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POWER

New CERC norms: Impact analysis

September 8, 2008

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CERC drafts proposals for multi-year tariffs

The Central Electricity Regulatory Commission (CERC) has released draft regulations for fixing multi-year tariffs for power generation and transmission companies over FY10-14. The proposal covers all central public sector power utilities, which include NTPC, Power Grid Corporation of India, Neyveli Lignite, and National Hydro Electric Power Corporation. These will be formalised into guidelines and the revised tariff proposals will be implemented from April 1, 2009. The paper contains a few major changes, which make norms for tariffs stringent and has proposals that reward more efficient utilities.

Provision for advance against depreciation removed

The provision for advance against depreciation (AAD), which under the earlier norms was given to utilities to provide for principal repayment of long term loans, has been scrapped. To partially offset this, the depreciation rate has been modified to provide accelerated depreciation for the first 15 years of a plant's life. This has been done to reduce front-loading of tariffs and pass on benefit to customers. Accelerated depreciation will allow utilities to have debt repayment tenure of 15 years against the 12 years followed by most power units. This will necessitate a restructuring of existing debt of power plants, failing which, additional cash outgo for debt repayment will need to be made by utilities.

RoE unchanged at 14%; incentive gains to be awarded on plant availability

CERC has retained the RoE at 14% but has changed the formula for computing incentives for power generation units. Under the new formula, incentives will be awarded based on plant availability rather than plant load factor (PLF), which was the parameter under earlier norms. The move will benefit all efficient power generators and will act as an incentive for better plant maintenance and operation. This is an improvement over the PLF-based incentive scheme as PLFs of power plants are partially dependant on the merit order dispatch system over which these generators do not have much control.

Normative parameters tightened: Lower scope for efficiency gains

CERC has also revised all normative parameters for power plants, including the gross heat rate (GHR), auxiliary consumption, secondary fuel consumption, fuel inventory, and working capital requirements. The new norms are more stringent and will reduce the scope of efficiency gains for all central generation utilities, including NTPC.

No impact on Power Grid; NTPC needs to enhance fuel and O&M efficiency

With not much change in transmission norms, we do not foresee any impact on Power Grid Corporation of India as we assume the company will be able to restructure loans to offset the AAD impact. However, for NTPC, since the norms have been tightened, unless it achieves earlier level of efficiency, its RoE will be impacted proportionately.

Depreciation rates rationalised; AAD to be discontinued

Proposed norms

Provision for AAD, a component of the earlier annual fixed charges (AFC) tariff formula, has been discontinued. The rate of depreciation to be used for computing AFC has been revised upwards, as shown in the table below:

Table 1: Depreciation rates under new norms

Description of asset	Useful life (in years)	Rate for first 15 years (%)	Rate for remaining life (%)
Thermal generating station	25	4.7	2.0
AC and DC substation	25	4.7	2.0
Hydro generating station	35	4.7	1.0
Transmission line	35	4.7	1.0

Source: CERC

Our view

Under the earlier norms, AAD was permitted in computation of AFC as it was used by power utilities to repay the principal component of long term debt so long as normal depreciation charge was insufficient to meet the loan installment. The debt payment schedule of a power generation utility is typically ~12 years. The new norms allow accelerated depreciation, which covers the principal payments for long term debt in the first 15 years of plant operation. Any variation in debt structure will be borne by the generation company.

Incentive payments linked to plant availability rather than PLF

Proposed norm

Incentive payment has been linked to plant availability as against the existing practice of payment of incentive, based on PLF. For plants running above the 80% PLF threshold, an incentive of INR 0.25/unit is given on every incremental unit generated. Under the new proposal, incentives will be based on plant availability; for every 1% increase in plant availability factor, over and above the normative annual plant availability (NAPF), the utility will get ~ 0.59% of AFC as incentive. NAPF has been fixed at 85% for a thermal plant.

Our view

This will be positive for most power generators as they typically have control over availability of plants through efficient operations and maintenance. On the other hand, the PLF achieved depends on regional load dispatch centers (RLDC) and is not under control of the generator. Therefore, by changing the incentive methodology, CERC proposes to reward more efficient generation units.

