



**DRAFT TARIFF
REGULATIONS 2008 –
NLC'S COMMENTS /
SUGGESTIONS**

DETERMINATION OF TARIFF



Commission has stated that the generating company shall make an application for determination of tariff based on capital expenditure actually incurred duly certified by the auditors or projected to be incurred up to the date of commercial operation and additional capital expenditure actually incurred duly certified by the auditors or projected to be incurred during the tariff period and that in case of an existing project, it shall be based on admitted capital cost including any additional capitalization already admitted up to 31.3.2008 and estimated additional capital expenditure for the year 2008-09 and for the respective years of the tariff period 2009-14: (Para 5.2)

COMMENTS / SUGGESTIONS OF NLC

- Besides, the estimated additional capital expenditure furnished in the application for determination of tariff, **any unforeseen actual capital additions** arising out of any contingency, during the tariff period should also be **considered** for recovery through tariff



TARIFF COMPONENTS

Commission has specified that in case of coal or lignite based thermal generating stations, expenses on normative secondary fuel oil consumption during the year and in case of lignite based thermal generating stations using CFBC technology, expenses on normative lime stone consumption during the year shall be included in the fixed charge. (Para 7)

COMMENTS / SUGGESTIONS OF NLC

SECONDARY FUEL:

- Oil being a Secondary Fuel to be continued under Energy Charges
- Limestone being a fuel additive to be included under Energy Charges



INITIAL SPARES

Commission has specified that for Coal – based/Lignite fired thermal generating stations, initial spares are to be capitalized as a percentage of the original project cost subject to ceiling norms of 2.5% (Para 9)

COMMENTS / SUGGESTIONS OF NLC

INITIAL SPARES ARE TO BE FIXED AT 6%

- 2.5% cost as initial spares, is inadequate in any project based on NLC's experience.
- Procurement at a later period leads to long lead-time, more cost, loss of generation and even obsolescence.
- CEA has advised to keep adequate quantity of spares for new projects, considering the lead time
- For Lignite fired boilers of higher capacities more spares is required as inventory.



INITIAL SPARES

-- *Contd...*

COMMENTS / SUGGESTIONS OF NLC

A spare rotor of turbo generator set for a generating station is required as an insurance spare irrespective of the number of units involved over and above the ceiling norms



RENOVATION AND MODERNISATION

Commission has stated that in case of thermal generating station, the generating company, may, in its discretion, avail of a 'special allowance' @ 5 lakhs / MW per annum, as compensation for meeting the requirement of expenses including renovation and modernisation beyond the useful life of the generating station or a unit thereof, for which revision of the capital cost would not be considered & also stated that the option once exercised shall be final and shall not be allowed to be changed. (Para 11).

COMMENTS / SUGGESTIONS OF NLC

If R&M activities are not carried out immediately after completion of useful life period due to sound health conditions of the plant or any other procedural delays like not getting consent from the beneficiaries etc., the **Special Allowance @ Rs.5 lakhs/MW/annum** may be paid to the generator for sustaining the performance for the **interregnum till R&M is taken up** .



RETURN ON EQUITY

Commission has specified that 'Return On Equity' shall be computed in rupee terms on the equity base @14% per annum – (Para 15)

COMMENTS / SUGGESTIONS OF NLC

RETURN ON EQUITY TO BE CONSIDERED AT LEAST 16%.

1. The **Interest Rates** are in increasing trend and the current cost of borrowing is more than **13 %** per annum
2. RoE of 14 % was fixed when interest rates were at 7% to 9% per annum



DEPRECIATION

Commission has stipulated Depreciation @ 4.67 % rate for first 15 years and 2% rate for remaining life (Para 17)

COMMENTS / SUGGESTIONS OF NLC

Commission may reconsider the specified depreciation rates and allow depreciation @ 6% for first 10 years and 2 % for the remaining 15 years since higher rate of depreciation in the initial period will help better debt servicing.



INTEREST ON WORKING CAPITAL

Para 18 - INTEREST ON WORKING CAPITAL

for Coal / lignite-based thermal generating stations Commission has specified the following in the working capital

(i) Cost of coal or lignite for 1½ months for pit-head generating stations and two months for non-pit-head generating stations, for generation corresponding to the target availability;

(ii) Cost of secondary fuel oil for two months for generation corresponding to the target availability;

(iii) Maintenance spares @ 20% of O&M expenses

(iv) Receivables equivalent to forty five days of fixed and energy charges for sale of electricity calculated on the target availability.

