Gujarat Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2023 [Draft]

Summary:

GERC circulated the draft regulations with the objective of initiating discussion on various aspects of Multi Year Tariff Determination Process and soliciting inputs of the stakeholders in this regards. These Regulations shall extend to the whole of the State of Gujarat. These Regulations shall be applicable to all existing generation companies supplying power under section 62 of Electricity Act 2003, Transmission Licensees, Distribution Licensees, State Load Despatch Centre (SLDC), and their successors, if any, for determination of Aggregate Revenue Requirement, Tariff, and Fees and Charges of SLDC in all matters covered under these Regulations from April 01, 2024 up to March 31, 2029, unless otherwise reviewed/extended. Review and the discussion provided that for all the purpose, including review matters pertaining to the period till March 31, 2024, the issues relating to determination of Aggregate Revenue Requirement and Tariff shall be governed by the provisions of the Gujarat Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2005, or Gujarat Electricity Regulatory Commission (Levy And Collection of Fees and Charges by SLDC) Regulations, 2005, or Gujarat Electricity Regulatory Commission (MYT Framework) Regulations, 2011, or Gujarat Electricity Regulatory Commission (Multi Year Tariff) Regulations, 2016, including amendments thereto, as may be applicable. These Regulations supersede the "Gujarat Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2016" and amendments thereof.

The draft document can be accessed here.

CER Opinion

1. Interest on Working Capital: Proviso to Clause 38.1.1 states that *"Provided further that in the event that availability by any thermal generating station is less than the Normative availability due to less coal stock maintained by the plant, the penalty shall be determined as per Regulation 57 of these Regulations."*

As per the prevailing framework, there is no independent way to assess the availability of a thermal generating station due to coal stock availability. Generating stations, specifically the high cost ones, may not maintain the normative coal stock due to lower scheduling of such high VC plants as per the merit order, especially during the off-peak seasons. Monthly opening, closing stock, purchases, and delivered and sold should be reported to the Commission. Furthermore, it is suggested that the Commission may provide for random stock verification from time to time.

Based on analysis of merit order based schedule of high cost generating stations**, a seasonal coal stock requirement may be specified**. This would ensure higher coal stock during peak season and lower during off-peak season, while optimizing interest on working capital.

In case of imported coal, if required/mandated, higher calorific value of the imported coal should be considered to adjust overall coal stock maintained at the generating stations.

2. Geo-tagging of assets: As per the proposed Clause 46.5, "*Generating company shall be required to ensure that the procurement of the assets have been undertaken in a competitive and transparent manner. Further the assets so capitalized as a part of the approved capital investment plan under these Regulations should necessarily be geo-tagged and properly recorded in Fixed Asset Register (FAR) for allowance of the capitalization of the same by the Commission."*

Geo-tagging of assets is a good initiative as it enables tracking of the assets for the generating stations and the licensees, and also makes it easier to undertake stock taking. It is suggested that **geo-tagging should also be extended to the renewable assets** as well and should be implemented as a part of the respective Regulations for renewable energy.

3. Fuel utilization plan: As per Clause 47.2 of the proposed draft, *"The Fuel Utilization Plan should ensure that fuel quantum is allocated to different generating Stations/Units in accordance with the merit order of different generation Stations/Units in terms of variable cost:*
Provided that the fuel allocation should be such that, subject to system and other constraints, the least cost generating Stations/Units are operated at maximum availability and other generating Stations/Units are operated at maximum availability thereafter in the ascending order of variable cost".

This will ensure the higher availability of the low variable cost generating stations w.r.t the fuel allocation. This will subsequently lead to lower fuel allocation to the generating stations with high variable cost (marginal plants). It is recommended to modify calculation of fuel component in the working capital requirement for those marginal plants, so that the beneficiary will not incur the extra burden while paying the tariff of marginal generating stations.

