8	Equity infusion during 2010-11	26.70
9	Total Equity	169.50

5.2. Elements of Fixed Costs

The fixed costs include:

- Interest on Loan
- Depreciation
- O&M Costs

- Interest on Working Capital
- Return on Equity
- Tax on Income

The details are submitted below for consideration of Honourable Commission

5.3. Interest on Loan

The loan outstanding as on 31.03.2010 is Rs 638.90 Crores. The interest on the outstanding loan is Rs.83.06 Crores. As per the terms and conditions the State Government loan is repayable in 15 equal installments. But the Petitioner could not meet the repayment obligation due to insufficient funds on account of non-payment of electricity charges by the Jharkhand State Electricity Board (JSEB).

Table 15: Loan Outstanding and Interest Charges (Rs.Crores)

S.No	Name of the Institution	Balance at the beginning of the year	Loan received during the year	Repayment During the year	Balance O/S at the end of the year	Rate of Interest %	Interest for the year
2010-11							
1	Bihar Govt. Loan	608.90		-	608.90	13	79.16
2	Jharkhand Govt. Loan	30.00			30.00	13	3.9
Total 2010-11		638.90			638.90		83.06

The Petitioner's inability to repay loan is due to non-recovery of dues from JSEB.

The Commission has directed the petitioner for restructuring the existing loan, however as submitted earlier petitioner has approached the GoJ for converting the loan into equity.

The subject is under consideration and hence no restructuring of loan has been done.

Therefore the Petitioner requests the Honourable Commission to approve the interest charges for 2010-11.

The weighted average of interest rated for the petitioner is 13% and the same has been applied for calculating the interest.

Table 16: Loan Outstanding and Interest Charges for 2010-11 (Rs.Crores)

S.No	Name of the Institution	Balance at the beginning of the year	Loan received during the year	Repayment During the year	Balance O/S at the end of the year	Rate of Interest %	Interest for the year
2010-11							
1	Bihar Govt. Loan	608.90		-	608.90	13	79.16
2	Jharkhand Govt. Loan	30.00			30.00	13	3.9
Total 2010-11		638.90			638.90		83.06

Table 17: Interest Charges for 2010-11 (Rs. Crores)

	2009-10			2010-11
	Petition	Approved	Actual	Petition
Interest on Loan	83.06	83.06	83.06	83.06

5.4. Depreciation

The Petitioner has calculated the depreciation on its fixed assets on historical capital cost of the asset. Depreciation is calculated annually as per the straight line method as per rates of depreciation prescribed in the schedule attached at Appendix-II of the JSERC (Terms and Conditions for Determination of Thermal Generation Tariff) Regulations, 2004, and depreciation cost has been arrived at accordingly.

Table 18a: Depreciation for the Plant (Rs. Lakhs)

S.No.	Asset Classification	Asset at the beginning of 2009-10	Additions for the year	Depreciated on Asset	Depreciated on Additions	Asset at beginning of 2010-11 (Rs.Lakhs)	Rate of Depreciation (%)	Depreciation on Asset (Rs.Lakhs)
1	Land	3864.70			0.00	3864.70		
2	Buildings				0.00	0.00		
(a)	Factory	4210.34		151.57	0.00	4210.34	3.60%	151.57
(b)	Residential	2287.43	11.22	41.17	0.20	2298.66	1.80%	41.38
(c)	Non-Residential	1829.77	51.25	32.94	0.92	1881.02	1.80%	33.86
3	Roads				0.00	0.00		0.00
(a)	Pucca Road	1807.67	208.38	32.54	3.75	2016.04	1.80%	36.29
(b)	Boundary Walls & Others	253.14	98.80	4.56	1.78	351.94	1.80%	6.33
4	Plant and Machinery				0.00	0.00		0.00
(a)	Plant & Machinery	107232.71		3860.38	0.00	107232.71	3.60%	3860.38
(b)	D.G. Set	216.16		12.97	0.00	216.16	6.00%	12.97
(c)	Refrigeration	2.41	315.44	0.14	18.93	317.85	6.00%	19.07
(d)	Internal Wiring	0.11		0.01	0.00	0.11	6.00%	0.01
(e)	Overhead Lines	4890.78		176.07	0.00	4890.78	3.60%	176.07
(f)	Hydraulic Works	7924.37		142.64	0.00	7924.37	1.80%	142.64
(g)	Tools and Tackles	41.14	0.12	1.48	0.00	41.25	3.60%	1.49
(h)	Miscellaneous Equipment	8.87	0.17	0.53	0.01	9.04	6.00%	0.54
(i)	Air Conditioners	34.87	5.93	6.28	1.07	40.80	18.00%	7.34
(j)	Cycle	0.01		0.00	0.00	0.01	6.00%	0.00
(k)	Dozer	282.25	145.14	50.81	26.12	427.39	18.00%	76.93
(l)	Computer	31.70	8.55	1.90	0.51	40.25	6.00%	2.41
(m)	Vehicle	16.61		2.99	0.00	16.61	18.00%	2.99
(n)	Weight Bridge	14.45		0.00	0.00	14.45		
(o)	V-Sat	21.66		0.00	0.00	21.66		
5	Furniture & Fixtures							
(a)	Office Equipment**	17.94	0.17	1.08	0.01	18.12	6.00%	0.01
(b)	Furniture**	49.25	23.21	2.95	1.39	72.46	6.00%	0.04
	Mobile	0.93		0.00	0.00	0.93		
	Total (A)	135039.28	868.38	4523.00	54.70	135907.65		4572.32

