



A Maharatna Company

एन टी पी सी लिमिटेड

(भारत सरकार का उद्यम)

NTPC Limited

(A Govt. of India Enterprise)

केन्द्रीय कार्यालय / Corporate Centre

Date: 29.10.2024

The Secretary
Central Electricity Regulatory Commission,
7th floor, Tower-B, World Trade Centre
Nauroji Nagar, New Delhi-110029

Subject: NTPC Submissions on Draft CERC (Deviation Settlement Mechanism and Related Matters) (First Amendment) Regulations, 2024

Sir,

Hon'ble Commission has published Draft CERC (Deviation Settlement Mechanism and Related Matters) (First Amendment) Regulations, 2024 and has invited comments from the stakeholders on the draft Regulations.

In this regard, please find enclosed submissions of NTPC on Draft CERC (Deviation Settlement Mechanism and Related Matters) (First Amendment) Regulations, 2024

Thanking you,

Yours sincerely

Ajay Dua
ED (Commercial)

**NTPC Submissions on Draft CERC (Deviation Settlement Mechanism and Related Matters)
(First Amendment) Regulations, 2024**

1. The Draft Amendment proposes that Clause (8) of Regulation 8 of the Principal Regulations shall be substituted as under:

“(8) The charges for injection of infirm power shall be zero:

*Provided that if infirm power is scheduled **after a trial run as specified in the Grid Code**, the charges for deviation over the scheduled infirm power shall be as applicable for a general seller or WS seller, as the case may be:*

Provided further that when the system frequency, $f > 50.05\text{Hz}$, the charges for deviation of scheduled infirm power by way of over injection by a general seller or WS seller, as the case may be, shall be zero.”

Submission:

It may please be noted that a thermal generator is required to inject infirm power into the grid from first synchronisation to trial run on account of various pre-commissioning activities, performance guarantee tests, full load testing etc.

Further as per IEGC 2023 also, a generator is allowed to inject infirm power into the grid after furnishing the relevant details to the concerned RLDC, such as those relating to the specific commissioning activity, testing, and full load testing, its duration and the intended period of interchange on day ahead basis.

- a)** In regards with thermal generators as per the existing provisions in force, thermal generators are able to recover the fuel cost incurred corresponding to such infirm injections to some extent by scheduling the infirm power. Despite such scheduling of infirm power, there is a substantial shortfall in recovery of fuel cost incurred for infirm power injections.

As per the proposed draft, the opportunity of recovering the fuel cost incurred corresponding to infirm injections is further reduced as the charges for injection power of infirm power before trial run shall be zero and the generator can schedule power after Trial run only.

This would further add to the capital cost of thermal stations whose tariffs are determined under section 62 of the act and would result in higher annual fixed charges (AFC) liability on the beneficiaries. As the infirm power is used by various drawing entities other than the beneficiaries of the stations who have been allocated power from the station, loading the under recovery of fuel cost solely on the beneficiaries of the station does not seem reasonable.

In view of above, it is submitted that in case of a section 62 thermal generators, the shortfall in the recovery of fuel cost, i.e. fuel cost after adjusting the revenue earned from scheduling of infirm power, may be reimbursed to the generators from DSM pool.

- b) In regards with RE generators it is worth mentioning that the activities before trial run like issuance of notice, trial operation, submission of test reports and issuance of successful trial run certificate etc, take considerable time from the first time charging to trial operation completion. Non-scheduling of infirm power for the aforesaid period shall lead to financial loss to RE generators. Therefore, it is submitted that scheduling of infirm power may be allowed before trial run also.

In view of above, it is submitted that the regulation 8 may be modified as follows:

“(8) The charges for injection of infirm power shall be zero:

Provided that if infirm power is scheduled, the charges for deviation over the scheduled infirm power shall be as applicable for a general seller or WS seller, as the case may be:”

Provided further that when the system frequency, $f > 50.05\text{Hz}$, the charges for deviation of scheduled infirm power by way of over injection by a general seller or WS seller, as the case may be, shall be zero.

Provided further that in case of a thermal generating station whose tariff is determined under section 62 of the act, the shortfall in the recovery of fuel cost, i.e. fuel cost after adjusting the revenue earned from scheduling of infirm power, shall be reimbursed from DSM pool account.

