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JHARKHAND STATE ELECTRICITY REGULATORY COMMISSION, RANCHI

NOTIFICATION

The 28 July, 2004

**JSERC (TERMS AND CONDITIONS FOR DETERMINATION OF THERMAL GENERATION TARIFF)
REGULATIONS, 2004**

No. JSERC/Misc./287

Dated the 10th August, 2004

In exercise of powers conferred under Section 181 of the Electricity Act, 2003 (hereinafter referred to as the Act), and all other powers enabling in this behalf, the Jharkhand State Electricity Regulatory Commission (herein after referred to as the JSERC or the Commission) hereby makes the following regulations, namely: -

Chapter 1: Preliminary

1. Short title and commencement

- (1) These regulations may be called the JSERC (Terms and Conditions for determination of Thermal Generation Tariff) Regulations, 2004.
- (2) These regulations extend to the entire state of Jharkhand.
- (3) These regulations shall come into force on the date of their publication in the official Gazette.
- (4) Words and expressions used in these regulations and not defined herein but defined in the Act shall have the meaning assigned to them under the Act.

2. Scope and extent of application

- (1) These regulations shall apply where cost based tariff is determined by the Commission.

(2) Where tariff has been determined through the process of bidding in accordance with the guidelines issued by the Central Government, the Commission shall adopt such tariff in accordance with the provisions of the Act.

(3*) Application for determination of Tariff:

(i) Unless explicitly mentioned in the Tariff Order, every year, by 1st of November, every generating company, who is selling power to a licensee, shall file with the Commission, a tariff application with statements containing the expected revenue from the tariff charges and other charges, if any, in the ensuing financial year. It should also include the current approved tariff and charges. The information to be filed by Generating Company will be as per the relevant formats.

Provided that non-compliance of this provision shall be treated as contravention of Regulation.

(ii) The Generating Company shall submit statement on the compliance of the directions issued by Commission in its previous tariff order.

*** As per Amendment issued by Jharkhand State Gazette Notification No. - 520 Dated - 23/09/2005**

3. Norms of operation to be ceiling norms:

For removal of doubts, it is clarified that the norms of operation specified under these regulations are the ceiling norms and this shall not preclude the transmission licensee and the beneficiaries from agreeing to improved norms of operations and in case the improved norms are agreed to, such improved norms shall be applicable for determination of tariff.

4. Tariff determination:

(1) The tariff in respect of a generating station under these regulations shall be determined unit-wise or for the whole generating station.

(2) For the purpose of tariff, the capital cost of the project shall be broken up into stages and by distinct units forming part of the project. Where break up of the project cost is not available and in case of on-going projects the common facilities shall be apportioned on the basis of the installed capacity of the units.

Explanation

For the purpose of this chapter, the 'project' includes a generating station.

5. Application for determination of tariff:

(1) The generating company may file an application for fixation of tariff in respect of the completed units of the generating station as per the petition format given as Annexure and Appendix attached to this regulation.

(2) In case of the existing generating station, the generating company shall make an application for determination of tariff as per Appendix I to these regulations.

(3) In case of a generating station declared under commercial operation on or after 1.01.2004, an application for fixation of tariff shall be made in two stages, namely:

(i) A generating company may make an application as per Appendix I to these regulations, for determination of provisional tariff in advance of the anticipated date of completion of project based on the capital expenditure actually incurred up to the date of making of the application, duly audited and certified by the statutory auditors and the provisional tariff shall be charged from the date of commercial operation of the respective unit of the generating station;

(ii) A generating company shall make a fresh application as per Appendix I to these regulations, for determination of final tariff based on actual capital expenditure incurred up to the date of commercial operation of the generating station, duly certified by the statutory auditors based on annual accounts.

6. Core Business:

For the purpose of these regulations, the core business means the regulated activities of generation of electricity and does not include any other business or activities of the generating company like consultancy, telecommunication, etc.

7. Tax on Income:

(1) Tax on the income streams of the generating company, as the case may be, from its core business shall be computed as an expense and shall be recovered from the beneficiaries.

(2) Any under-recoveries of tax on income shall be adjusted every year on the basis of income tax assessment under the Income Tax Act, 1961 as certified by the statutory Auditors.

Provided that tax on any income stream other than the core business shall not constitute a pass through component in the tariff and tax on such other income shall be payable by the generating company.

Provided further that the generating station-wise profit before tax in the case of a generating company as projected for the tariff period shall constitute the basis for distribution of the corporate tax liability to all the generating stations and regions.

Provided further that the benefits of tax-holiday as applicable in accordance with the provisions of the Income-Tax Act, 1961 shall be passed on to the beneficiaries.

Provided further that the credit for carry forward losses, unabsorbed depreciation shall be given in the proportion as stated in the second proviso to this regulation.

Provided further that the tax allocated to the generating station shall be charged to the beneficiaries in the same proportion as annual fixed charges.

8. Tax Escrow Mechanism:

- (1) The beneficiaries shall maintain an interest bearing tax escrow account in a scheduled bank, to which all amounts of interest shall be credited.
- (2) The tax liability shall be estimated two months before the commencement of each year and intimated to the beneficiaries. The generating company shall endeavor to minimize its liability on account of taxes recoverable from the beneficiaries.
- (3) The generating company or the transmission licensee shall be authorized to withdraw the amounts for setting the income-tax liability on presentation to the escrow holder, a certificate from their statutory auditors that the amounts are immediately due and payable to the taxing authority.
- (4) The generating company shall pay into the tax escrow account any refund received from the taxing authority.
- (5) The refunds, if any, shall not be paid back to the beneficiaries and shall be adjusted in the escrow account. Any balance due or returnable shall be rolled over to the next year.
- (6) The escrow accounts shall be reflected in the books of accounts of the beneficiaries as their bank account.

9. Extra Rupee Liability:

Extra rupee liability towards interest payment and loan repayment corresponding to the normative foreign debt or actual foreign debt, as the case may be, in the relevant year shall be permissible provided it directly arises out of Foreign Exchange Rate Variation and is not attributable to the generating company or its suppliers or contractors. Every generating company and the transmission licensee shall recover Foreign Exchange Rate Variation on a year to year basis as income or expense in the period in which it arises and Foreign Exchange Rate Variation shall be adjusted on a year to year basis.

10. Recovery of Income-tax and Foreign Exchange Rate Variation:

Recovery of Income-tax and Foreign Exchange Rate Variation shall be done directly by the generating company, from the beneficiaries without making any application before the Commission.

Provided that in case of any objections by the beneficiaries to the amounts claimed on account of income-tax or Foreign Exchange Rate Variation, the generating company, may make an appropriate application before the Commission for its decision.