COMMENTS / SUGGESTIONS OF NLC

- 1. One month O&M expenses** is to be **included** as most of the O&M expenses are spread over the period & not incidental at the end .
- 2. Receivables equivalent to forty five days to be increased to 2 months** in order to match with the rebate allowed
- 3. Maintenance spares** need to be at least **25% of O&M expenses** for **plants less than 10 years** life and **30% of O&M expenses** for **plants more than 10 years**
- 4. Limestone** Cost for **2 months** for generation corresponding to the Normative Annual Plant Availability to be added in case of lignite based power units using CFBC technology boilers.



OPERATION & MAINTENANCE EXPENSES

Para 19. Operation & Maintenance Expenses

Normative O&M as lakhs / MW

d) Lignite fired generating stations

Year	200/210/250 MW	125 MW	TPSI
2009-'10	15.7	24	21.5
2010-'11	16.51	25.24	22.61
2011-'12	17.37	26.55	23.78
2012-'13	18.26	27.92	25.01
2013-'14	19.21	29.36	26.30

Commission has arrived at the Operation and Maintenance Expenses by averaging the 2003-04 to 2007-08 O&M expenses and escalating by 5.17% for arriving 2008-09 base year O&M expenses.

COMMENTS / SUGGESTIONS OF NLC

i. O&M expenses for 200 MW series & 500 MW series are to be averaged separately for arriving at the base O&M expenses for the base year 2008-'09.

ii. O&M expenses for NLC-TPSI is to be fixed by considering its actual O&M expenses for the period 2005-'06 to 2007-'08 as NLC-TPSI consists of smaller sized vintage units.



OPERATION & MAINTENANCE EXPENSES — Contd...

Para 19. Operation & Maintenance Expenses ---- contd..

- ❖ *It has been further rationalized considering 45% increase in employee cost on account of pay revision.*
- ❖ *This base O&M expenses has been further escalated by 5.17% for the year 2009-10.*

COMMENTS / SUGGESTIONS OF NLC

- iii. Escalation factor has to be enhanced based on present and future trend and not on past alone.
- iv. Allowance provided for pay revision has to be enhanced from 45% to not less than 60%.



SEPARATE COMPENSATION ALLOWANCE

Allowance allowed by Commission		Allowance claimed by NLC	
<u>Para 19-(e) O&M Expenses ---- contd..</u>			
Year of Opn.	Compensation (Rs.lakh/MW)	Year of Opn.	Compensation (Rs.lakh/MW)
0-10	Nil	0-5	Nil
		6-10	0.1
11-15	0.15	11-15	0.2
16-20	0.35	16-20	0.35
21-25	0.65	21-25	0.65

Justifications for claiming enhanced / additional "Separate compensation allowance"

1. For stations between 6 to 10 years old, separate compensation allowance may be provided as inclusion of new and minor assets, replacement, increased maintenance activity will start after 5 years itself.



**Justifications for claiming enhanced / additional
“Separate compensation allowance” - contd..**

2. For plants between 11 to 15 years old, allowance may be enhanced to 0.2 lakhs / MW since the compensation allowance specified for plants between 11 to 15 years by Commission is not adequate .

3. For plants that have undertaken ‘Life Extension Programme’ (LEP) the following “Separate compensation allowance” may be allowed considering the Zeroth year as the year of commissioning after LEP completion .

Year of Opn. Compensation (Rs.lakh/MW)

0-5 Nil

6-10 0.10

11-15 0.20

After completion of LEP, the plant life is extended to serve for another 15 years and in such cases also after the initial 5 years, this allowance is warranted.