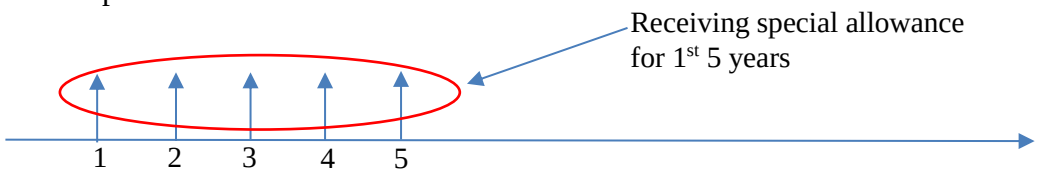
Apart from Fuel Utilisaiton Plan (FUP), a quarterly Fuel Procurement Plan (FPP) should also be submitted by the generating stations. This is required to ensure that timely order for domestic coal are placed and followed up to minimize the need for costly imported fuel. Quarterly FPP should be submitted to the Commission and deviations thereof be identified and justified. The regulation should provide for adjustment of fuel cost if actions of the generating stations, leading to higher overall fuel cost, cannot be justified.

The quarterly FUP and FPP should be timely uploaded on the generating station as well as the Commission's website and archived there. FPP should highlight any changes leading to higher fuel cost, especially the imported fuel.

4. Renovation and Modernization - Regulatory certainty for plants beyond useful life:

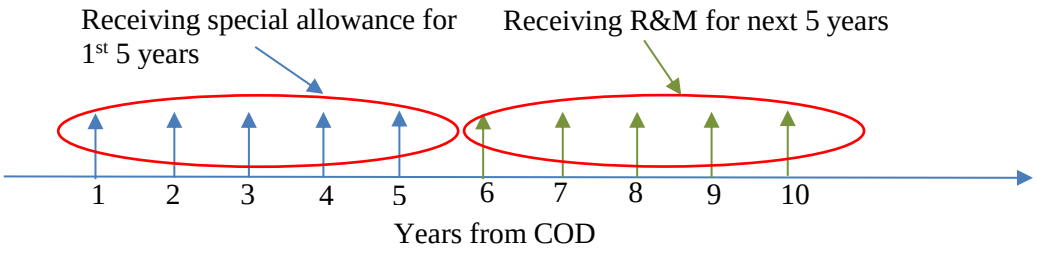
The coal/ lignite based generating stations after completing its life of 25 years have the option to either avail expenditure for "Renovation & Modernization (R&M)" or special allowance as compensation for meeting requirement of expenses including R&M. We highlight certain economic/financial aspect of alternate financial mechanisms for R&M:

(i) Opting for special allowance for 1st 5 years after the completion of its useful life and then shutting down the plant:



Assuming that the generating plant have a capacity of 1 MW, it will receive a special allowance of Rs. 11 lakh for a period of 5 years after the years of its useful life. The NPV for this scenario considering a discount rate of 10% will be around Rs. 42 lakhs. Since the special allowance is in lieu of the expenses for the requirement of renovation and modernization, shutting down of a plant after receiving the special allowance may not be financially justified.

(ii) Opting for special allowance for 1st 5 years after the completion of its useful life and then opting for R&M for the next control period:



Assuming that the generating plant have a **capacity of 1 MW**, it will receive a special allowance of Rs. 11 lakh for a period of 5 years after the years of its useful life. Also, it is opting for Rs. 30 lakhs per year for 5 years as expense for R&M. The NPV for this scenario considering a discount rate of 10% will be around Rs. 1.123 crores. The scenario is more expensive as compared to the previous scenario. Subsequently, it makes little sense to invest in R&M after receiving the special allowance.

This approach would place higher cost burden on the consumers. Alternatively, the generating station should have examined economics of R&M and gone for the same instead of claiming special allowance for the first 5 years.

Alternate Approach 1: Instead of scenario (i) as shown above, the generating company can opt for the **compensation allowance for a period of minimum two control periods**. In short, plant opting for special allowance shall not opt for R&M and the special allowance will be continued for a minimum of 2 control periods. That will also give them financial certainty to invest in the R&M of the plant. The same has been provided in the Clause 50.6 of the draft which states, "…*Provided further that the special allowance for the generating station, which, in its discretion, has already availed of a 'special allowance' in accordance with the norms specified in Regulation 50.6 of the Gujarat Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2016, shall continue to be allowed Special Allowance in accordance with Regulation 50.6 of these Regulations, every year during the Control Period*.".