11. Deviation from norms:

Tariff for sale of electricity by a generating company may also be determined in deviation of the norms specified in these regulations subject to the conditions that:

- (a) The overall per unit tariff of electricity over the entire life of the asset, calculated on the basis of the norms in deviation does not exceed the per unit tariff calculated on the basis of the norms specified in these regulations; and
- (b) Any such deviation shall come into effect only after approval by the Commission.

12. Power to Remove Difficulties:

If any difficulty arises in giving effect to these regulations, the Commission may, of its own motion or otherwise, by an order and after giving a reasonable opportunity to those likely to be affected by such order, make such provisions, not inconsistent with these regulations, as may appear to be necessary for removing the difficulty.

13. Power to Relax:

The Commission, for reasons to be recorded in writing, may vary any of the provisions of these regulations on its own motion or on an application made before it by an interested person.

Chapter 2: Thermal Power Generating Stations

14. Definitions:

Unless the context otherwise requires for the purpose of this chapter,

(i) ‘**Act**’ means the Electricity Act, 2003.

(ii) ‘**Additional Capitalization**’ means the capital expenditure actually incurred after the date of commercial operation of the generating station and admitted by the Commission after prudence check subject to provisions regulation 18. “Additional Capitalisation”.

(iii) ‘**Authority**’ means Central Electricity Authority referred to in Section 70 of the Act.

(iv) ‘**Auxiliary Energy Consumption or AUX**’ in relation to a period means the quantum of energy consumed by auxiliary equipment of the generating station, and shall be expressed as a percentage of the sum of gross energy in kWh generated at generator terminals of all the units of the generating station minus energy in kWh delivered from the generating station switchyard to the sum of energy in kWh generated at generator terminals of all the units of the generating station.

(v) ‘**Availability**’ in relation to a thermal generating station for any period means the average of the daily average declared capacities (DCs) for all the days during that period expressed as a percentage of the installed capacity of the generating station minus normative auxiliary consumption in MW, and shall be computed in accordance with the following formula:

$$\text{Availability} = \frac{10000 \times \sum_{i=1}^N \text{DC}_i}{\{ N \times \text{IC} (100 - \text{AUX}_n) \}} \%$$

where,

IC = Installed Capacity of the generating station in MW.

DC_i = Average declared capacity of the ith day of the period in MW.

N = Number of days during the period, and

AUX_n = Normative Auxiliary Energy Consumption as a percentage of gross generation.

- (vi) **‘Beneficiary’** in relation to a generating station means the person buying power generated at such a generating station on payment of Annual Fixed Charges.
- (vii) **‘Block’** in relation to a combined cycle thermal generating station includes combustion turbine-generator(s), associated waste heat recovery boiler(s), connected steam turbine-generator and auxiliaries.
- (viii) **‘Commission’** means the Jharkhand State Electricity Regulatory Commission.
- (ix) **‘Cut off Date’** means the date of first financial year closing after one year of the date of commercial operation of the generating station.
- (x) **‘Date of Commercial Operation or COD’** in relation to a unit means date declared by the generator after demonstrating the Maximum Continuous Rating (MCR) or Installed Capacity (IC) through a successful trial run and in relation to the generating station the date of commercial operation means the date of commercial operation of the last unit or block of the generating station.
- (xi) **‘Declared Capacity or DC’** means the capability of the generating station to deliver ex-bus electricity in MW declared by the generating company in relation to any period of the day or whole of the day, duly taking into account the availability of fuel.

Note

In case of gas turbine generating station or a combined cycle generating station, the generating company shall declare the capacity for units and modules on gas fuel and the liquid fuel separately, and these shall be scheduled separately. Total declared capacity and total scheduled generation for the generating station shall be the sum of the declared capacity and scheduled generation for gas fuel and liquid fuel for the purpose of computation of availability and scheduled Plant Load Factor respectively.

- (xii) **‘Existing Generating Station’** means a generating station declared under commercial operation from a date prior to 1.4.2004.
- (xiii) **‘Gross Calorific Value or GCV’** in relation to a thermal generating station means the heat produced in kCal by complete combustion of one kilogram of solid fuel or liquid fuel or one standard cubic meter of gaseous fuel, as the case may be.
- (xiv) **‘Gross Station Heat Rate or GHR’** means the heat energy in kCal input required to generate one kWh of electric energy at generator terminals.
- (xv) **‘Infirmary Power’** means electricity generated prior to commercial operation of the unit of a generating station.
- (xvi) **‘Installed Capacity or IC’** means the summation of the name plate capacities of the units in the generating station or the capacity of the generating station (reckoned at the generator terminals) as approved by the Commission from time to time.
- (xvii) **‘Maximum Continuous Rating or MCR’** in relation to a unit of the thermal generating station means the maximum continuous output at the generator terminals, guaranteed by the manufacturers at

rated parameters and, in relation to a unit or block of a combined cycle thermal generating station means the maximum continuous output at the generator(s) terminals, guaranteed by the manufacturer with water/steam injection (if applicable) and corrected to 50 Hz grid frequency and site conditions.

(xviii) '**Operation and Maintenance Expenses or O&M Expenses**' means the expenditure incurred in operation and maintenance of the generating station, including part thereof and includes the expenditure on manpower, repairs, spares, consumables, insurance and other overheads.

(xix) '**Original Project Cost**' means the actual expenditure incurred by the project developer, as per the original scope of project up to the first financial year closing after one year of the date of commercial operation of the last unit as admitted by the Commission for the purpose of tariff.

(xx) '**Plant Load Factor**' or '**PLF**' for a given period, means the total sent out energy corresponding to scheduled generation during the period, expressed as a percentage of sent out energy corresponding to installed capacity in that period and shall be computed in accordance with the following formula:

$$PLF = 10000 \times \frac{\sum_{i=1}^N SG_i}{\{ N \times IC (100 - AUX_n) \}} \%$$

where,

IC = Installed Capacity of the generating station in MW,

IC = Installed Capacity of the generating station in MW,

SG_i = Scheduled Generation in MW for the ith time block of the period,

N = Number of time blocks during the period, and

AUX_n = Normative Auxiliary Energy Consumption as a percentage of gross generation;

(xxi) '**Project**' includes a generating station.

(xxii) '**Scheduled Generation or SG**' for any period or time block means schedule of generation in MW ex-bus given by the State Load Dispatch Centre.

Note

For the gas turbine generating station or a combined cycle generating station if the average frequency for any time block, is below 49.52 Hz but not below 49.02 Hz and the scheduled generation is more than 98.5% of the declared capacity, the scheduled generation shall be deemed to have been reduced to 98.5% of the declared capacity, and if the average frequency for any time block is below 49.02 Hz and the scheduled generation is more than 96.5% of the declared capacity, the scheduled generation shall be deemed to have been reduced to 96.5% of the declared capacity.