As per the JSERC regulations, the residual life of an asset is considered as 10% and depreciation is allowed upto a maximum of 90% of the historical capital cost of the asset. Therefore, depreciation is not calculated on the assets where the cumulative depreciation has reached 90% of the historical cost of such assets.

Table 18 b: Depreciation for Head Office (Rs. Lakhs)

S.No.	Asset Classification	Asset at the beginning of 2009-10	Additions for the year	Depreciation on Asset	Depreciation on Additions	Asset at beginning of 2010-11 (Rs.Lakhs)	Rate of Depreciation (%)	Depreciation Amount (Rs.Lakhs)
1	Furniture & Fixtures	44.66	3.94	2.68	0.24	48.60	6%	2.92
2	Close Circuit Camera	5.78		0.35	0.00	5.78	6%	0.35
3	Photocopy Machine	3.86		0.23	0.00	3.86	6%	0.23
4	Refrigerator	0.64		0.04	0.00	0.64	6%	0.04
5	Miscellaneous Equipment	9.94	6.52	0.60	0.39	16.46	6%	0.99
6	Telephone & Mobile Sets	9.06		0.54	0.00	9.06	6%	0.54
7	EPBX System	5.69		0.34	0.00	5.69	6%	0.34
8	Fax Machine	0.68		0.04	0.00	0.68	6%	0.04
9	Typewriter	0.52		0.03	0.00	0.52	6%	0.03
10	Television	1.81		0.11	0.00	1.81	6%	0.11
11	Computer & Accessories	18.01	3.43	1.08	0.21	21.44	6%	1.29
12	Generator	2.57		0.15	0.00	2.57	6%	0.15
13	Air Conditioner & Coolers	16.88	2.30	3.04	0.41	19.19	18%	3.45
14	Car	14.15		2.55	0.00	14.15	18%	2.55
15	Cycle	0.02		0.00	0.00	0.02	6%	0.00
16	V.Set	0.57		0.03	0.00	0.57	6%	0.03
	Total (B)	134.85	16.19	11.81	1.25	151.04		13.06

Table 18 c : Depreciation on Additional Capitalization (Rs. Lakhs)

ACCOUNT HEAD	Budget 2010-2011	Depreciation Rate (%)	Depreciation (2010-11)
Plant & Machinery	4887.00	3.6%	175.93
New EPABX		6%	0.00
New Dozer and New Engine Dozer	50.00	18%	9.00
Air Compressor for TH			0.00
Pay Loader		6%	0.00
Electronic Weigh Bridge		6%	0.00
Airconditioner	10.00	18%	-
Air Compressor for CHP	75.00	6%	4.50
Lift	50.00	6%	3.00
High Mast towers	5.00	6%	0.30
Furniture & Fixtures	6.00	6%	0.36
Computer & other office equip	5.00	6%	0.30
Office Equipment	1.00	6%	0.06
Land		-	-
Ambassador car/Jeep		18%	-
Mobile Sets			-
Tools & Tackles			-
Miscellaneous Equipment			-
V-Sat			-
Dust Suppression system for C-5A at SCH		6%	0.00
Dust Suppression system for TH system		6%	0.00
ILMS for C-4A/B	40.00	6%	2.40
Modified and improved VF	80.00	6%	4.80
Magnetic Separator and Metal Detector in CHP	80.00	6%	4.80
Battery & Battery Charger	50.00	18%	9.00
Total (A)	5339.00		214.45
Depreciation to be taken into tariff (Prorata basis-assuming mid year as ref point and hence dividing the total depreciation by 2)			107.23

Table 18: Total Depreciation (Rs.Crores)

Item	2009-10			2010-11
	Petition	Approved	Actual	Petition
Depreciation for Plant	45.17	45.17	45.23	45.85
Depreciation for HO	0.12	0.12	0.12	0.13
Depreciation for Additional Capitalization	0.26	1.06	0.28	1.07
Total	45.55	46.34	45.63	47.06

It is requested that the Honourable Commission may kindly approve the depreciation of Rs. 47.06 Crores for the year 2010-11.