2. Regulation 2.2 of the Draft provides that

“The following words shall be inserted before the words ‘in case of captive consumption of a captive generating plant based on renewable energy sources’ in sub-clause (j) of clause (1) of Regulation (3) of the Principal Regulations: “in respect of a WS seller or a MSW seller or such other entity as applicable, selling power through open access to a third party or”

Submission:

As per the proposed amendment, for WS projects which are not falling in subclause J(i) or J(ii) of clause 1 of Regulation-3 but are having firm contract rate to sell power to third party through open access, the applicable DSM rate will be weighted average ACP of the Integrated-Day Ahead Market segments of all Power Exchanges for the respective time block instead of contract rate.

It may please be noted that after implementation of green energy open access, significant Round the clock (RTC) capacities are being added or planned under captive or third-party mode through open access, wherein contracts (PPAs) are being signed based on the tariff mutually agreed between the parties.

The weighted average ACP of the Integrated-Day Ahead Market segments of all Power Exchanges for the respective time block during peak demand may be much higher than the contract rate (PPA rate) of such capacities and any deviation from schedule shall lead to huge financial implication on RE generators e.g. for solar projects falling in this category, the

cost of drawal of power from ISTS network for meeting auxiliary consumption during non-solar hours will become much higher as market rates may be much higher than the mutually agreed tariff in the PPA.

It is pertinent to mention that for the projects covered under sector 62 & 63, Hon'ble Commission has allowed DSM rate as per the contracted tariff determined/discovered by appropriate commission. In a similar way projects having bilateral PPA and selling power through open access shall have mutually agreed tariff based on terms and conditions of the PPA and such mutually agreed tariff in the PPA may be considered as contract rate for the purpose of DSM charges.

In view of above, the following may be provided:

For WS sellers selling power through open access on a mutually agreed tariff as per terms and conditions of the PPA, the mutually agreed tariff in the PPA may be considered as contact rate for DSM charges.

Additional Submissions

1. Provision of “Interest payment” in case of delayed payment from DSM pool account.

Regulation 10(1) provides that *“The payment of charges for deviation shall have a high priority, and the concerned regional entity shall pay the due amounts within 10 (ten) days of the issue of the statement of charges for deviation by the Regional Power Committee, failing which late payment surcharge @ 0.04% shall be payable for each day of delay.”*

Submission: It may please be noted that though there is a provision of late payment surcharge in case regional entity fails to pay the due amounts within 10 days of the issue of the statement of charges for deviation, however there is no similar provision if payment to the regional entity gets delayed beyond 10 days of the issue of the statement of charges for deviation.

It is pertinent to mention that Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) Regulations, 2014 had equitable provisions in this regard which are mentioned below for ready reference:

“10. Schedule of Payment of Charges for Deviation

(1) The payment of charges for Deviation shall have a high priority and the concerned constituent shall pay the indicated amounts within 10 (ten) days of the issue of statement of Charges for Deviation including Additional Charges for Deviation by the Secretariat of the respective Regional Power Committee into the “Regional Deviation Pool Account Fund” of the concerned region.

(2) If payments against the Charges for Deviation including Additional Charges for Deviation are delayed by more than two days, i.e., beyond twelve (12) days from the date of issue of

the statement by the Secretariat of the respective Regional Power Committee, the defaulting constituent shall have to pay simple interest @ 0.04% for each day of delay.

(3) All payments to the entities entitled to receive any amount on account of charges for Deviation shall be made within 2 working days of receipt of the payments in the “Regional Deviation Pool Account Fund” of the concerned region.

Provided that –

(i) in case of delay in the Payment of charges for Deviations into the respective Regional Deviation Pool Account Fund and interest there on if any, beyond 12 days from the date of issue of the Statement of Charges for Deviations the regional entities who have to receive payment for Deviation or interest thereon shall be paid from the balance available if any, in the Regional Deviation Pool Account Fund of the region. In case the balance available is not sufficient to meet the payment to the Regional Entities, the payment from the Regional Deviation Pool Accounts Fund shall be made on pro rata basis from the balance available in the Fund.”

It is worthwhile to mention that Hon’ble APTEL & Hon’ble CERC through its various orders have provided that **“for equity and restitution payments made at a later stage, of the amount, due in the past, must be compensated by way of appropriate rate of interest so as to compensate for the loss of money value. This is a proven concept of time value of money to safeguard the interest of the receiving party...”**

In view of making the proposition equitable and to protect the commercial interests of the regional entities the following may please be provided:

If payment charges for deviation to a regional entity is delayed beyond ten (10) days from the date of issue of the statement by the concerned RPC, late payment surcharge @ 0.04% shall be payable for each day of delay to the regional entity.