(xxiii) '**Small Gas Turbine Power Station**' means and includes the gas-based and naphtha-based thermal power stations with gas turbines in the capacity range of 50 MW or below.

(xxiv) 'Unit' in relation to a thermal power generating station means steam generator, turbine generator and their auxiliaries, or in relation to a combined cycle thermal generating station, means turbine-generator and auxiliaries.

(xxv) 'Year' means a financial year.

15. Components of Tariff:

The tariff for sale of electricity from a thermal power generating station (which includes gas-based and naphtha-based generating station) shall comprise of two parts, namely, the recovery of annual capacity (fixed) charges and energy (variable) charges.

(i) The annual capacity (fixed) charges shall consist of:

- (a) Interest on loan capital
- (b) Depreciation, including Advance Against Depreciation,
- (c) Return on equity,
- (d) Operation and maintenance expenses, and
- (e) Interest on working capital.

(ii) The energy (variable) charges shall cover fuel cost.

16. Norms of Operation:

I) In case of a generating station declared under commercial operation on or after 1.4.2004, the following norms of operation shall apply:

(i) Target availability

The target availability of a generating station for recovery of full Capacity (Fixed) charges is 80% calculated on an annual basis.

Note 1

Recovery of capacity (fixed) charges below the level of target availability shall be on pro-rata basis. At zero availability, no capacity charges shall be payable.

Note 2

The Commission, based on an application made by the generating company and for reasons to be recorded in writing, may relax the norms of target availability, as it may consider appropriate, for any generating station,

Provided that no such relaxation shall be allowed without an opportunity to be heard to the beneficiaries of the generating station.

(ii) Plant Load Factor

The target Plant Load Factor for incentive (based on scheduled generation) is 80%

(iii) Gross Station Heat Rate

The plants coming after 1.4.2004 should be guided by the following norms. The Commission, based on an application made by the generating company and for reasons to be recorded in writing, may decrease or increase the norms of heat rate depending on the fuel quality and other techno-commercial aspects, as it may consider appropriate, for any generating station,

Provided that no such deviation shall be allowed without an opportunity to the beneficiaries of the generating station.

(a) Coal-based thermal power generating stations

	MW>500	500>MW>=200	200>MW>=70	70>MW>7.5
During stabilization period (Kcal/kWh)	2550	2600	2700	2750
Subsequent period (Kcal/kWh)	2400	2500	2600	2650

Note 1

In respect of 200 MW and above units where the boiler feed pumps are electrically operated, the heat rate of 40 kCal/kWh shall be reduced from the generating station heat rate indicated above.

(b) Lignite-fired thermal power generating stations.

(c) Gas-based and naphtha-based generating stations.

(i) The gross station heat rate for generating stations declared under commercial operation on or after 1.4.2004.

	Advanced class Machines	E/EA/EC/E2 class Machines
Open cycle	2685 kCal/kWh	2830 kCal/kWh
Combined cycle	1850 kCal/kWh	1950 kCal/kWh

(ii) The gross station heat rate for Small Gas Turbine Power generating Stations shall be.

	With Natural Gas	With Liquid Fuel
Open cycle	3125 kcal/kWh	1.02 x 3125 kcal/kWh
Combined cycle	2030 kcal/kWh	1.02 x 2030 kcal/kWh

Note 1

The Commission from time to time may change these norms for operation.

(iv) Secondary fuel oil consumption.

The secondary fuel oil consumption for coal-based generating stations shall be 4.5 ml/kWh and 2.0ml/kWh for stabilization period and subsequent period respectively.

(v) Auxiliary Energy Consumption.

(a) Coal-based generating stations

	With cooling tower	Without cooling tower
i) Greater than 7.5 MW and less than 70 MW	12%	11.5%
ii) Equal to or Greater than 70 MW and less than 200 MW	9%	8.5%
iii) Equal to or Greater than 200 MW		

Steam driven pumps	7.5%	7.0%
Electrically driven pumps	9.0%	8.5%

(b) Gas-based and Naphtha-based generating stations.

Combined cycle	3.0 per cent
Open cycle	1.0 per cent

Note

During stabilization period, normative auxiliary consumption shall be reckoned at 0.5 per cent over and above the norms indicated at (a) and (b) above.

(vi) Stabilization period

In relation to a unit, stabilization period shall be reckoned as follows commencing from the date of commercial operation of that unit:

- (a) Coal-based generating stations-180 days
- (b) Combined cycle generating stations -90 days

II) 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.

17. Capital Cost

Subject to prudence check by the Commission, the actual expenditure incurred on completion of the project shall form the basis for fixation of final tariff. The final tariff shall be fixed based on the admitted capital expenditure actually incurred up to the date of commercial operation of the generating station and shall include capitalized initial spares subject to following ceiling norms as a percentage of plant and equipment cost:

- (i) Coal based projects: 2.5%

Provided that where the power purchase agreement entered into between the generating company and the beneficiaries provides a ceiling of actual expenditure, the capital expenditure shall not exceed such ceiling for the purpose of determination of tariff.

Provided further that in case of existing generating stations, the capital cost approved by the Commission shall form the basis for determination of tariff.

18. Additional capitalization

(1) The following capital expenditure within the original scope of work actually incurred after the date of commercial operation and up to the cut off date may be admitted by the Commission, subject to prudence check:

- (i) Deferred liabilities,

- (ii) Works deferred for execution,
- (iii) Liabilities to meet award of arbitration or the satisfaction of the order or decree of a court, and
- (iv) On account of change in law.

Provided that original scope of works along with estimates of expenditure shall be submitted along with the application for provisional tariff.

Provided further that a list of the deferred liabilities and works deferred for execution shall be submitted along with the application for final tariff after the date of commercial operation of generating station.

(2) The capital expenditure of the following nature actually incurred after the cut off date may be admitted by the Commission, subject to prudence check:

- (i) Deferred liabilities relating to works/services within the original scope of work.
- (ii) Liabilities to meet award of arbitration or satisfaction of the order or decree of a court,
- (iii) On account of change in law,
- (iv) Any additional works/services which have become necessary for efficient and successful operation of the generating station, but not included in the original project cost, and
- (v) Deferred works relating to ash pond or ash handling system in the original scope of work.

Impact of additional capitalisation in tariff revision within the approved project cost may be considered by the Commission once in a tariff period.

Note 1

Any expenditure admitted on account of committed liabilities within the original scope of work and the expenditure deferred on techno-economic grounds but falling within the original scope of work shall be serviced in the normative debt-equity ratio arrived at in the manner indicated in regulation 20.