5.5. Operation and Maintenance (O&M) Expenses

The O&M expenses include expenditure incurred in the operation and maintenance of the generating station, including employee cost, repairs and maintenance, consumption of stores and spares, water charges, ash disposal, pollution control cess, insurance and other administrative and general expenses of the Petitioner corporate office at Ranchi. The maintenance expenditure has been increasing substantially due to the age of the plant and numerous outages experienced. Petitioner incurred an expense of Rs.125.35 Cr as O&M expense for FY 2010. For FY 2011, petitioner projects O&M expense of 97.60 for FY 2011.

Table 19: 2009-10 O&M Expenses (Rs. Crores)

Item	2009-10			2010-11
	Petition	Approved	Actual	Petition
Employee Cost	28.20		19.43	47.68
R&M Expenses	18.25		18.08	
A&G Expenses	16.09		13.60	7.07
O&M (works and spares)	61.55		74.23	42.85
Total	124.10	75.68	125.35	97.60

The major components of the O&M expenses have been explained below:

a) Employee cost: The actual employee cost for FY 2009-10 was Rs. 19.43 Crores. For the year 2010-11 Petitioner projects employee expense of Rs.47.68 Crores. This substantial increase is on two accounts, one inclusion of CISF cost (Rs.7.45 Crores) under this head and other is the impact of arrears of VI pay commission, which Petitioner intends to disburse during this year.

b) Repairs and Maintenance (R&M): The Petitioner observed an R&M of Rs. 18.08 Crores in FY 2009-10. Petitioner is aligning its accounts and hence is not projecting any expense in this head for 2010-11.

c) Administrative and General (A&G) Expenses: Petitioner incurred an amount of Rs. 13.60 Crores on account of A&G in previous year. This year Petitioner projects an expense of Rs.7.07 Crores which includes Rs.1.70 Crores of Corporate Social Responsibility.

d) O&M Expenses: The petitioner projects an expense of Rs. 42.85 Crores on account of O&M for works and spares.

5.6. Interest on Working Capital:

In accordance with clause (v) of Regulation 21 of the JSERC (Terms and Conditions for Determination of Thermal Generation Tariff) Regulations, 2004, working capital in case of coal based fired generation stations shall cover:

- Cost of coal for 1½ months for pithead generating stations and 2 months for non-pithead generating stations, corresponding to the target availability
- One month stock of secondary fuel oil
- O&M expenses for 1 month
- Maintenance spares @ 1% of plant and equipment cost as on 01.04.2004 or the date of commercial operation, whichever is later; and
- Receivables equivalent to 2 months of fixed and variable charges for sale of electricity calculated on target availability

The interest on working capital as observed during 2009-10 was Rs.22.51Crores. Hon'ble Commission allowed interest rate of 12.25%, where as petitioner after making immense efforts was only able to tie-up the loan at an average rate of 12.5% only. With the increasing rates, Petitioner would like to request Hon'ble Commission to kindly consider a higher rate while truing the expenses for 2009-10.

For the FY 2011, Petitioner requests Commission to consider a rate of 12.5% for FY 2011.

Table 20: Interest on Working Capital (Rs. Lakhs)

Item	2009-10			2010-11
	Petition	Approved	Actual	Petition
Cost of Coal for 1½ months	29.22	19.63	25.98	35.72
Secondary Fuel Oil for 1 month	2.03	1.36	2.14	2.48
Operation & Maintenance Expenses for 1 month	10.34	6.31	10.45	8.13
Maintenance Spares @ 1% of Plant and Equipment	11.72	11.72	11.72	11.72
Receivables Equivalent to 2 Months of Fixed and Variable Charges	91.06	66.28	139.80	112.98
Total Working Capital	144.37	105.29	190.09	171.04
Interest on Working Capital (12.5% calculation, approved cost @12.25%)	18.05	12.90	23.76	21.38

5.7. Return on Equity

For last year, Petitioner in its additional submission projected an equity infusion of Rs. 43.47 Crores for 2009-10 on account of additional capitalization proposed. However, as per provisional balance sheet only 8.68 Crores of assets are being reflected as capitalized. Petitioner would like to bring into Commission's notice, that Petitioner has actually used the assets during the year 2009-10 only and the final accounts are being prepared and would be made available shortly.