EXPENSES ON SECONDARY FUEL OIL CONSUMPTION AND LIMESTONE CONSUMPTION

Para 20 – Commission has specified the following formula for computing the expenses on Sec. Fuel oil and limestone consumption

$$= \mathbf{SFCn \times LPSF \times NAPAF \times 24 \times NDY \times IC \times 10}$$

Where,

SFCn – Normative Specific Fuel Oil consumption in ml/kWh

LPSF – Weighted Average Landed Price of Secondary Fuel in Rs./ml

NAPAF – Normative Annual Plant Availability Factor in percentage

NDY – Number of days in a year

COMMENTS / SUGGESTIONS OF NLC

The secondary fuel and limestone component expenses may be shifted to Variable (Energy) charges for reasons specified earlier under “Tariff Components”



RECOVERY OF FIXED CHARGE

PARA 21 - RECOVERY OF FIXED CHARGE

Commission has specified following formula for recovery of Fixed charges:

1. For generating stations in commercial operation for less than ten (10) complete years:

$$(AFC \times NDM / NDY) \times (0.5 + 0.5 \times PAFM / NAPAF)$$

Provided that in case the plant availability factor achieved during a year (PAFY) is less than 70%, the total fixed charge for the year shall be restricted to

$$AFC \times (0.5 + 35 / NAPAF) \times (PAFY / 70)$$

(ii) 2. For generating stations in commercial operation for ten (10) complete years or more:

$$(AFC \times NDM / NDY) \times (PAFM / NAPAF)$$

where

AFC = Annual fixed charge computed for the year,

NDM = Number of days in the month

NDY = Number of days in the year

PAFY = Plant availability factor achieved in a year

NAPAF = Normative annual plant availability factor in a month

PAFM = Plant availability factor achieved in a month

COMMENTS / SUGGESTIONS OF NLC

i. Separate formula given for new power stations for not achieving normative plant availability shall also be given for old power stations in operation for more than 10 yrs. but performing below their normative levels since

➤ Old power plants are more prone to outages with increased forced outages and increased planned outages resulting in lesser availability.

ii. The value of restriction may be generalized as (Normative Plant Availability in %- a Constant %)



ENERGY CHARGE

Para 22: Computation and Recovery of Energy Charge

Commission has specified that Energy charge covers only main fuel cost & Energy charge rate (ECR) in Rupees per kWh is computed as

$$***ECR = (GHR - SFCn \times CVSF) \times LPPF \times 100 / \{CVPF \times (100 - AUXn)\}***$$

Where,

ECR = Energy charge rate, in Rupees per kWh sent out.; GHR = Gross station heat rate, in kcal per kWh.; SFCn = Specific fuel oil consumption, in ml/kWh; CVSF = Calorific value of secondary fuel, in kCal/ml; LPPF = Landed price of primary fuel, in Rupees per kg.; CVPF = Gross calorific value of primary fuel, in kCal per kg,

COMMENTS / SUGGESTIONS OF NLC

If secondary fuel oil is not considered under Energy Charges as per NLC's request earlier, it is requested that for performance above normative availability, heat rate value of oil consumption shall not be deducted in determining the energy charges as cost of secondary fuel is accounted only upto normative availability in fixed charges component .



ENERGY CHARGE --- Contd...

COMMENTS / SUGGESTIONS OF NLC

In respect of 2X125 MW Barsingsar Thermal Power Plant, the water is a bought out item and it is requested that the water charges may be treated separately as a pass-thru component due to:

- **Periodical revisions of water charges by concerned authorities**
- **The escalation will not be in line with the general O&M escalation**



UNSCHEDULED INTERCHANGE (UI) CHARGES

Para 24: Commission has specified that all variations between actual net injection and scheduled net injection for generating stations, and all variations between actual net drawal and scheduled net drawal for beneficiaries shall be treated as their respective **Unscheduled Interchanges (UI)**.

COMMENTS / SUGGESTIONS OF NLC

I. Exemption of NLC-TPSI from the prevailing quantum limit of 105 % / 101% as it is very difficult to comply with the above norms due to

- Being a very old plant with smaller sized units
- Operational difficulties and wide fluctuations
- Frequent low load operation

II. Removal of Price Cap – NLC vide a petition has already apprised Commission of the difficulties encountered, for which hearing concluded



NORMS OF OPERATION

AVAILABILITY para 26-(i)