Note 2

Any expenditure on replacement of old assets shall be considered after writing off the entire value of the original assets from the original capital cost.

Note 3

Any expenditure admitted on account of new works not in the original scope of work shall be serviced in the normative debt-equity ratio of 70:30

Note 4

Any expenditure admitted on renovation and modernization and life extension shall be serviced on normative debt-equity ratio of 70:30 after writing off the original amount of the replaced assets from the original capital cost.

Note 5

The scrutiny of the project cost estimates by the Commission shall be limited to the reasonableness of the capital cost, financing plan, interest during construction and such other matters for the purposes of determination of tariff.

19. Sale of infirm Power

Any revenue (other than the fuel cost) earned by the generating company from sale of infirm power, shall be taken as reduction in capital cost and shall not be treated as revenue.

20. Debt-Equity Ratio

(1) The debt–equity ratio for the purpose of determination of tariff shall be 70:30. Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30% and the balance amount shall be considered as the loan. In case of a generating station where actual equity employed is less than 30%, the actual equity shall be considered.

(2) The debt and equity amount arrived at in accordance with clause (1) shall be used for calculating interest on loan, return on equity, Advance Against Depreciation and Foreign Exchange Rate Variation.

21. Payment of Capacity (Fixed) Charges

(1) The capacity charges shall be computed on the following basis and their recovery shall be related to target availability.

(i) Interest on loan capital

(a) Interest on loan capital shall be computed loan wise on the loans arrived at in the manner indicated in regulation 20.

(b) The loan outstanding as on 1.4.2004 shall be worked out as the gross loan as per regulation 20 minus cumulative repayment as admitted by the Commission up to 31.3.2004. The repayment for the period 2004-09 shall be worked out on a normative basis.

(c) The generating company shall make every effort to swap the loan as long as it results in net benefit to the beneficiaries. The costs associated with such swapping shall be borne by the beneficiaries.

(d) The changes to the loan terms and conditions shall be reflected from the date of such swapping and benefit passed on to the beneficiaries.

(e) In case of any dispute, any of the parties may approach the Commission with proper application. However, the beneficiaries shall not withhold any payment as ordered by the

Commission to the generating company during pendency of any dispute relating to swapping of loan.

(f) In case any moratorium period is availed of by the generating company, depreciation provided for in the tariff during the years of moratorium shall be treated as repayment during those years and interest on loan capital shall be calculated accordingly.

(g) The generating company shall not make any profit on account of swapping of loan and interest on loan.

(ii) Depreciation, including Advance Against Depreciation

(a) Depreciation

For the purpose of tariff, depreciation shall be computed in the following manner, namely,

I. The capital base for the purpose of depreciation shall be the historical cost of the asset.

II. Depreciation shall be calculated annually as per straight line method at the rate of depreciation as prescribed in the schedule attached to the regulation at **Appendix-II**.

The residual life of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the historical capital cost of the asset. Land is not a depreciable asset and its cost shall be excluded from the capital cost while computing 90% of the historical cost of the asset. The historical capital cost of the asset shall include additional capitalisation on account of Foreign Exchange Rate Variation up to 31.3.2004 already allowed by the Central Government /Commission.

(iii) On repayment of entire loan, the remaining depreciable value shall be spread over the balance useful life of the asset.

(iv) Depreciation shall be chargeable from the first year of operation. In case of operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

(b) Advance Against Depreciation

In addition to allowable depreciation, the generating company shall be entitled to Advance Against Depreciation, computed in the manner given hereunder:

(i) Advance Against Depreciation (AAD) shall be permitted wherever loan repayment considered for working out interest on loan exceeds the depreciation allowable as per schedule and shall be computed as follows:

AAD = Loan repayment as referred above amount subject to a ceiling of 1/10th of original loan amount minus Depreciation as per schedule.

(ii) Advance Against Depreciation in a year shall be calculated by considering actual or normative loan arrived at in the manner indicated in regulation 20.

(iii) Return on Equity:

Return on equity shall be computed on the equity base determined in accordance with regulation 20 and shall be at the rate allowed to Central Power Sector Utilities.

Provided that on any equity invested in any foreign currency shall be allowed a return on equity up to the prescribed limit in the same currency and the payment on this account shall be made in Indian Rupees based on the exchange rate prevailing on the due date of billing.

Explanation

Premium raised by the generating company while issuing share capital and investment of internal resources created out of free reserve of the existing generating company, if any, for the funding of the project, shall also be reckoned as paid up capital for the purpose of computing the return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the generating station and forms part of the approved financial package.

(iv) Operation and Maintenance expenses

(i) The Operation and Maintenance expenses (hereinafter referred to as O&M expenses) shall include the following:

- Consumption of Stores and Spares
- Administration expenses
- Repair and Maintenance
- Employee cost
- Corporate Office Expenses allocated proportionately
- Insurance

(ii) O&M expenses of the generating company shall be considered keeping in view the tariff application made by the generating company furnishing the data as required and after prudence check by the Commission keeping in view normative values. The O&M expenses will be limited to 2.5 % of Capital Cost (for plants set up prior to 1.04.2004.) escalated at 6% per annum from the year of commissioning. For plants set up after 1.04.2004, the O&M expenses will be capped to the following norms:

(iii) (Rs in lakh/MW)

Year of Commissioning	Less than 500 MW sets	500 MW and above sets
2004-05	10.4	9.36

2005-06	10.82	9.73
2006-07	11.25	10.12
2007-08	11.70	10.52
2008-09	12.17	10.95

(v) Interest on Working Capital

(a) Working capital shall cover:

Coal based generating stations

(i) Cost of coal for one month corresponding to target availability,

(ii) Cost of coal for ½ month for pit-head generating stations and one month for non-pit-head generating stations, corresponding to the “target availability”,

(iii) One month’s stock of secondary fuel oil, corresponding to the “target availability”,

(iv) Operation and Maintenance expenses for one month;

(v) Maintenance spares @ 1% of the plant and equipment cost as on 1.4.2004 or the date of commercial operation, whichever is later; and

(vi) Receivables equivalent to two months of fixed and variable charges for sale of electricity calculated on “target availability”;

(b) Rate of interest on working capital shall be the short-term Prime Lending Rate of State Bank of India as on 1st April of the year for which the tariff is determined.

(2) Full capacity charges shall be recoverable at target availability specified in regulation 16. Recovery of capacity (fixed) charges below the level of target availability shall be on pro-rata basis. At zero availability, no capacity charges shall be payable.

(3) The payment of capacity charges shall be on monthly basis in Rs/kW/Month in proportion to the allocated capacity.