For the FY 2011, Petitioner plans to infuse equity of Rs.53.39 Crores on account of asset additions. Since, this infusion would be spread over the year, for appropriately addressing this, infusion of equity during 2010-11 is projected to be 26.70 Crores. The

return on equity has been calculated at 14% as per prevailing regulations. However, Petitioner would request Commission to consider the RoE as per CERC regulations for this year.

Table 21: Return on Equity (Rs.Crores)

Item	2009-10			2010-11
	Petition	Approved	Actual	Petition
Equity at the end of previous year	138.04	134.21	134.21	142.8
Additional Equity	0.741	43.47	8.68	26.70
Total Equity	138.77	177.59	142.8	169.50
Return on Equity @14%	19.43	21.82	19.99	23.73

5.8. Income Tax

There is no assessable income for Income tax purpose and hence no tax on income is proposed for the year 2010-11.

5.9. Elements of Fixed Costs

The fixed costs for the year 2010-11 are summarized below:

Table 22: Summary of Fixed Costs (Rs.Crores)

Particular	2010-11
Interest on Loan	83.06
Depreciation	47.06
O&M Expenses	97.60
Interest on Working Capital	21.38
Return on Equity	23.73
Income Tax	-
Total	272.83

The Petitioner requests Honorable Commission to kindly approve the proposed fixed charges of Rs.272.83 Crores and expected net generation of 2507 MU.

6. Variable Charges

6.1. Coal Consumption

The generating unit uses coal from the collieries of Central Coalfields Ltd. (CCL). The coal is transported through road over a distance of about 34 to 49 kms. The completion of MGR system to transport coal is delayed and efforts are being made to complete this as early as possible.

The normative levels are far from the ground situations experienced by most plants in India. The normative level of heat rate may be applicable for the stations operating at high level of efficiency and high plant load factor.

Tenughat Thermal Power Station is operating under various constraints.

- Momentary outages due to tripping of transmission lines.
- Outages due to other reasons.
- Backing down of the units under instructions of JESB due to lack of load.

Table 23: Specific Coal Consumption & Heat Rate for FY'11

Year	Specific Coal Consumption (kg/kWh)	Heat Rate (kCal/kWh)
2010-11	0.700	3000

The transport of coal on a bumpy road in fully loaded trucks is resulting in loss of coal by spilling from the trucks. In addition, there is loss due to wind, evaporation of moisture, during rainy season the coal powder gets washed out. All these factors result in loss of coal in transport and storage. The coal is weighed at loading end and at receiving end, the difference accounts for loss in transit. The experience has shown that the loss accounts to about 0.3 % of coal transported. TVNL requests the Honourable Commission to allow 0.3 % of total coal transported towards transit loss in FY 2009-10.

6.2. Specific Consumption of Oil

The specific consumption of secondary fuel (oil) is projected below:

Table 24: Specific Oil Consumption

Year	Specific Consumption (ml/kWh)
2010-11	2.5

6.3. Fuel Prices and Costs

Petitioner projects landed cost of coal at Rs 1477 per MT and delivered cost of oil is expected to be at the level of Rs.43269 per kL.

The cost of coal and oil consumption based on the projected prices for FY 2010-11 and consumption worked against the electricity generation results in an aggregate fuel cost of Rs.315.55 Crores for FY 2010-11 as detailed in the Table below:

Table 25: Variable Cost

S.No	Item	Derivation	Unit	2009-10	2010-11
1	Installed Capacity	IC	MW	420	420
	PLF	PLF	%	55.68%	74.88%
	Generation	$A = IC * PLF * 8.76$	MU	2049	2755
	Auxiliary Consumption	B	%	9.00%	9.00%
	Net Generation	$C = A * (1 - B)$	MU	1864	2507
2	Specific Coal Consumption	D	kg/kWh	0.753	0.700
	Total Coal Consumption	$E = A * D * 1000$	MT	1542663.57	1928500
	Total Coal Consumption including transit losses @ 0.3%	$E'' = E / (100\% - 0.3\%)$	MT	1547305	1934303
	Delivered Coal Price	F	Rs./MT	1343.00	1477.30
	Total Coal Cost	$G = E * F$	Rs.lakhs	20780.31	28575.46
3	Specific Oil Consumption	H	ml/kWh	3.296	2.5
	Total Oil Consumption	$I = A * H$	kl	6752	6888
	Delivered Oil Price	J	Rs./kl	38086.49	43269.11
	Total Oil Cost	$K = I * J$	Rs.lakhs	2571.78	2980.16
4	Coal Cost per Unit	$L = G / C$	Rs./kWh	1.115	1.140
	Oil Cost per Unit	$M = K / C$	Rs./kWh	0.138	0.119
5	Total Fuel Cost per unit	$O = L + M$	Rs./kWh	1.253	1.259
	Total Fuel Cost	$N = G + K$	Rs.lakhs	23352.10	31555.62

The proposed variable/energy charges of Rs.315.55 Crores and expected net generation of 2507 MUs results in energy tariff charge of Rs.1.259/kWh for FY 2010-11. The Petitioner requests the Hon'ble Commission to kindly approve this.