However, the Clause can further include the provisions for the generating plants that have not availed the special allowance so far but are completing their life in the 2024-29 control period. For e.g., a generating station completing its useful life on 31.03.2025, and opts for special allowance for the remaining control period, the special allowance will be given for next 10 years. The NPV of this approach considering same data as above will be around Rs. 1.10 crores, which is Rs. 2 Lakhs/ MW less than that of the scenario (i) mentioned above. Along with that, the special allowance should be made compulsory for those generating plants, which have already taken the same during the previous control period.

Alternate Approach 2: Plant opting for R&M will receive the same just after the completion of its useful life. In this way, the expenditure will rightly be used for extending the plant's life which will be fruitful for the beneficiaries. However, the generating station should ensure minimum operational availability and performance parameters. In case of failure to achieve so, the allowable recovery of the R&M investment should be reduced on a pro-rata basis relating it to the gap between the promised (post R&M) and actual delivered performance. An index can be developed for measuring such a gap in a holistic manner.

Thus, **R&M investment approval and its recovery be linked to minimum availability and performance, and its recovery can be prorated as explained above.**

In case of special allowance as well, minimum availability and performance of the plant should be ensured. Recovery of special allowance can be linked to the same.

5. Lower special allowance for gas based thermal power plants: Draft clause 50.6 states, "*Special Allowance shall be @ Rs. 11.00 lakh/MW/year for the entire control period.*"

Based on technical evaluation, the Commission may decide to set a **lower special allowance for the gas based power plants,** which are expected to have much lower associated cost due to the nature of the technology and the fact that wear and tear of such plants would have been lower due to lower scheduling over their life span.

6. Annual filing of special allowance: Draft clause 50.7 states, "*In the event of granting special allowance by the Commission, the expenditure incurred or utilized from special allowance shall be maintained separately by the generating station and details of same shall be made available to the Commission as and when directed to furnish details of such expenditure.*"

It should also be ensured that **expenditures funded by the special allowance are not recovered and accounted for by the generating plant in any of the cost heads attributable to the tariff**. These may include depreciation as well as interest cost, if any.

In order to assess the benefits of special allowance on the availability and operational performance of the generating plant, **special allowance should be trued up in the interim or at the end of the control period.**

7. Actual values of performance parameters to achieve better performance: The parameters of the generating station like auxiliary consumption, Station Heat Rate (SHR), Secondary Fuel Consumption have been provided same values for each year in the control period of FY 25-29. This would also enable the Commission to set more efficient benchmarks for operational performance.

8. Performance linked cost recovery for limestone consumption: The normative limestone consumption (0.05 kg/ kWh) has been specified only for the lignite based power plants and does not consider the limestone consumption for the use of FGD. It is suggested that normative parameters may be specified for the purpose of flue gas sulphurisation for coal as well lignite based thermal power plants. **Recovery of operational costs of the FGD should be linked to the reduction in the emissions.** This should be measured at pre- and post-FGD stage.

Data from Continuous Emission Monitoring Stations (CEMS) at each of the unit (block wise) be available in public domain and be maintained and archived by the generating station/company at its web portal. Historical data for the emission should also be shared for comparison purpose.

9. Upper limit of transit and handling losses: Draft Clause 53.7.1 states, "…*Provided further that in case of imported coal, the transit and handling losses shall be 0.20%, subject to terms of delivery.*"

It is to be made clear that the value of 0.2% of transit and handling losses should be the upper limit in each of the scenario. Similarly 0.2% and 0.8% of transit and handling losses should be the upper limit for pit head and non-pit head generating stations respectively. **These should not be exceed on the basis of 'terms of delivery'. This would ensure that fuel procurement contracts would also provide the same upfront.**

10. Plant availability during the R&M period: If a unit or station is shut down for a significant period in a year (say, 6 months) for R&M, it is suggested that the availability factor for rest of the year for which it is operational (and not for the complete year) should be considered while computing the recovery of AFC.