22. Energy Charges

Energy (variable) charges shall cover fuel costs and shall be worked out on the basis of paise per kWh on ex-bus energy delivered/sent out from the generating station as per the following formula:

$$\text{Energy Charges} = \text{Rate of Energy Charges} \times \text{Energy delivered (ex-bus)}$$

Where,

(i) Rate of Energy Charges (REC) shall be the sum of the cost of normative quantities of primary and secondary fuel for delivering ex-bus one kWh of electricity and shall be computed as under:

$$\text{REC} = \frac{100 * \{P_p \times (Q_p)_n + P_s \times (Q_s)_n\}}{\text{Rs/kWh}}$$

$$(100-(AUX_n))$$

Where,

P_p = Price of primary fuel namely coal in Rs/Kg.

$(Q_p)_n$ = Quantity of primary fuel required for generation of one kWh of electricity at generator terminals in Kg and shall be computed on the basis of Gross Generating station Heat Rate (less heat contributed by secondary fuel oil for coal based generating stations) and gross calorific value of coal actually fired.

P_s = Price of Secondary fuel oil in Rs./ml,

$(Q_s)_n$ = Normative Quantity of Secondary fuel oil in ml/kwh.

AUX_n = Normative Auxiliary Energy Consumption as % of gross generation.

(ii) Adjustment of rate of energy charges (REC) on account of variation in price or heat value of fuels.

Initially, Gross Calorific Value of coal shall be taken as per actuals of the preceding three months. Any variation shall be adjusted on month to month basis on the basis of Gross Calorific Value of coal received and burnt and landed cost incurred by the generating company for procurement of coal. No separate petition need to be filed with the Commission for fuel price adjustment. In case of any dispute, an appropriate application in accordance with Central Electricity Regulatory Commission (Conduct of Business Regulations), 1999, as amended from time to time or any statutory re-enactment thereof, shall be made before the Commission.

23. Landed Cost of Coal

The landed cost of coal shall include price of coal corresponding to the grade/quality of coal inclusive of royalty, taxes and duties as applicable, transportation cost by rail/road or any other means, and, for the purpose of computation of energy charges, shall be arrived at after considering normative transit and handling losses as percentage of the quantity of coal dispatched by the coal supply company during the month as given below:

Pit head generating stations: 0.3%

Non-Pit head generating stations: 0.8%

24. Incentive

An incentive shall be payable at a flat rate of 25.0 paise/kWh for generation corresponding to scheduled generation in excess of generation corresponding to target Plant Load Factor.

25. Rebate

For payment of bills of capacity charges and energy charges through the letter of credit, a rebate of 2 per cent shall be allowed. If the payments are made by a mode other than through the letter of credit but within a period of one month of presentation of bills by the generating company, a rebate of 1 per cent shall be allowed.

26. Late Payment Surcharge

In case the payment of bills of capacity charges and energy charges by the beneficiary (ies) is delayed beyond a period of 1 month from the date of billing a late payment surcharge, as may be determined by the Commission from time to time.

27. Scheduling

Read with the provisions of the Jharkhand Electricity Grid Code, the methodology of scheduling and calculating availability shall be as under:

(i) Each day starting from 00.00 hrs. shall be divided into 96 time blocks of 15 minutes intervals.

(ii) The generator shall make an advance declaration of capability of its generating station.

The declaration shall be for that capability which can be actually made available.

The declaration shall be for the capability of the generating station to deliver ex-substation bus MW for each time block of the day. The capability as declared by generator, referred to as, declared capacity, would form the basis of generation scheduling.

(iii) While making or revising their declaration of capability, the generator shall ensure that its declared capability during peak hours is not less than that during other hours. However, exception to this rule shall be allowed in case of tripping/re-synchronisation of units as a result of forced outage of units.

(iv) The generation scheduling shall be done in accordance with the operating procedure, as stipulated in the Jharkhand Electricity Grid Code.

(v) Based on the declaration of the generator, State Load Despatch Centre (SLDC) shall communicate their shares to the beneficiaries out of which they shall give their requisitions.

(vi) Based on the requisitions given by the beneficiaries and taking into account technical limitations on varying the generation and also taking into account transmission system constraints, if any, SLDC shall prepare the economically optimal generation schedules and drawal schedules and communicate the same to the generator and the beneficiaries.

(vii) SLDC shall also formulate the procedure for meeting contingencies both in the long run and in the short run (Daily scheduling).

(viii) The scheduled generation and actual generation shall be at the generator's ex-bus. For beneficiaries, the scheduled and actual net drawals shall be at their respective receiving points.

(ix) For calculating the net drawal schedules of beneficiaries, the transmission losses shall be apportioned to their drawals.

(x) Scheduled generation of the generating station for each time block, referred to as scheduled generation shall mean the Scheduled MW to be Sent Out Ex-substation bus from the generating station.

(xi) Actual generation of the generating station for each time block, referred to as actual generation, shall mean actual MW actually Sent Out Ex-substation bus from the generating station.

(xii) In case of forced outage of a unit, SLDC shall revise the schedules on the basis of revised declared capability. The revised schedules shall become effective from the 4th time block, counting the time block in which the revision is advised by the generator to be the first one. The revised declared capability shall also become effective from the 4th time block.

(xiii) In the event of bottleneck in evacuation of power due to any constraint, outage, failure or limitation in the transmission system, associated switchyard and sub-stations owned by State Transmission Utility (as certified by SLDC) necessitating reduction in generation, SLDC shall revise the schedules which shall become effective from the 4th time block, counting the time block in which the bottleneck in evacuation of power has taken place to be the first one. Also, during the first, second and third time blocks of such an event, the scheduled generation of the generating station shall be deemed to have been revised to be equal to actual generation and also the scheduled drawals of the beneficiaries shall be deemed to have been revised to be equal to their actual drawals.

(xiv) In case of any grid disturbance, scheduled generation of all the generating stations and scheduled drawal of all the beneficiaries shall be deemed to have been revised to be equal to their actual generation / drawal for all the time blocks affected by the grid disturbance. Certification of grid disturbance and its duration shall be done by SLDC.

(xv) Revision of declared capability by the generator(s) and requisition by beneficiary (ies) for the remaining period of the day shall also be permitted with advance notice. Revised schedules/ declared capability in such cases shall become effective from the 6th time block, counting the time block in which the request for revision has been received in SLDC to be the first one.

(xvi) If, at any point of time, SLDC observes that there is need for revision of the schedules in the interest of better system operation, it may do so on its own and in such cases, the revised schedules shall become effective from the 4th time block, counting the time block in which the revised schedule is issued by SLDC to be the first one.

(xvii) Generation schedules and drawal schedules issued/revised by SLDC shall become effective from designated time block irrespective of communication success.

(xviii) For any revision of scheduled generation, including post facto deemed revision; there shall be a corresponding revision of scheduled drawals of the beneficiaries.