7. Revenue Requirement

7.1. Fixed Charges

The aggregate fixed charges for the year amount to Rs.272.83 Crores. The Petitioner therefore requests the Honourable Commission to approve the fixed charges.

7.2. Variable/Energy Charges

The aggregate variable/energy charges computed for the year amount to Rs. 315.56 Crores resulting in energy tariff charge of Rs.1259 /kWh. Petitioner therefore requests the Honourable Commission to approve the energy tariff charge for FY 2010-11.

7.3. Other Income

The non-tariff income is estimated at Rs.10.97 Crores during the FY 2010-11

7.4. Revenue Requirement & Proposed Tariff

The sum of fixed and energy costs gives the total revenue requirement of the company for the FY 2010-11. The revenue requirement less other income will be the revenue to be raised through tariff:

Table 26: Revenue Requirement

Particular	(Rs. crores)
Fixed Charges	272.82
Energy Charges	315.56
Revenue Requirement	588.38
Other Income	10.97
Revenue to be raised through Tariff in FY 2009-10	577.41

The Petitioner has estimated a revenue requirement through tariffs of Rs.577.41 Crores after adjusting for its non-tariff income and derived the following fixed and energy components of tariff:

Table 27: Proposed Tariff Increase

Tariff Component	Rs./kWh
Fixed Charges Proposed	1.044
Energy Charges Proposed	1.259
Tariff Proposed	2.303
Existing Tariff	2.05
Increase in Tariff requested	0.25

The Petitioner requests the Honourable Commission to approve the above Rs.0.25/kWh increase in its tariff on account of submissions made above.

Annexures

ANNEXURE I

FORM –1: Summary Sheet

Name of the Company: Tenughat Vidyut Nigam Limited

Name of the Station: Tenughat Thermal Power Station

Region: Eastern, **State:** Jharkhand, **District:** Ranchi

Rs.Lakhs

S.No.	Particulars	Actuals	Projected
		2009-10	2010-11
1.1.	Depreciation (FORM-11)	4562.794	4705.65
1.2	Interest on Loan (FORM-12)	8305.7	8305.70
1.3	Return of Equity	2183	2373.00
1.4	Advance against Depreciation (FORM-13)	0	0
1.5	Interest on Working Capital(FORM-14)	2183.57	2008.00
1.6	O & M Expenses (Actuals) (Form 15 has normative numbers)	125.00	97.00
	Total	17360.06	17489.35
	Less: Non Tariff Income	985.088	1097.20
	Fixed Charges to be recovered	16374.97	16392.15
2	Calculation Of Rate of Energy Charge (Rs./Kwh)		
2.1	Rate of Energy Charge from Primary Fuel(REC)P2	1.12	1.14
	Net Energy Export (in MU)	1864	2755
2.2	Rate of Energy Charge from Secondary Fuel (REC)	0.138	0.119
2.3	Rate of Energy Charge ex-bus (REC) 3A, 3B, 3C	1.25	1.26

1. Details of calculations, considering equity as per regulations, to be furnished

2. If multi-fuel is used simultaneously, give 2.1 in respect of every fuel individually

3A. The rate of energy charges shall be computed for open cycle operation and combined cycle operation separately incase of gas/liquid fuel fired plants.

3B. The total energy charge shall be worked out based on ex-bus energy scheduled to be sent out in case of plants covered by ABT, and ex-bus energy delivered sent out in case of plants not covered by ABT as the case may be.

3C. Any escalation in fuel cost to be considered for subsequent years or FPA to take care of the escalation.

*Includes interest on GPF

PETITIONER

FORM 2: Plant Characteristics

Name of the Company: Tenughat Vidyut Nigam Limited

Name of the Station: Tenughat Thermal Power Station

Basic characteristics of the plant: Coal Based Plant with conventional steam generator

Fuel type: Coal

Details	Module number Or Unit number						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Rate capacity (MW)	210	210					
Date of synchronization	Apr. 94	Oct. 96					
Capacity at the date of synchronization	210	210					
Date of entry into commercial operation	Sept. 96	Sept. 97					
Date of stabilisation	Sept. 96	Sept. 97					
Capacity at the date of stabilization	210	210					
Has any performance test been performed	No	Yes					
If yes, capacity at test (MW)	-	210					
Type of cooling system for condenser ³	Once through						
Type of Boiler Feed Pump ⁴	Motor driven						
Type of cooling system for electric generator ⁵	H ₂ cooling	H ₂ cooling					
Any other special feature ⁶							

Has the station received any notice or shut down the power station or penalty imposed for violation of any environmental standard by the Central / State Statutory Authorities: NO

If yes, furnish full details: N.A.