11. Availability of tariff worksheet in public domain: It is suggested that the tariff work sheets for the templates and calculation of actual tariff should be provided in the tariff orders**. These should be made available on the Commission website. This is general international best practice adopted by a number of Commissions across the world.**

12. Annual target of operational parameters of thermal generating stations for improving efficiency: A per the draft Clause 53.2 - Gross Station Heat Rate, and Clause 53.5 - Auxiliary Energy Consumption, the proposed operational norms are constant for each year. It has been observed that actual auxiliary consumption of generating stations have been below the norms set for them, as shown in Table 1. The norms for auxialiry consumption for some of the plants are proposed to be higher than the actual performance. Regulatory approach needs to encourage performance improvement and hence set tighter norms. Furthermoret, in order to encourage long-term investment and planning, a trajectory may be specified for the operational parameters (SHR and Aux. consumption) of the generating plants. It is suggested that the **smaller capacity and inefficient thermal plants which have exceeded their useful life may be retired. Such plants would generally attract lower schedule due to higher ECR.**

Table 1: Auxiliary Consumption of GSECL plants[1]

Name of TPS	Unit	COD	Yrs. of Opn.	Installed Capacity (MW)	Auxiliary Consumption						
					FY-14	FY-15	FY-16	FY-17	FY-18	Norms for 3rd CP FY 2016 to 22	Proposed Norms for 4th CP FY 24 to 29
Gandhinagar TPS	1	13-03-1977	**47**	120	10.12%	9.17%	9.64%	9.85%	9.27%	10%	
	2	10-04-1977	**47**	120						10%	
	3	20-03-1990	**34**	210						10%	9%
	4	20-07-1991	**32**	210						10%	9%

[1] Source: CEA report on Review of Performance of Thermal Power Station 2017-18 and GERC MYT Regulations for 3rd Control Period

	5	17-03-1998	**26**	210							9.50%
Ukai TPS	1	19-03-1976	**48**	120	7.56%	6.66%	8.22%	7.59%	8.03%	9%	
	2	23-06-1976	**47**	120						9%	
	3	21-01-1979	**45**	200						9%	9%
	4	11-09-1979	**44**	200						9%	9%
	5	30-01-1985	**39**	210						9%	9%
	6	08-06-2013	**10**	500							
Wanakabori TPS	1	23-03-1982	**42**	210	9.19%	8.76%	8.90%	9.27%	8.61%	9%	9%
	2	15-01-1983	**41**	210						9%	9%
	3	15-03-1984	**40**	210						9%	9%
	4	09-03-1986	**38**	210						9%	9%
	5	23-09-1986	**37**	210						9%	9%
	6	18-11-1987	**36**	210							9%
	7	31-12-1998	**25**	210							9.50%
Sikka TPS	1	26-03-1988	**36**	120	12.33%	11.37%	11.06%	9.95%	9.66%		
	2	26-03-1988	**36**	120							
	3	14-09-2015	**8**	250						9%	9%
	4	28-12-2015	**8**	250						9%	9%
Kutch Lignite TPS	1	29-03-1990	**34**	70	13.21%	12.75%	10.88%	14.71%	11.31%	12%	
	2	25-03-1991	**33**	70						12%	
	3	31-03-1997	**27**	75						12%	12%
	4	20-12-2009	**14**	75						12%	

13. Operation and maintenance expenses for thermal generating stations: Clause no.54 under sub-clause 54.1.2, "*The Operation and Maintenance expenses for nth year of the Control Period shall be determined based on the formula shown below:*

O&Mn = (R&Mn + EMPn + A&Gn) x (1 - Xn) + Terminal Liabilities and other one-time expenses