<i>NORMS AS PER COMMISSION</i>		<i>CLAIMS AS PER NLC</i>	
TPSI	72 %	TPSI	68.49 %
TPSI EXPN.	80 %	TPSI EXPN.	75 %
TPSII-ST:1&2	75%	TPSII-ST:1&2	72%
Lignite based generating stations using CFBC technology	80%	TPSII Expn. (CFBC)	75%
New coal & lignite based stations incl. Stations based on super critical boiler technology, CFBC technology with COD on or after 01-04-2009 (ref: CI:16.2.10-Explanatory memorandum)	85%	NLC-Barsingsar (CFBC)	75%
		New Coal based Generating stations	80 %
		New Lignite based Generating stations	75 %



JUSTIFICATIONS FOR CLAIMING LOWER AVAILABILITY

NLC-TPSI : Very old unit with smaller sized units with increased forced and planned outages, operational constraints, UI cap, low load operation etc.

NLC-TPSI Expn. Higher availability achieved by a new plant in the initial operating years should not be taken as norm for longer term as there is no planned shutdown for maintenance initially. Due to, increased maintenance activities and land acquisition problems the availability is expected to be less than 85% in the coming years.

NLC-TPSII: During the entire tariff period (2004-'09), TPS-II - Stage-1 had crossed Target Availability only once and TPS-II - Stage-2 had crossed only twice leading to under recovery of fixed charges. The actual average Plant Load Factor in respect of NLC-TPSII (Stage-I & II) since inception is around 70 % only. Primary fuel shortage, land acquisition problems are being experienced even now .

NLC - BARSINGSAR : Availability norms should be **75%** in line with the availability projected in the feasibility report and GOI sanction .



JUSTIFICATIONS FOR CLAIMING LOWER AVAILABILITY --- Contd..

NLC - GENERAL

Lignite used as a main fuel in power units has high inherent moisture content. **Achievement of higher NAPAF of 80% and 85% in lignite-based units is not possible**

New Lignite fired and coal fired units are **considered at par**. A **difference in operational parameters** between coal based and lignite based thermal power plants has been fixed earlier considering the difficulties in the operation of lignite fired units which is **to be continued**.

Availability & other operational parameters projected in Feasibility Report (FR) to be followed for plants under construction / under GOI approval.

Target availability of 85% indicated in Explanatory Memorandum for the new plants starting **after 01-04-2009 should be reconsidered**. Operational experience in lignite fired units in the country has proved that sustained availability of even 80% is not achieved. *(Also, from the Operating experience of NLC Thermal Power Station –II, it is seen that PLF achieved above 80% is only for 3 years out of more than 20 years of operation of this station).*



GROSS STATION HEAT RATE

Commission's norms tabled at para 26(ii) (a) for Coal-based units specifies Gross Station Heat Rate (SHR) of 2450 Kcals/Kwhr. for 200/210./250 MW sets for units declared under commercial operation after 31.3.2009, as against 2500 Kcals/Kwhr. specified in Regulations 2004 for 200/210./250 MW sets.

NLC COMMENTS / SUGGESTIONS

- ❖ **As there is no considerable evidence of reduction of heat rate during these five years which call for reduction of heat rate by 50 Kcal/Kwhr.,, the SHR of 200/210./250 MW sets may be retained at 2500 Kcal/Kwhr. for coal fired units**
- ❖ **In respect of 125 MW CFBC Barsingsar plant, it is requested that the norms sought for in NLC petition 99/2007 dt:28-07-2007 viz: 2587.5 Kcal/Kwhr. with correction factor for moisture content may be given for the details therein**



SPECIFIC FUEL OIL CONSUMPTION

NORMS AS PER COMMISSION: para 26-(iii-b)

(i) Lignite-fired generating stations including stations based on CFBC technology except TPS-I : **2.0 ml/kWh**

NLC'S CLAIM	JUSTIFICATION
<p>The Specific fuel oil consumption norms in respect of NLC-TPSI Expn. NLC-TPSII, NLC-TPSII Expn., NLC-Barsingsar may be fixed as <u>3 ml./kwhr.</u></p>	<p><u>NLC-TPSI Expn, NLC-TPSII</u> : Even though the actual specific oil consumption during the previous years were lesser, in the coming years the secondary fuel consumptions is likely to increase steeply due to increased outages and lesser generation due to ageing and non-availability of fuel (land acquisition)</p> <p><u>NLC – BARSINGSAR; NLC – TPSII Expn</u> Specific fuel oil consumption is to be fixed at 3 ml./kwhr. in line with the petitions filed.</p>



AUXILIARY ENERGY CONSUMPTION

Norms as per Commission: para 26-(iv)

(c) Lignite-fired thermal generating stations:

(i) All generating stations with 200 MW sets and above:

The auxiliary energy consumption norms shall be 0.5 percentage point more than the auxiliary energy consumption norms of coal-based generating stations at (iv) (a) (i), (ii) & (iii) above.