1. Describe the basic characteristics of the plant e.g. in the case of a coal based plant whether it is a conventional steam generator or circulating fluidized bed combustion generator or sub-critical once through steam generator etc.
2. Coal or natural gas or naphtha or lignite etc.
3. Closed circuit cooling, once through cooling, sea cooling etc
4. Motor driven, Steam turbine driven etc.
5. Air cooled, water cooled, hydrogen cooled etc.
6. Any special feature such as merry-go-round, scrubbers etc. Specify all such features

PETITIONER

FORM-3: Normative Parameters

Name of the Company: Tenughat Vidyut Nigam Limited

Name of the Station: Tenughat Thermal Power Station

Particulars		Year Ending March		As notified by JSERC	
		As existing		2009-10	2010-11
		2009-10	2010-11		
(1)	(2)	(3)	2009-10	2010-11	
Target Availability	%	80	80	80%	80%
Normative PLF	%	80	80	80*	80*
Auxiliary Consumption	%	9.0	9.0	9.0	9.0
Station Heat Rate	kCal/kWh	3418	3000	2500	2500
Hours of Operaiton at Target Availability					
Hours of Operation at Target PLF Unit I / Unit II					
Specific Oil Consumption	ml/kWh	3.3	2.5	2.0	2.0
O & M charges (% of CC for plants less than 5 years old)	%			2.50%	2.50%
Based on actuals for plants more than 5 years	%				
Coal Stock + Expense in months for Working Capital (WC)	Months	1.5	1.5	1.5	1.5
Oil stock in months for WC	KL	1	1	1	1
Spares stock for WC as % of Plant & Equipment	%	1	1	1	1
Receivables in Months for WC	Months	2	2	2	2
Rate of Return on Equity	%	14	14	14	14

CC - Capital Cost

WC - Working Capital

PETITIONER

FORM-6: Financial Package upto COD

Name of the Company: Tenughat Vidyut Nigam Limited

Name of the Station: Tenughat Thermal Power Station

Project Cost as on COD¹ - Rs.1310 Crs.

Date of Commercial Opertion² - Unit # 1 : Sept. 1996, Unit # 2 : Sept. 1997

					As Admitted on COD	
Financial Package as Approved			Financial Package as on COD			
Currency and Amount ³			Currency and Amount ³		Currency and Amount ³	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Loan-I (Bihar Govt)	Indian Re	608.89 Cr	Indian Re	608.89 Cr	Indian Re	608.89 Cr
Loan-II (PFC)	Indian Re	158.00 Cr	Indian Re	158.00 Cr	Indian Re	158.00 Cr
Loan III (on account of IDC)	Indian Re	320.29 Cr	Indian Re	320.29 Cr	Indian Re	320.29
Equity-						
Foreign	-	-	-	-	-	-
Domestic	Indian Re	100 Cr	Indian Re	100 Cr	Indian Re	100 Cr
Investment made by Bihar State Electricity Board of (Rs. 168.39 Cr.) has not been considered as matter is sub judice.						

1 Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$ 200 m at an exchange rte of 1US \$= Rs.40/-

2. Date of Commercial Operation means Commercial Operation of the last unit

3 For example: US \$, 200 m etc.

PETITIONER

**FORM-7: Statement Giving Details of Project Specific Loans
(As on COD)**

Name of the Company: Tenughat Vidyut Nigam Limited

Name of the Station: Tenughat Thermal Power Station

Particulars (1)	Package 1 (2)	Package 2 (3)	Package 3 (4)	Package 4 (5)	Package 5 (6)	Package 6 (7)
Source of Loan 2 1)	Govt. of Bihar					
2	P.F.C.					
Currency 3	Indian Re					
Amount of Loan	766.89 Cr					
Interest Type 4	Fixed					
Fixed Interest Rate, if applicable	13 %					
Base Rate, if Floating interest 5						
Margin, if Floating Interest 6						
Are there any Caps/Floor 7						
Moratorium Period 8	6 years on Govt. loan					
Moratorium effective from	01-4-88 on Govt. loan					
Repayment Period 9	21 years for Govt. loan					
Repayment Frequency 10	Yearly for Govt. loan monthly for P.F.C. loan					
Base Exchange Rate 11						
Date of Base Exchange Rate						

1. In case the project has been completed and any tariff notification(s) has already been issued in the past by GOI, the details in this form would pertain to loan package as on COD

2. Source of loan means the agency from who the loan has been taken such as WB., ABD, OECF, KWF, SBI, ICICI, IFC, PFC etc.

