Adani Power Ltd.
Comments/Suggestions on Draft CERC (Terms and Conditions of tariff) Regulations, 2014

15th & 16th January-New Delhi

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Overall Approach

Parameter	Regulations 2004	Regulation 2009	Draft 2014-19
Return on Equity	Post tax RoE	Pre tax RoE	Post tax RoE
Secondary Fuel Oil Consumption	Part of Energy Charge	Part of Capacity Charge	Part of Energy Charge
Incentive	Based on PLF	Based on PAF	Based on PLF

Comment

- National Electricity Policy:

  "5.8.8 Steps would also be taken to address the need for regulatory certainty based on independence of the regulatory commissions and transparency in their functioning to generate investor's confidence."

- Objectives of Tariff Policy:

  "(c) Promote transparency, consistency and predictability in regulatory approaches across jurisdictions and minimise perceptions of regulatory risks;"

- While the policies suggest regulatory certainty, frequent changes to regulations may not be a healthy approach
- Uncertainty in regulatory approach may reduce investor confidence

O&M Expenses for single-project transmission Licensee...

- Draft proposes reduction in O&M Expenses as compared to 2013-14
  - For Bays - 15.73%
  - For line - 11.40%
- Based predominantly on PGCIL data

Comment

- Powergrid is a multi-project licensee
- Has lot of scope for optimization and
- Advantage of economies of scale
  - Common pool of spares
  - Common pool of manpower
  - Lower expenses for support services
- Per bay expense - low for a substation with more no. of bays

Suggestions

- Norms for single-project licensees to be fixed on case to case basis
- Weightage for mitigating high salinity and corrosion effects in Coastal areas.

Reduction in O&M expenses to such an exorbitantly low level would be detrimental for new transmission licensee

O&M Expenses for HVDC Bipole System…

– Draft regulation considers Talchar –Kolar as basis for new HVDC Bipole system

Comment

– Mundra-Mohindergarh HVDC and Tachar-Kolar are not comparable
  - All the HVDC systems are tailor made to suite particular scheme.
  - Relying on one asset data for framing regulations may not be appropriate.
  - Maintenance cost of HVDC system follows a bath-tub curve
  - i.e. higher maintenance cost in initial period.
  - Talchar-Kolar is 10 years old and Mundra-Mohindergarh is newly commissioned

Suggestion

- O&M expenses for HVDC System to be on case to case basis
- Spares for maintenance
  - limited no. of suppliers driving the cost of spares.
  - Majority spares imported – increase in cost due to rupee depreciation.
- Weightage for mitigating high salinity and corrosion effects - Mundra being in coastal area
- Sand blasting during summer in coastal area also involves higher maintenance cost
- Foggy conditions during winter at Mohindergarh HVDC terminal stations would necessitate higher maintenance
- New technology - need skilled manpower at higher cost

O&M expenses norms for APL's HVDC System shall be based on actual expenses

Escalation for transmission O&M Expenses…

- Draft proposes reduced escalation rate for transmission O&M expenses
  - Reduced to 4.14% from 5.72% of existing norms
  - Considers escalation of actual expense during 2008-09 to 2012-13

Comments

- Commission considered CPI and WPI for 2004 and 2009 tariff regulation
- Escalations rates notified by Commission also considers WPI & CPI
- Model PPA also considers WPI & CPI
- Drastic reduction in O&M expense will impact grid security

Suggestion

- Annual escalation rate of O&M expenses shall be continued to be computed based on CPI and WPI data

Incentive for Transmission System

- Draft proposes increase in Normative Availability for recovery of AFC
  - for HVDC Bipole System: from 92% to 95%

- Draft proposes increase in Normative Availability for Incentive
  - for HVDC Bipole System: from 92% to 98%
  - for AC System: from 98% to 99%

Comments

- Existing regulation allows incentive above Normative Availability.
- Draft discourages better maintenance in the absence of reasonable reward
- Not good for grid security in long run
- Draft conveys regulatory uncertainty
- Achieving 98% NA for HVDC Bipole system is difficult
- Planned outage takes 4 days per pole; unscheduled outages additional
- Each HVDC system is unique. Specific norms for each HVDC