(ii) Generating stations up to 125 MW sets using CFBC technology: 12%

(iii) TPS-I and TPS-II Stage-I&II of Neyveli Lignite Corporation

TPS-I - 12.0% ; TPS-II - 10%

*Applying 26 (iv) (c), **TPSI Expn.** will come to $8.5+0.5=9\%$ (with cooling tower adopted)*

(v) Lime stone consumption for lignite-based generating station using CFBC technology: 0.05 kg/kWh.



AUXILIARY ENERGY CONSUMPTION — *Contd...*

NLC'S CLAIM: Following norms may be given

TPSI – 13%; TPSI-Expn. – 9.5%

NLC - TPSI : Increase in consumption is anticipated :

Due to vintage , expected increase in partial load operation, reduction in the number of units ensuing tapering down of TPS 1 etc., after extended life.

NLC – TPSI Expn. Earlier norm of 9.5 % is to be maintained:
Since auxiliary consumption is more than 9% for 3 years out of the five years from 2003-04 to 2007-08; ageing of equipments ; increased use of Cold Gas Re-Circulation fans; likely increase from 4 mill operation to 5 mill operation etc.



OPERATIONAL NORMS FOR NEW POWER PLANTS

- ❖ The operational norms are fixed from the date of COD and no relaxed norms are prescribed for Stabilization Period.
- ❖ New power plants do have some teething problems, which may lead to non-achievement of availability norms and consequent loss of capacity charges.
- ❖ Since **stabilization period is not considered** and number of new plants with higher size and new technology are under erection, it is suggested that such **new plants** which **suffer from non-achievement** of **availability** in their **first year of operation**, may be allowed **to recover the fixed charges suffered**, in a period of say, **next three years**.

NLC – TPSII EXPANSION

No norms have been given for TPSII Expn. Norms as per NLC's Petition 98/2007 dt:26-07-2007 as specified below may be fixed.

Target Availability : 75 %; **Auxiliary Energy Consumption : 11.0 %;**
Gross Station Heat Rate: 2500 Kcal./kwh with correction factor in moisture;
Secondary Fuel Oil Consumption : 3 ml./kwh ;
Lime Stone Consumption: 0.06 kg./kwhr



SCHEDULING, ACCOUNTING AND BILLING

CERC's in its order dated 23rd June 2008 on NTPC's UI cap petition has stated: ***“In this direction, the Commission could consider suggestions for clubbing of two or more stages of a generating station for the purpose of scheduling and UI computation, as also for a ‘special treatment on Mines load’ in the case of Generating Stations owned by NLC”.***

NLC is putting forth a proposal for Combining the Stage-I and Stage-II of TPSII and also for special treatment of Mines load in line with the above order as most of the Station facilities are common to both Stage-1 & Stage-2 and combining both the Stages will not deprive the beneficiary EBs any power but improve the availability of power.



PROPOSAL FOR SPECIAL TREATMENT OF MINES LOADS:

TPS-II - Stage-1 & Stage-2 have to make UI penalty not only for the variation in their own generation but also for increase in Mines power consumption. It is also difficult to track the actual mines power consumption and fine tune the generation to suit Declaration. Hence, it is suggested that special treatment on Mines' load in the case of Generating Stations owned by NLC has to be given at the earliest & following suggestions are given to mitigate the above difficulties.