Where,
***R&Mn** –Repair and Maintenance Costs of Generating Station / Generating unit for the nth year;*
***EMPn** –Employee Cost of Generating Station / Generating unit for the nth year;*
***A&Gn** –Administrative and General Costs of Generating Station / Generating unit for the nth year;*
***Xn** -Efficiency factor for nth Year. Value of Xn to be considered as zero till such time the same is determined through a study by the Commission:*

*Provided that the Terminal Liabilities and other **one-time expenses** shall be allowed separately on actual basis subject to prudence check.*

It is suggested that the term 'other one-time expenses' may be further clarified and a list of such 'one-time expenses' may be included in the Regulations. It should exclude any penalties or expenses attributable to the generating company or the licensees. Such one-time expenses may include those on account of force majure conditions, change in law, or an outcome of a legal proceedings (not

attributable to the shortcoming of the regulated entities).

14. Differentiated escalation index for different components of O&M expenses: As per the proposed Clause 54.1.3, the average inflation escalation 'Esc' is considered by considering the weightage of CPI (WE_{CPI}) and weightage of WPI (WE_{WPI}) for the calculation of complete O&M expenses and is same for R&M, A&G and employee expenses. It is suggested that the weights, **WE_{CPI} and WE_{WPI} may be differentiated for each of components of O&M expenses and the ratio WE_{CPI}: WE_{WPI} should be lower for R&M and higher for employee expenses and A&G expenses.**

Also, **the basis of differentiation of WE_{CPI}: WE_{WPI} based on individual company as well as technology, as per note (a), (b), and (c) of the proposed Clause 54.1.3, does not seem to be justified based on economic concepts. Economic cost escalations (due to rising cost of material/ labour etc.) are not driven by 'who' is incurring those costs, but 'what' constitutes those costs.**

15. Differentiated working capital for marginal plants: As per the draft Clause 53.1, *"53.1.1 Normative Annual Plant Availability Factor for full recovery of Annual Capacity Charges for the following stations shall be:*

Table 2: Normative Annual Plant Availability Factor for GSECL Generating Stations

Station	*Target Availability (%)*
Ukai TPS (Unit 3 - 5)	*80*
Kutch Lignite TPS (Unit 3)	*72*
Kutch Lignite TPS (Unit 4)	*72*

Provided that the Commission may revise the norms for Availability for the above mentioned Generating Stations in case of renovation & modernisation undertaken by the Generating Station.
*53.1.2 Normative Annual Plant Availability Factor for full recovery of Annual Capacity Charges for all other thermal generating stations, except those covered under Regulation 53.1.1 shall be **85 percent**" (emphasis added).*
The working capital for all the coal/ lignite based plants have been considered at the normative plant availability regardless the actual PLF/ schedule given to the plant. **It can be observed that the average annual PLF for the thermal plants have reduced far below the normative PLF (85%). For marginal plants, i.e. those having higher ECR, get significantly lesser schedule and thus have much lower working capital requirement.**

Hence, it is suggested that the computation of the working capital requirement at least for the marginal plants may done on the basis of actual average PLF of the previous year, and may even be differentiated across peak and off-peak seasons (as explained earlier).

Also, the consideration of fuel oil stock of 2 months, which seems higher, may be reviewed to allow the actual cost of oil stock kept by the generating companies during the previous year. Since lead times for plants located within the state is expected to be much lower, higher liquid fuel stocks need to be reviewed downwards.

16. Calculation of WE_{CPI} and WE_{WPI} on three year rolling basis: As per the draft Clause 54.1.3, "*…Provided further that the escalation rate for FY 2023-24 and for the complete control period i.e. FY 2024-25, FY 2025-26, FY 2026-27, FY 2027-28, and FY 2028-29 shall be computed by considering* ***(WE_{WPI}) weightage to the 10-year average of the yearly inflation of the last ten years*** *ending March 31, 2023 for Wholesale Price Index (WPI) and* ***(WE_{CPI}) weightage to the 10-year average of the yearly inflation of the last ten years*** *ending March 31, 2023 for Consumer Price Index (CPI)…*"(emphasis added).