2. DSM implications due to infeasible schedules on account of ramping

Submission: Generators often get high number of ramp up and ramp down schedules on daily basis. The number of ramps received by some of the NTPC stations **at the rate of 1% of ramp rate (excluding ramps below 1% ramp rate)** for the blocks during the period FY 23-24 are mentioned below:

NTPC Station	Ramp up/down received during 2023-24
Unchahar-I	2245
Kahalgaoon-I	1392
Solapur	1061
Bongaigaon	1028
Unchahar-IV	944
Telangana	903
Barh-II	880
Khargone	860

It may please be noted that after two consecutive blocks of same schedule, during 1st ramp-up/down time block or ramp direction change without giving flat schedule in between (i.e., V or \wedge pattern), achieved ramp will only be 50% of the scheduled ramp which is depicted as below:

Illustration-1: 1st ramp up of 1% per minute.

- a. A generation station with capacity of 1000 MW might get a schedule of 600 MW in one block (say block no. 66) and 750 MW Schedule in the next block (block no. 67) as depicted in **Table-1**. Considering ramp rate of 1%/ minute for the station (1%/minute x 1000 MW x 15 minute = 150 MW), it would appear to be within the capability the station to meet the schedule.
- b. With the feasible ramping capability, the station would be able to achieve 750 MW only at the end of block no.67. The Average Generation for this 67th block would be 675 MW and the station would get penalized due to deviation (here -75 MW) in Actual Generation from Scheduled Generation.

Block No.	SG (MW)	AG (MW)	Deviation (MW)
65	600	600	0
66	600	600	0
67	750	675	-75

Table-1

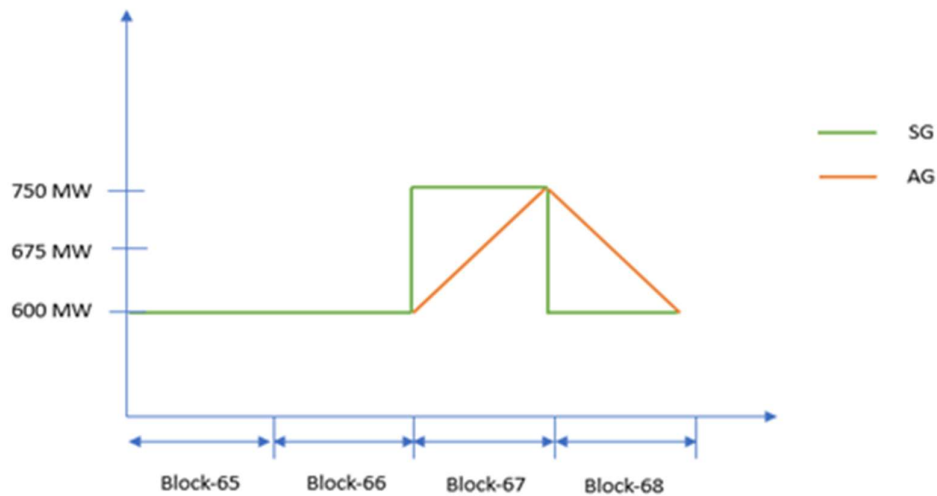
Hence it can be observed that despite operating at 1% ramp rate the generator shall incur DSM liability.

Illustration-2: “V” or “ \wedge ” pattern of ramping

- a. A generation station with capacity of 1000 MW might get a schedule of 600 MW in block no. 66, 750 MW Schedule in Block no. 67 and again 600 MW in Block no. 68 as depicted in **Table-2**.
- b. With the feasible ramping capability, the station would be able to achieve 750 MW only at the end of Block no. 67 and 600 MW at the end of Block no. 68 as depicted in **Graph-1**. The Average Actual Generation both for Block no. 67 & Block no. 68 would be 675 MW and the station would get penalized due to deviation of -75 MW in Block no. 67 & +75 MW in Block no.68.

Block No.	SG (MW)	AG (MW)	Deviation (MW)
65	600	600	0
66	600	600	0
67	750	675	-75
68	600	675	75

Table-2



Graph-1

Hence it can be observed that despite operating at 1% ramp rate the generator shall incur DSM liability. If such ramp up/down continues to occur for more than one consecutive time blocks, the generator shall incur more DSM loss despite operating at 1% ramp rate. It is also worthwhile to mention that during ramps, mills and other auxiliaries have to be taken in or out of service. For instance, for a 500MW unit, BHEL manual suggests that number of mills to be kept in service increases from 4 to 5 at 55% load to 6 to 7 at 100 % load, depending on quality of coal being fed to a 500 MW unit and vice versa.