3. Currency refers to currency of loan such as US \$, dm, Yen, Indian Rupee etc.

4. Interest type means whether the interest is fixed or floating

5. Base rate means the base as PLF, LIBOR, etc. over which the margin is to be added

6. Margin means the points over and above the floating rate.

7. At times caps/floor are put at which the floating rates are frozen. If such a condition exists, specify the limits.

8. Moratorium period refers to the period during which loan servicing liability is not required.

9. Repayment period means the repayment of loan such as 7 years, 10 years, 25 years etc.

10. Repayment frequency means the interval at which the debt servicing is to be done such as monthly, quarterly half yearly, annual etc.

11. Base exchange rate means the exchange rate prevailing as on the date of COD

PETITIONER

FORM-11: Statement of Depreciation

Name of the Company: Tenughat Vidyut Nigam Limited

Name of the Station: Tenughat Thermal Power Station

In Rs.

Financial Year (from 2009-10)	Depreciation on Capital Cost at for the year (In Rs)	Depreciation on Additional Capitalisation		Details of FERV	
		Amount of Additional Capitalisation (In Rs.)	Depreciation Amount	Amount of FERV on which depreciation charged	Depreciation amount (In Rs.)
(1)	(2)	(3)	(4)	(5)	(6)
2009-10	453481400	2798000	456279400		
2010-11	459845000	10720000	470565000		
	Total	13,518,000			

Note: Details of calculations to be furnished

PETITIONER

FORM-12: Statement Showing Computation of Interest on Various Loans

Name of the Company: Tenughat Vidyut Nigam Limited

Name of the Station: Tenughat Thermal Power Station

(1)	Particulars (2)	Loan 1: Government of Jharkhand				Loan-2 Government of Bihar				Total	Total
		Opening	Repayment	Closing	Interest due	Opening	Repayment	Closing	Interest due	interest	Repayment
		Balance		Balance		Balance		Balance		Due	
		(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Year 2009-10	Rs.	3000	0	3000	390	60890	0	60,890.00	7,915.70	8,305.70	0.00
Year 2010-11	Rs.	3000	0	3000	390	60,890.00		60,890.00	7,915.70	8,305.70	0.00

Govt. of Bihar: Rs.608.89 cr.
Govt. of Jharkhand: Rs.30.00 cr.
Total: 638.90 cr.

PETITIONER

FORM-13: Statement of Advance Against Depreciation (AAD)

Name of the Company: Tenughat Vidyut Nigam Limited

Name of the Station: Tenughat Thermal Power Station

(In Rs.)

Year	1/12 of the Original Scheduled Loan(s)	Originally Scheduled Repayment the Loan(s)	Min. of Col. (2) and (3)	Depreciation during the year	AAD1=(4) - (5)
(1)	(2)	(3)	(4)	(5)	(6)
9-10	25000000		25000000	456279400	0
2010-11	25000000		25000000	470565000	0
	Total			456279400	0
Note: 1 If the amount under the col (6) is negative, it will be shown as zero					
The loan from Government of Bihar of Rs.608.90 Cr not considered after 2007-08 as 12 years lapsed					
Note: Advance against Depreciation is not claimed since repayment is not made against State Government Loan.					

PETITIONER

FORM-14: Statement of Calculation of Average Rate of Interest (CC) on Working Capital Loans

Name of the Company: Tenughat Vidyut Nigam Limited

Name of the Station: Tenughat Thermal Power Station

Year ending March

		2009-10 Actual	2010-11 Projected
(1)	(2)	(1)	(2)
	INTEREST ON WORKING CAPITAL		
	Coal Cost - 1.5 month	2597.54	3571.93
	Oil stock - 1 month	214.32	248.35
	O & M expenses - 1 month	1044.56	813.38
	Spares 1 year = 40% of O & M Less 1/5th	1172.0	1172.00
	of initial capitalised spares for first 5 years		
	Receivables- 2 months	13980.22	11298.00
	Total Working Capital (Rs. in lakh)	19008.730	17104.00
	INTEREST ON WORKING CAPITAL@12.5% (Rs cr)	2376.00	2138.00