(xix) A procedure for recording the communication regarding changes to schedules duly taking into account the time factor shall be evolved by STU.

28. Demonstration of Declared Capability

The generating company may be required to demonstrate the declared capability of its generating station as and when asked by the SLDC of the region in which the generating station is situated. In the event of the generating company failing to demonstrate the declared capability, the capacity charges due to the generator shall be reduced as a measure of penalty. The quantum of

penalty for the first mis-declaration for any duration/block in a day shall be the charges corresponding to two days fixed charges. For the second mis-declaration the penalty shall be equivalent to fixed charges for four days and for subsequent mis-declarations, the penalty shall be multiplied in the geometrical progression.

The operating log books of the generating station shall be available for review by the SLDC or STU, as the case may be. These books shall keep record of machine operation and maintenance.

29. Metering and Accounting

Metering arrangements, including installation, testing and operation and maintenance of meters and collection, transportation and processing of data required for accounting of energy exchanges and average frequency on 15 minute time block basis shall be provided by STU/SLDC. Processed data of the meters along with data relating to declared capability and schedules etc., shall be supplied by SLDC to STU and STU shall issue the State Accounts for energy.

By the order of Commission,

A.K. Mehta

Secretary

Jharkhand State Electricity Regulatory Commission

Annexure 1

FORM 1

General Heading for proceedings

BEFORE THE JHARKHAND ELECTRICITY REGULATORY COMMISSION

FILING NO.

CASE NO.

(To be filled by the Office)

IN THE MATTER OF:

(Gist of the purpose of the petition or application)

AND

IN THE MATTER OF:

(Names and full address of the petitioner/applicants and names and full addresses of the respondent)

Details of enclosures:

(i) Form 2 (Affidavit)

(ii)

(iii)

(iv)

Annexure 2

FORM 2

Affidavit in support

BEFORE THE JHARKHAND ELECTRICITY REGULATORY COMMISSION

FILING NO.

CASE NO.

(To be filled by the Office)

IN THE MATTER OF:

(Gist of the purpose of the petition or application)

AND

IN THE MATTER OF:

(Names and full address of the petitioners/applicants and names and full addresses of the respondent)

Affidavit verifying the petition / application

I, Son of aged residing at do solemnly affirm and say as follows:

1. I am a Director/Secretary of Ltd., the petitioner in the above matter and am duly authorised by the said petitioner to make this affidavit on its behalf.

2. I solemnly affirm at..... on this day of..... that

(i) The contents of the above petition are true to my knowledge and I believe that no part of it is false and no material has been concealed there from.

(ii) That the statement made in paragraphs..... of the petition herein now shown to me and marked with the letter 'A' are true to my knowledge and that

(iii) The statements made in paragraphs..... Marked with the letter 'B' are based on information received from and I believe them to be true.

Identified before me by :

SUMMARY SHEET

Name of the Company

Name of the Power Station

Region

State

District

Tariff Period Form.....to.....

Sl.No.	Particulars	As existing	Proposed		
		* ² Previous year	* ¹ Tariff year	* ³ Ensuing year	Ensuing year+1
(1)	(2)	(3)	(4)	(5)	(6)

1. Calculation of Fixed Charges (Rs.Crs)

1.1	Depreciation [FORM-11]				
1.2	Interest on Loan [FORM-12]				
1.3	Return on Equity ¹				
1.4	Advance against Depreciation [FORM-13]				
1.5	Interest on Working Capital [FORM-14]				
1.6	O&M Expenses [FORM-15]				
	Total				

2. Calculation of Rate of Energy Charge (Rs./kWh)¹

		During Stablisation		After Stablisation	
2.1	Rate of Energy Charge from Primary Fuel (REC) ^{p²}				
2.2	Rate of Energy Charge from Secondary Fuel (REC)				
2.3	Rate of Energy Charge ex-bus(REC) ^{3A,3B,3C}				

1. Details of calculations to be furnished.
2. If multifuel is used simultaneously, give 2.1 in respect of every fuel individually.
- 3A. The rate of energy charge shall be computed for open cycle operation and combined cycle operation separately in case 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.

*1 *Tariff year means financial year for which tariff is to be determined.*

*2 *Previous year means financial year Previous to tariff year.*

*3 *Ensuing year means financial year next to tariff year.*

(PETITIONER)

Plant Characteristics

Name of the Company

Name of the Power Station

Basic characteristics of the plants ¹

Fuel type²

Details	Model number or Unit number						
	(2)	(3)	(4)	(5)	(6)	(7)	& so on
Rated capacity							
Date of synchronization							
Capacity at the date of synchronization							
Date of entry into commercial operation							
Date of stabilization							
Has any performance test been performed	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
If yes, capacity at test							
Type of cooling system for condenser ³							
Type of Boiler Feed Pump							
Type of cooling system for electric generation ⁵							
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							Yes/No
If yes, furnish full details							

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. Close 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. Special all such features.

(PETITIONER)

Normative Parameters

Name of the Company

Name of the Power Station

Year Ending March

Particulars	As Existing		As Notified by CERC	
	* ² Previous year	* ¹ Tariff year	* ³ Ensuing year	Ensuing year+1
(1)	(2)	(3)	(4)	(5)
Target Availability				
Normative PLF				
Auxiliary consumption (%)				
Station Heat Rate k.Cal/kWh				
Hours of operation at Target Availability				
Hours of operation at Target PLF				
Sp. Oil consumption (ml/kWh)				
O & M Charges (% of CC for plants less than 5 years old)				
(Based on actuals for plants more than 5 years)				
Coal stock +expense in months for Working Capital (WC)				
Oil stock in months for WC				
Spares stock for WC as % of O&M				
Receivables in Months for WC				
Rate of Return on Equity (%)				

*1 *Tariff year means financial year for which tariff is to be determined.*

*2 *Previous year means financial year Previous to tariff year.*

*3 *Ensuing year means financial year next to tariff year.*

(PETITIONER)

Foreign Exchange Rate Statement

(Details only in respect of loans applicable to the project under petition)

Name of the Company

Name of the Power Station

Exchange Rate at COD

Year	Event	Currency 1 ¹		Currency 2 ¹		Currency 3 ¹ and so on	
		Date	Rate(Rs)	Date	Rate(Rs)	Date	Rate(Rs)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Year-1	Scheduled repayment date of principal						
	Scheduled payment date of interest						
	At the end of the financial year						
Year-2	Scheduled repayment date of principal						
	Scheduled payment date of interest						
	At the end of the financial year						
Year-3	Scheduled repayment date of principal						
	Scheduled payment date of interest						
	At the end of the financial year						
And so on	Scheduled repayment date of principal						
	Scheduled payment date of interest						
	At the end of the financial year						