- (i) NLC to furnish Ex-Mines Declaration of Stage-1 & Stage-2 to SRLDC in line with the CERC stipulations.
- (ii) In addition to the Ex-Mines availability, TPS-II to declare Ex-Bus Generation also for all the 96 blocks to SRLDC.
- (iii) Ex-Mines Declaration to be used by SRLDC for scheduling purposes and by SRPC for preparation of Regional Energy Account.
- (iv) Billing of fixed charges, energy charges and incentive to be continued based on Ex-Mines Declaration & Schedule.
- (v) The Ex-bus declaration to be used for the computation of UI for generation. This will eliminate adjusting the generation to suit Mines power drawal pattern and ensure maximum availability to the grid.



SHARING OF TRANSMISSION CHARGE

A **new clause** (para 33) has been added wherein generators are also required to pay transmission charges in certain scenarios:

COMMENTS / SUGGESTIONS OF NLC

As indicated by NLC in its affidavit in response to CERC's Staff paper on "Arranging transmission for new generating stations, captive power plants and buyers of electricity" NLC requests to exempt Generators from the purview of this clause.



JUSTIFICATIONS FOR EXCLUDING GENERATORS FROM SHARING OF TRANSMISSION CHARGE

Those who **have an agreement for ATS** for the power plant have to be **exempted**.

The **generators are to deliver power at ex-bus only**. The responsibility of transmission charges or wheeling charges have to be between beneficiaries and respective transmission utilities as at present. The **generation tariff should reflect the cost of power to be delivered at ex-bus only**.

Generators are not to be made responsible for any spare capacity left unutilized as the individual transmission Company can always utilize the spare capacity effectively through open access and the Generators do not utilize any part of the transmission system.

In regard to **ISGS**, the **beneficiaries** and **allocation** of transmission capacity for each of the beneficiary are **pre determined** and identified by the **MOP**.

As at present the generators, transmitters and distributors to be responsible for the individual activity and distributors being the receivers of power to be continued to do business individually with generators and transmitters.



REBATE.

Commission has stipulated under para 34, that for payment of bills of the generating company through letter of credit on presentation, a rebate of 2% shall be allowed & where payments are made other than through letter of credit within a period of one month of presentation of bills by the generating company, a rebate of 1% shall be allowed

NLC COMMENTS

(a) The rebate has to be restricted to monthly power bills only comprising fixed charges and energy charges as per the earlier Regulations 2004.

(b) If 45 days receivables are considered in the Working Capital, rebate has to be reduced to 1.5 % for payment through LC and for other than LC payment but within one month it should be 0.5 % in line with the receivable content in the working capital.

JUSTIFICATIONS

(a) Allowing rebate for the bills/ Components like reimbursement of Income Tax, Filing, etc. is not correct as these are the **actual payments** made by the generators to the parties concerned **in advance**. The generator therefore shall not be allowed to incur loss by paying unnecessary rebate on all bills.

(b) In the Receivables in the Working Capital, only 45 days energy charges and fixed charges have been taken into account . No other claims have been included.



LATE PAYMENT SURCHARGE.

Commission has specified under para 35, that in case the payment of any bill (other than UI & VAR charges) is delayed by a beneficiary beyond a period of 60 days from the date of billing a late payment surcharge at the rate of 1.25% per month shall be levied by the generating company

NLC COMMENTS / SUGGESTIONS

Since the working capital has provision for receivables for a period of only 45 days, here also the late payment surcharge has to be levied if the payment is made beyond 45 days from the date of billing.



TAX ON INCOME

Commission under para 39 has stipulated that, Tax on the income streams of the generating company from its core business excluding net UI income and incentives shall be recovered from the beneficiaries....

NLC COMMENTS / SUGGESTIONS

Income tax claim for net UI income and incentives have not been allowed in these regulations.

As these claims pertains to “Income from core business” it has **to be allowed.**



APPLICATION FEE & PUBLICATION EXPENSES

Commission under para 42 has stated that the application filing fee and the expenses incurred on publication of notices in the application for approval of tariff, may in the discretion of the Commission, be allowed to be recovered by the generating company directly from the beneficiaries

NLC COMMENTS / SUGGESTIONS

Considering the exorbitant increase in filing fees, Commission may allow reimbursement of tariff filing fees in all cases. Order dt:11-09-2008 on Petition 129/2005 has declined the claim of CPSUs for reimbursement of expenditure on the application filing fee. As stated in the order, this should not be taken as a precedence to disallow reimbursement claim



THANK YOU