Further, it may please be noted that in compliance with the Regulation 30(2)(iii) of CERC (Terms and Conditions of Tariff) Regulations-2019, NLDC has issued “*Detailed Guidelines for Assessment of Ramping Capability of ISGS*” dtd 30.12.2020. The said guidelines have noted that generating stations may have requirement of taking in/cutting out mills, and other auxiliaries during ramps and clause-4(5) [page-5] of the guidelines provides that: “...while calculating F , for the blocks where the scheduled ramp in preceding block was less than 0.5%/min, if the ramp in actual generation is greater than or equal to 0.5%/min, that block shall be counted in F (i.e., ISGS shall be considered to have achieved 1%/min in that block).”

Thus, it can be observed that the above-mentioned guidelines consider the ramp rate of 0.5%/min in the first block of the ramp equivalent to the ramp rate of 1%/min in that block. This issue has been highlighted many times before NLDC and NLDC has appreciated the issue and the necessary changes in the scheduling software have been incorporated by RLDCs for giving schedule to ISGS from beneficiaries. However, the similar change in the scheduling software has not been incorporated for giving the schedules due to SCED/TRAS.

Due to such anomaly in scheduling, generators are continuing to suffer DSM losses even after achieving 1% ramp rate.

Therefore, in case of 1st ramp-up/down block and “V” or “Λ” pattern ramping, the seller should get paid for Over-injection or pay back for under injection @ Reference charge rate irrespective of frequency and following provision may be added in the Draft Regulations:

In case of blocks having ramps (up or down) and deviations occurring even after 1% ramp rate fulfilment by the seller, the seller may be paid back for Over-injection or pay back for under injection @ Reference charge rate irrespective of frequency.

3. DSM charges for the period starting from start-up till reaching Minimum Turn down level (MTL)

Submission: During start-up of a generating unit, most of the control loops like Feed water control, coal flow control, primary & secondary air flow control etc. are in manual mode and parameter variations are higher than usual. These inadvertent deviations in actual generation from the scheduled till reaching the minimum turndown level (MTL) are beyond reasonable control of the operator.

It is submitted that suitable provisions are required to be incorporated in the draft regulation so that the settlement for over-injection or under-injection from the schedule till MTL is achieved is settled @ Reference charge rate irrespective of frequency. In view of above following provision may please be added under regulation 8 as below:

In case of startup of a thermal generating station, the DSM charges Receivable by the Seller for Deviation due to over injection and DSM charges payable by the Seller for Deviation due to under injection shall be @ the reference charge rate for the period starting from start-up till reaching MTL, irrespective of the Grid frequency.”

4. Equitable incentive for supporting the Grid vis a vis penalty imposed for deviating from Schedule

In the proposed Draft regulation, at any frequency of 50.05Hz or below, the penalty for failing to support the grid is **3.3 times higher** than the incentive for supporting the same grid. For instance, the incentive for supporting the grid has been reduced to 15 % of ECR on the other hand, penalty for failing to support the grid has been increased up to 110% of ECR for over-injection at higher frequencies and 50% of ECR for under-injection at lower frequencies.

Submission: It is worthwhile to mention that despite deployment of ancillary services, Grid frequency doesn't maintain at 50.00Hz and many times even goes beyond the band of 49.95Hz to 50.03Hz. Under these circumstances, support of thermal generators guided by DSM mechanism cannot be undermined and it plays vital role in maintaining stability of grid frequency.

Earlier also, Hon'ble commission in its Suo motu order 01/SM/2023 dtd. 06.02.2023, has also observed that “... the Commission observes that though some improvement in the frequency excursions above 50.05 Hz was observed, the overall frequency profile still remains a matter of concern. The required support from the buyers and the sellers in the

form of Reserves and Ancillary Services, as was envisioned, under the Ancillary Services Regulations dated 31.01.2022, has not been forthcoming. The general impression given by the buyers and the sellers is that prior to 05.12.2022, when the deviation charges were linked to frequency, passive support from the buyers and the sellers used to come because of the inherent incentives in the Regulations which were applicable at that time.”

With this observation a modified incentive and penalty mechanism was reintroduced vide CERC order 01/SM/2023 dtd. 06.02.2022 to ensure the support of thermal generators in maintaining the grid frequency.

It is submitted that till the sufficient reserves and ancillary services are available in the system to maintain the frequency in the range of 50 Hz, the support provided by the generators through DSM mechanism may be continued to be incentivized.

Hence it is proposed that DSM charges may be specified in such a way that incentive opportunities and penalty provisions are balanced and equitable and the incentive for supporting the Grid by over-injection or under-injection may be increased up to 50% of Reference charge rate.

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