1. Name of the currency to be mentioned e.g. US \$, DM, etc. etc.

(PETITIONER)

Statement of Project Cost Upto COD

Name of the Company

Name of the Power Station

Sl.No	Break Down ¹	Cost in Rs Crores ²		Variation	Reasons for Variation	Admitted Cost ³
		As per original approval	As in completed cost on COD			
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.0	Cost of Land, Works, Plant & Equipment, & services					
1.1	Land & Preliminary Investigation					
1.2	Site development					
1.3	Steam Generator Island					
1.4	Turbine Generator Island					
1.5	BOP Mechanical					
1.6	BOP Electrical & C&I					
1.7	External water supply system					
1.8	External coal transportation system					
1.9	Rolling Stock and Locomotives					
1.10	Ash disposal Plant & Equipment					
1.11	Initial spares					
1.12	Civil Works					
1.13	Ash disposal area development					
1.14	Township & Colony					
1.15	Temp. construction & enabling works					
1.16	Erection Testing and commissioning					
1.17	Procurement & Management fee					
1.18	Installation & Engineering					
1.19	Estab./Construction supervision					
1.20	Operator's Training					
1.21	Construction Insurance					
1.22	Tools & Plant					
1.23	Access and diversion Road					
1.24	Operators training					
1.25	Start up fuel					
1.26	Shared Facilities Costs					
2.0	Taxes and Duties					
2.1	Custom Duty					
2.2	Other Taxes & Duties					
3.0	Overheads					
3.1	Development expenses					
3.2	Legal fee etc.					
3.3	Establishment					
3.4	Owners Engg. Expenses					
3.5	Pre-operative expenses					
3.6	Audit & Accounts					
3.7	Contingency					
4.0	Project cost without IDC & FC					
5.0	IDC & FC⁴					

6.0	Project cost including IDC & FC					
7.0	Working Capital Margin					

1. The break down shown here is only illustrative for a Coal /Lignite based project. In case of Gas/Liquid fuel based projects, break down in the similar manner in the relevant heads applicable for such plants may be furnished. The petitioners are free to have their own break down. However, they are advised to stick to the given break down to the extent possible.

2. If there are any items, which need to be shown in Indian Rupee and foreign currency(ies), the same should be shown separately along with the currency, the exchange rate and the date e.g.

Rs.80 Cr+US\$50m=Rs.280Cr at US\$=Rs40 as on say 4.1.1999.

3. In case the project has been completed and any tariff notification(s) has already been issued in the past by GOI, fill column 7 giving the cost as admitted by- (name of the authority) for the purpose of tariff notification already issued (enclose copy of tariff order).

4. If IDC has not been maintained separately and forms part of column 4, give a foot note accordingly.

(PETITIONER)

Financial Package upto COD

Name of the Company

Name of the Power Station

Project Cost as on COD¹

Date of Commercial Operation²

Debt : Equity Ratio

	Financial Package as Approved		Financial Package as on COD		As Admitted on COD	
	Currency and Amount ³		Currency and Amount ³		Currency and Amount ³	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Loan-I	US \$	200m				
Loan-II						
Loan-III						
And so on						
Equity- Foreign						
Domestic						
Total Equity						

1. Say US \$ 200m + Rs.400 Cr or Rs.1200 Cr including US \$200m at an exchange rate of 1US \$=Rs.40/-.
2. Date of Commercial Operation means Commercial Operation of the last unit.
3. For example: US \$, 200M etc.etc.

(PETITIONER)

**Statement Giving Details of Project Specific Loans
(As on COD¹)**

Name of the Company

Name of the Power Station

Particulars	Package 1	Package 2	Package 3	Package 4	Package 5	Package 6
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Source of Loan ²						
Currency ³						
Amount of Loan						
Interest Type ⁴						
Fixed Interest Rate, if applicable						
Base Rate, if Floating Interest ⁵						
Margin, if Floating Interest ⁶						
Are there any Caps/Floor ⁷	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
Moratorium Period ⁸						
Moratorium effective from						
Repayment Period ⁹						
Repayment Frequency ¹⁰						
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 whom the loan has been taken such as WB, ADB, 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 PLR, 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)

Statement Giving Details of Project Financed Through a Combination of Loan Packages

Name of the Company

Name of the Power Station

Particulars	Package 1	Package 2	Package 3	Package 4	Package 5	Remarks
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Source of Loan						
Currency						
Amount of Loan						
Interest Type						
Fixed Interest Rate						
Base Rate, if Floating Interest						
Margin, if Floating Interest						
Are there any Caps/Floor	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No
If above is yes, specify Caps/Floor						
Moratorium Period						
Moratorium effective from						
Repayment Period						
Repayment Frequency						
Base Exchange Rate						
Date of Base Exchange Rate						
Distribution of loan packages to various projects						
Name of the Projects						Total
Project 1						
Project 2						
Project 3 and so on						

All foot notes of FORM-7 apply here too.

(PETITIONER)

Statement showing Computation of Interest on Various Loans

Name of the Company

Name of the Power Station

	Particulars	Loan-1				Loan-2 and so on				Total Interest Due	Total Repayment
		Opening Balance	Repayment	Closing Balance	Interest due	Opening Balance	Repayment	Closing Balance	Interest due		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Year 1	Original Currency										
	Rs.										
Year 2	Original Currency										
	Rs.										
Year 3	Original Currency										
	Rs.										
Year ..	Original Currency										
	Rs.										
Year ..	Original Currency										
	Rs.										
Total	Original Currency										
	Rs.										

(PETITIONER)

Statement of Calculation of Average Rate of Interest (CC) on Working Capital Loans

Name of the Company

Name of the Power Station

Year Ending March

		* ² Previous year	* ¹ Tariff year	* ³ Ensuing year	Ensuing year+1
(1)	(2)	(3)	(4)	(5)	(6)
	INTEREST ON WORKING CAPITAL				
	Fuel Cost - 1 month				
	Fuel Stock - 1 or 1/2 month				
	Oil stock - 2 months				
	O & M expenses - 1 month				
	Spares 1 year = 40% of O&M Less 1/5th				
	of initial capitalised spares for first 5 years				
	Receivables- 2 months				
	Total Working Capital (Rs cr)				
	Working Capital Loan allowed				
	Weighted Average Interest Rate				
	INTEREST ON WORKING CAPITAL (Rs cr)				
Sl.No.	Source of Loan for Working Capital	Amount (Rs. in Crs)	RATE OF Interest (Cash Credit) (%)		
(1)	(2)	(3)	(4)		
a					
b					
c					
d					
e					
	TOTAL				
	Weighted Average Rate of Interest				