Normative parameters tightened: Less scope for efficiency gains

Proposed norm

Following are the changes proposed in the normative parameters:

Table 2: Operating norms

	Unit	Old norm	New norm
Availability	(%)	NA*	85.0
PLF	(%)	80.0	NA*
Gross station heat rate	Kcal/kWh	2,450	2,400
Secondary fuel oil consumption	ml/kWh	2	1
Auxilliary consumption of energy	(%)	8.0	8.0
O&M expenses	(INR mn/MW)	1.1	1.3

**NA - not used in calculation of incentives* *Source: CERC*

Our view:

The increase in operation and maintenance charges is largely to factor in the increased inflation and impact of the Sixth Pay Commission on employee compensation. All normative fuel consumption and working capital parameters have been tightened. This will reduce scope for efficiency gains for all generation units.

Impact analysis

We did an impact analysis to evaluate impact of the proposed norms. We did a like-to-like comparison of the plant under the old and new norms, using the following assumptions:

Table 3: Impact on an operational power plant

Parameter	Unit	Value
Total investment	(INR mn)	80,000
Capacity	(MW)	2,000
Fuel type		Coal
Useful life left	Years	25
Year of commissioning		2008
Coal price	()INR/MT	1,000
Plant load factor (PLF)	(%)	85.0
Plant availability	(%)	90.0

Source: Edelweiss research

We see that a plant's realisation decreases by INR 1,240 mn annually, which can be attributed to the fall in tariff per unit from INR 1.97 to INR 1.88.

Table 4: Impact on tariff, based on old and new norms:

	Old norm		New norm	
	Annual (INR mn)	**Per unit (INR)**	**Annual (INR mn)**	**Per unit (INR)**
Variable charges				
Coal cost/unit	9,590	0.70	9,395	0.69
Secondary fuel cost/unit	822	0.06	411	0.03
Variable charge		**0.76**		**0.72**
Fixed charges				
Interest on long term loan	5,040	0.37	5,040	0.37
Depreciation	2,880	0.21	3,736	0.27
Advance against depreciaton	1,787	0.13	-	-
RoE	3,360	0.25	3,360	0.25
O&M expenses	2,190	0.16	2,500	0.18
Interest on working capital	1,105	0.08	856	0.06
Fixed charge	**16,362**	**1.19**	**15,492**	**1.13**
Incentive payment	**219**	**0.02**	**456**	**0.03**
Tariff/unit		**1.97**		**1.88**

Source: Edelweiss research

Other proposed norms

- Renovation and modernisation: The norms have also allowed power generating companies a special renovation and modernisation allowance for extending the life of a power asset beyond the useful life. The allowance proposed is of INR 0.5 mn/MW/year during the tariff order period (FY10-14E).
- Beneficiaries will not be required to take up tax payment on income on net unscheduled interchange (UI) earnings and incentives.
- The paper also proposes to do away with fixation of provisional tariff. Instead, upfront fixation of payment will be based on actually incurred or projected capital expenditure and truing up exercise for any shortfall/surplus will be done in the terminal year of the tariff period i.e., in FY14E.
- Capital cost for thermal and transmission projects will be benchmarked to certain norms and prudence check will be carried out to the extent possible.
- Utilities will be allowed to hedge the exchange risk of foreign currency borrowings to the extent possible and the cost of hedging will be allowed as part of the tariff.

Conclusion

NTPC's annual RoE has been in the 22-24% range over the past few years. This level has been possible due to:

a) 3% savings in fuel costs through both lower auxillary and plant heat rate.

b) ~ INR 0.02 / unit in terms of lower O&M expenses.

c) Providing incentives to state utilities in terms of receivables and thereby minimising working capital expenses.

Since most of the above parameters have been tightened in the short term, it will be difficult to maintain the high RoE levels.

However, we believe, through the various joint ventures and the cost cutting measures undertaken by the management it would be possible for the company to achieve the present RoE.

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