Suggestion

- Existing norms for AC System be continued
- Specific norms for each HVDC System
- Incentive be allowed above NA (without any gap)

Return on Equity

- Draft proposes to retain Return on equity at 15.50%

Comments

- As per clause of 5.3 of National Tariff Policy

  "The Central Commission would notify, from time to time, the rate of return on equity for generation and transmission projects ***keeping in view the assessment of overall risk and the prevalent cost of capital*** *which shall be followed by the SERCs also"*

- **Risk** :
  - Uncertainty in terms of project execution, fuel shortage and power sale
  - very high risk perception
  - Inflation has also gone up substantially
- **Cost of Capital**
  - Increase in CPI the CPI has increased from 148 (Jan 2009) to 241 (Oct 2013); increase of 62.8% @ CAGR of 12.96%.
  - SBI PLR increased from 11.75% (June 2009) to 14.75% (Dec 2013; 3% increase

Suggestion

- Increase RoE to at least 18%

Tax on RoE

- Commission proposed to revert to Post-tax RoE as against Pre-tax RoE
- Also, proposes exclusion of incentive and efficiency gains for tax reimbursement

Comments

- SoR of 2009-14 regulations: Rationale to switch over from Post-tax to Pre-tax RoE

"14.4 The Commission, after considering all the views of all stakeholders is of the view that it will be appropriate to move to the system of pre-tax rate of return on equity from the existing post-tax rate of return on equity. Accordingly, the Commission has decided to allow pre-tax rate of return on equity to the utilities"

- Tariff Policy emphasizes on predictability and consistency in regulatory approach

Suggestion

- Existing regulation of pre-tax RoE be continued

Initial Spares for HVDC System

- Draft proposes Initial spares at 4.50% of the Plant and Machinery cost

Comments

- HVDC being a new technology, maintaining adequate spares is very critical
- Price of spares solely driven by manufacture owing to limited suppliers.
- Also, majority of initial spares being imported, unprecedented FERV, has increased cost of spares substantially

Suggestion

- Spares cost for HVDC be determined on case to case basis.

Useful life of AC & DC Substation

- Draft proposes increase in Useful life of AC & DC Sub stations 35 yrs. from 25 yrs.

Comment

- 25 years as per Tariff Regulations, 2009
- As per SoR of 2009 regulations, it was based on past performance.
- AC Sub-station equipment are generally designed for 20 to 25 years of useful life as specified in design criteria.
- Existing systems Useful life cannot be made 35 yrs. since designed for 25 yrs.
- Protection system requires modification/replacement after every 3-5 years
- Battery system cannot give life beyond 15 to 20 years even in best make / type.
- Earthling design considers rate of corrosion for 20-25 years as per soil condition.
- Design criteria of insulation degradation is also in range of 20 to 25 years.
- If newer system are to serve for 35 years, involves additional capital cost
- No rationale for increasing Useful life of AC/DC SS to 35 years.

Suggestion

- To continue 25 years of Useful Life for AC/DC Substations

Apportionment of cost of common facilities

- Draft proposes cost of common facilities to be apportioned on the basis of the installed capacity of the units or line length and number of bays

Comments

- Common facilities cater the need of future Units
- To be commissioned upfront along with first unit of generating station or first element of the transmission line.
- Model PPA also suggests allocation of higher cost for 1st Phase/Unit

Suggestions

- Decide apportionment of common facilities on case to case basis

Commercial Operation of Generating Station

- Draft suggests Demonstration of Normative Availability in the month following CoD

Comments

- Once testing is completed successfully, insisting demonstration of Normative Availability is not justified
- The interest of beneficiary is protected, as Capacity Charge payable reduces proportionately for lower Availability
- There is no rationale to bringing in this new condition for CoD

Suggestion

- Delete 2nd and 3rd proviso to Draft Regulation 4(1)

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Trial Run

- Draft defines Trial Run as successful running at MCR or Installed Capacity for continuous period of 72 hours

Comments

- As per Model PPA for UMPP/ Case 2, Trial run is successful running of generating station or units thereof at **90% of rated capacity** on average basis for the block period of 72 hours instead of at MCR or installed capacity
- Continuous operation at MCR or IC is not feasible due to various external constraints not attributable to Generator.