The proposed framework for the estimation of the escalation rate would use past 10 year data (10 years before beginning of the control period). This data would be used to arrive at an escalation rate that would be applicable for the first year as well as the last year of the control period. Thus the escalation for the last years of the control period would effectively use 15 year old data as well. It is suggested that a rolling window may be used for arriving at the escalation rate. This is further highlighted in the figure 16(a) below:

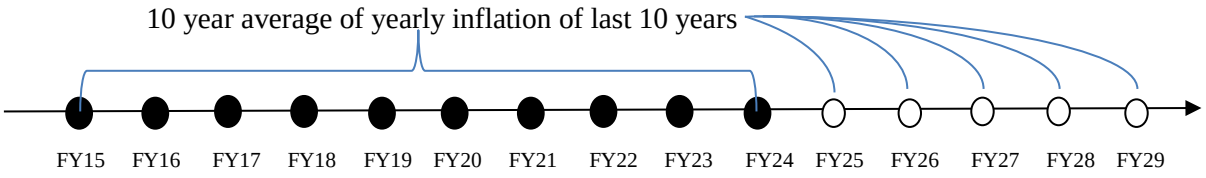


Figure: 16(a)

Two main are described below:

i. Estimation of values of future 5 years depends on the values of past 10 years with equal weightage assigned to value of each of the 10 years. In the extreme, the value in FY15 will have an impact in the projection in FY29.
ii. Each year of the future control period has a static escalation rate, which generally do not occur in reality.

To address the same, it is recommended to use **the 3-year moving average escalation rate with the latest year having a weightage of 50%, mid-year having the weightage of 30% and oldest year having the weightage of 20%.** The same has been demonstrated in the figure 16(b) below:

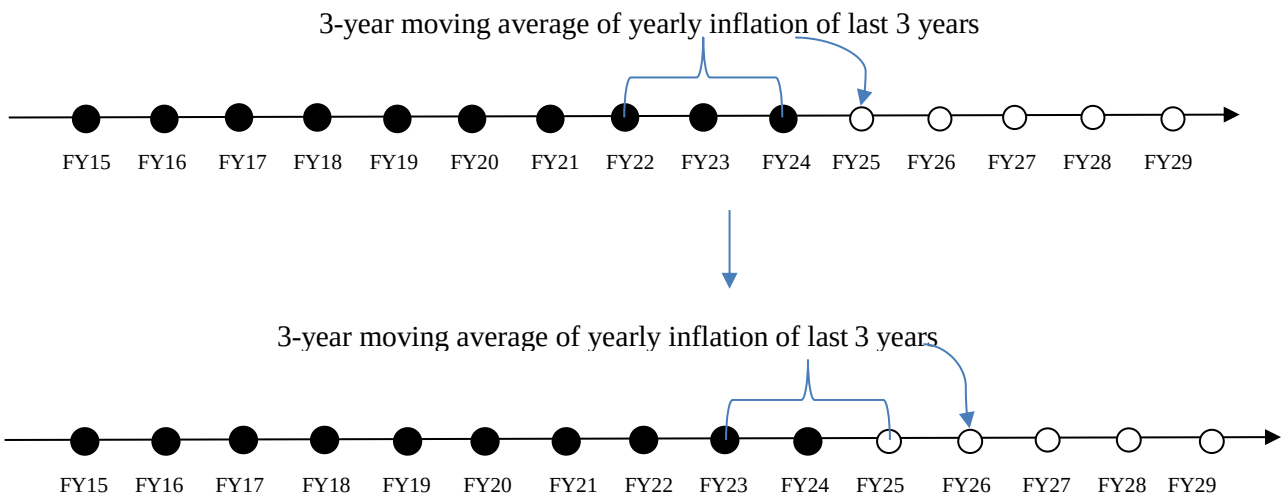

3-year moving average of yearly inflation of last 3 years
FY15 FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 FY26 FY27 FY28 FY29
3-year moving average of yearly inflation of last 3 years
FY15 FY16 FY17 FY18 FY19 FY20 FY21 FY22 FY23 FY24 FY25 FY26 FY27 FY28 FY29

Figure: 16(b)