*1 *Tariff year means financial year for which tariff is to be determined.*

*2 *Previous year means financial year Previous to tariff year.*

*3 *Ensuing year means financial year next to tariff year.*

(PETITIONER)

Calculation of Operation and Maintenance Expenses

Name of the Company

Name of the Power Station

						Average	Base	Base	Annual O&M expense up to Tariff year				
	95 - 96	96 - 97	97 - 98	98 - 99	99 - 00	95-96 to 99-00	1999 - 00	2000 - 01	2001 - 02	2002 - 03	2003 - 04	..	Tariff Year
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)		
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&M expenses ¹													
- On account of water charges													
- On account of other factors													
C) Calculation of Base O & M (A-B)						E	$X = Ex (1.1)^2$	$X x 1.06$	$X x (1.06)^2$	$X x (1.06)^3$	$X x (1.06)^4$		
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 ²							Y	$Y x 1.06$	$Y x (1.06)^2$	$Y x (1.06)^3$	$Y x (1.06)^4$		

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)= (0.025 x 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

(PETITIONER)

Details of Operation and Maintenance Expenses

Name of the Company

Name of the Power Station

		95-96	96-97	97-98	98-99	99-00
	(2)	(3)	(4)	(5)	(6)	(7)
(A)	Breakup of O&M expenses					
(1)	Employee cost					
(2)	Repair and Maintenance					
(3)	Stores consumed					
(4)	Power Charges					
(5)	Water Charges					
(6)	Communication expenses					
(7)	Traveling expenses					
(8)	Insurance					
	- Plant and Machinery					
	- Other					
(9)	Rent					
(10)	Security expenses					
(11)	Professional expenses					
(12)	Printing and Stationery					
(13)	Corporate office expenses allocation					
(14)	Other Expenses					
(15)	Total (1 to 14)					
	LESS: RECOVERED (IF ANY)					
	Net Expenses					

- 1.The process of allocation of corporate expenses to generating stations should be specified.
- 2.An annual increase in O&M expenses under a given head (in excess of 20 percent should be explained).
- 3.The data should be certified by statutory auditors.

(B)	Corporate office expenses					
	(aggregate)					
	- Direct employee expense					
	- Repair and maintenance					
	- Training and Recruitment					
	- Communication					
	- Traveling					
	- Security					
	- Rent					
	- Others					

(PETITIONER)

FORM-17

Details/Information to be Submitted in respect of Fuel for Computation of Energy Charges

Name of the Company
 Name of the Power Station
 COAL

Month		For preceding 3 rd Month					For preceding 3 rd Month					For preceding 3 rd Month				
Grade of Coal		“C”	“D”	“E”	“F”	“G”	“C”	“D”	“E”	“F”	“G”	“C”	“D”	“E”	“F”	“G”
Quantity of Coal /Lignite	(MMT)															
Amount charged by the coal Co.	(Rs.)															
Transportation by rail/ ship / road	(Rs.)															
Weighted average CGV of coal/Lignite for a grade	(kCal/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	(Rs/MT)														
	Total	(Rs/MT)														
Transportation by rail / ship /road	Distance	(Km)														
	Rate	(Rs/Km/MT)														
	Amount	(Rs/MT)														

Note:

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

(PETITIONER)

Appendix II
Depreciation Schedule

Description of Assets	Useful Life (Years)	Rate Calculated w.r.t. 90%	
	1	2	3=1*2
A. Land owned under full title	Infinity	-	-
B. Land held under lease:			
a. For investment in land	The period of lease or the period remaining un-expired on the assignment of the lease.	-	-
b. For cost of clearing site	The period of lease remaining un-expired at the date of clearing the site.		
C. Assets			
Purchase New			
a. Plant and machinery in generating Stations including plant foundations.			
(i) Hydro-electric	35	2.57	90
(ii) Steam-electric NHRS & Waste Heat Recovery Boilers / Plants.	25	3.60	90
(iii) Diesel-Electric & Gas Plant	15	6.00	90
b. Cooling towers and circulating water systems.	25	3.60	90
c. Hydraulic works forming part of hydro-electric system including.			
(i) Dams, Spillways weirs, canals reinforced concrete flumes & siphons.	50	1.80	90
(ii) Reinforced concrete pipelines and surge tanks, steel pipelines, sluice gates, steel surge (tanks) hydraulic control valves and other hydraulic works.	35	2.57	90
D. Building & civil engineering works of a permanent character not mentioned above.			
(i) Offices & showrooms	50	1.80	90
(ii) Containing thermo-electric generating plant	25	3.60	90
(iii) Containing hydro-electric generating plant	35	2.57	90
(iv) Temporary erection such as wooden structures	5	18.00	90
(v) Roads other than kutcha roads	50	18.00	90
(vi) Other	50	18.00	90
E. Transformers, transformer (kiosk) sub-station equipment & other fixed apparatus (including plant foundations)			
(i) Transformers (including foundations) having a rating of 100 kilo volt amperes and over.	25	3.60	90
(ii) Other	25	3.60	90
F. Switchgear, including cable connections	25	3.60	90
G. Lighting arrestors:			
(i) Station Type	25	3.60	90
(ii) Pole Type	15	6.00	90
(iii) Synchronous condenser	35	2.57	90

H. Batteries	5	18.00	90
(i) Underground cable including joint boxes and disconnected boxes.	35	2.57	90
(ii) Cable duct system	50	1.80	90
I. Overhead lines including supports:			
(i) Lines on fabricated steel operating at nominal voltages higher than 66 KV.	35	2.57	90
(ii) Lines on steel supports operating at nominal voltages higher than 13.2 kilo volts but not exceeding 66 kilo volts.	25	3.60	90
(iii) Lines on steel or reinforced concrete supports.	25	3.60	90
(iv) Lines on treated wood supports.	25	3.60	90
J. Meters	15	6.00	90
K. Self Propelled Vehicles			90
L. Air conditioning plants:			
(i) Static	15	6.00	90
(ii) Portable	5	18.00	90
M. (i) Office furniture and fittings	15	6.00	90
(ii) Office equipments	15	6.00	90
(iii) Internal wiring including fittings and apparatus	15	6.00	90
(iv) Street Light fittings	15	6.00	90
N. Apparatus let on hire:			
(i) Other than motors	5	18.00	90
(ii) Motors	15	6.00	90
O. Communication Equipments			
(i) Radio and higher frequency carrier systems	15	6.00	90
(ii) Telephone lines and telephones	15	6.00	90
P. Assets purchased second hand and assets not otherwise provided for in the schedule.	Such reasonable period as the competent Government determines in each case having regard to the nature, age and condition of the assets at the time of its acquisition by the owner.		