Suggestion

- Draft Regulation 5(1) be modified in line with Model PPA

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Truing up

- Commission proposed sharing of gains on account of controllable factors with beneficiaries.
- Commission proposes SHR, SFOC and AEC as controllable factors.

Comments

- Tariff policy suggests consideration of normative parameters

  "*Suitable performance norms of operations together with incentives and dis-incentives would need be evolved along with appropriate arrangement for sharing the gains of efficient operations with the consumers. Except for the cases referred to in para 5.3 (h)(2), the operating parameters in tariffs should be at "normative levels" only and not at "lower of normative and actuals". This is essential to encourage better operating performance. ---*"

- SHR, SFOC and AEC are largely dependent on external factors such as low schedule, fuel shortage and evacuation constraints, grid conditions etc.

Suggestion

- To delete provisions related to sharing
- Alternatively, losses and gains both be shared for equitable treatment.
- SHR, SFOC and AEC cannot be considered as controllable factors.

Operational Norms for Thermal Station

- Draft Regulation proposes, SHR = 1.045 * Design SHR for new plants to be commissioned after 01st April 2014,

Comments

- Already installed and ordered/under execution units cannot deliver Turbine heat rate better than design.
- SHR being a design factor, it is prudent to decide SHR norms based on date of manufacturing of the machine rather based on CoD.
- 6.5% margin allowed based on CEA recommendation
- Para 29.4 (c) of SoR for Tariff Regulations 2009.

  "(c) In respect of new coal/lignite based thermal generating units, Commission is of the view that the SHR norms could not be set based on the actual performance of high performing units leaving them no scope for operational flexibility. As such, Commission is providing for a 0.5% additional margin over the design heat rate and accordingly, providing for a margin of 6.5% above the design heat rate as the SHR norm for the new coal/lignite based stations. Further, to safeguard against the misquoting of design heat rate, as suggested by CEA we are providing that the design heat rate should not exceed the following values in respect of units depending upon their temperature and pressure ratings:"
- Proposed 4.5% margin over designed heat rate for new plants is not backed by CEA report.

Suggestions

- For units ordered prior to 01.04.2014, 6.5% margin be continued
- 4.5% margin over design SHR to be considered for Units ordered after 01st April 2014.

Operational Norms for Thermal Station

- Commission proposed Boiler efficiency as 87% and 89% respectively for Sub-bituminous Indian coal and bituminous imported coal

Comments

- Boiler efficiency of steam generator reduces with increase in Moisture, Hydrogen and sulphur contents as losses will increase.
- Mostly the imported coal used is from Indonesia; which has higher Moisture & Hydrogen contents
- Due to high sulphur content. the higher APH exit Temperature is preferred, to counter the Dew point corrosion in cold end of Air preheater and flue gas duct
- This increases the Dry flue gas loss & reduces Boiler efficiency

Suggestions

- proposed norms of boiler efficiency for Imported coal is technically not feasible

Other Provisions

Additional AEC for FGD and Coastal plants

- It is suggested to consider additional AEC of 1.9% for plants operating with Flue Gas Desulphurisation(FGD) based on MoEF stipulation
- For Coastal plants, additional AEC of 0.5% be allowed for desalination plant required for providing service water and production of DM water

Additional SFO for Reserve Shut Down(RSD)

- From grid security point of view, the SLDCs / RLDCs are directing Reserve Shut Down of generating units during low demand/ high frequency conditions
- As resynchronization after RSD involves substantial SFO consumption and the same is not on account of generator, it is suggested to allow reimbursement of actual SFO expenses or fix a suitable norm for different sizes of machines

Additional AEC and SHR for partial loading

- National average PLF is going down year on year due to various reasons and most of the time the generating units are operating at partial load
- Operation at partial load reduces operational efficiencies.
- Model PPA has recognized this aspect and allows margin in SHR
- It is suggested to allow additional AEC and SHR for partial loading in Regulations

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