PETITIONER

FORM-15: Calculation of Operation and Maintenance Expenses

Name of the Company: Tenughat Vidyut Nigam Limited

Name of the Station: Tenughat Thermal Power Station

(1)	Average	Base	Base	Tariff Period										
	95-96 to 99-00	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	
(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(17)	(18)	(18)	(18)	(19)	
CASE I: O & M data available for 1995-96 to 1999-2000														
(Base O & M on the basis of actual data)														
A) Total O & M Expenses														
B) Abnormal O & expenses														
- On account of water charges														
- On account of other factors														
C) Calculation of Base O & M (A-E)	E	X=Ex(1.1) ²	Xx 1.06	Xx(1.06) ²	Xx(1.06) ³	Xx(1.06) ⁴	Xx(1.06) ⁵	Xx(1.06) ⁶	Xx(1.06) ⁷	Xx(1.06) ⁸	Xx(1.06) ⁸	Xx(1.06) ⁸	Xx(1.06) ⁸	
CASE II: Recent Plants for which O & M data for five year data for 1995-96 to 1999-2000 is not available and other new plants which come up during the tariff period														
Year of Commissioning														
Calculation of Base O & M 3		Y	Yx 1.06	Yx(1.06) ²	Yx(1.06) ³	Yx(1.06) ⁴	Yx(1.06) ⁵	Yx(1.06) ⁶	Yx(1.06) ⁷	Yx(1.06) ⁸	Yx(1.06) ⁹	Yx(1.06) ¹⁰	Yx(1.06) ¹¹	
		434208803	460261331	487877010.5	517149631.1	548178609	581069326	615933485.1	652889494.2	692062863.8	733586636	777601834	824257944	

Notes:

1. Abnormal O & M expenses such as on account of sharp increase in water charges etc which are abnormal in nature and for which the utility shall file a separate petition

2. Base O & M(Y) = (0.025x Capital cost) escalated at the rate of 10 percent per annum after the year of commissioning to bring it to 1999-2000 level

For example if the capital cost of the plant commissioned in 1996-97 is Rs.100 cores then the base for 1999-2000 is computed as: Base O & M for 1999-2000 ('Y' in the format) = (0.025*100)* (1.10)³

Capital cost as on 31.03.1998 = 13555792566.49 - say 1355.8 Crores

Base O & M for 1999-2000 (in format) = (0.025x13555792566.49)x (1.10)² = 466382413

PETITIONER

FORM-16: Calculation of Operation and Maintenance Expenses

Name of the Company: Tenughat Vidyut Nigam Limited

Name of the Station: Tenughat Thermal Power Station(Rs lakhs)

		95-				
		96	96-97	97-98	98-99	99-00
(1)	(2)	(3)	(4)	(5)	(6)	(7)
(A)	Breakup of O& M expenses					
1	Employee cost (a)					
	--do-(b) Pension & Gratuity					
	-do-© Labour for O & M					
2	Repair and Maintenance					
3	Stores consumed					
4	Power Charges					
5	Water Charges & Cess					
6	Communicaiton/ Telephone expenses					
7	Travelling expenses					
8	Insurance					
9	Others					
10	Pollution Control ces					
11	Ash Disposal					
12	Rent, Rates and Taxes.					
13	Security expenses					
14	Professional expenses(Admn. Exp.)					
15	Printing and Stationery					
16	Corporate office expenes allocation					
17	Other Expenses (Deferred Revenue Expenses)					
18	Total O&M Expenses					
	LESS: RECOVERED (IF ANY)					
	NET Expenses					

Details can be furnished, if requiried

PETITIONER

FORM-17: Details /Information to be Submitted in respect of Fuel for Computation of Energy Charges

Name of the Company: Tenughat Vidyut Nigam Limited

Name of the Station: Tenughat Thermal Power Station

Month			For preceding		3rd Month			For preceding			2nd Month		For preceding			1st Month	
			"C"	"D"	"E"	"F"	"G"	"C"	"D"	"E"	"F"	"G"	"C"	"D"	"E"	"F"	"G"
Grade of Coal																	
Quantity of Coal / Lignite		(MMT)															
Amount charged by the coal Co.		(Rs.)															
Transportation by rail/ship/road		(Rs.)															
Weighted average GCV of coal/Lignite for a grade		(k. Cal/Kg)															
Unit price corresponding to the grade of coal charged by the Coal Co.	Base Price	(Rs/MT)															
	Any other charge	(Rs/MT)															
	Royalty	(Rs/MT)															
	Cess or duty	(Rs/MT)															
	Sales Tax	(Rs/MT)															
Transportation by rail/ship/road	Transportation	(Rs/MT)															
	Total	(Rs/MT)															
	Distance	(Km)															
	Amount	(Rs/Km/MT)															
		(Rs/MT)															

Note

- 1.Furnish copies of relevent coal/lignite price notificaitons or the fuel supply agreement, tariff rates of Railways or other transport authorites as applicable
- 1.Similar details to be furnished for natural gas/ liquid fuel for CCGT statiion and secondary fuel oil for coal/lignite based thermal.

The computation has been attached separately

PETITIONER