



A Maharatna Company

एन टी पी सी लिमिटेड
(भारत सरकार का उद्यम)

NTPC Limited
(A Govt. of India Enterprise)

केन्द्रीय कार्यालय / Corporate Centre

Date: 15.07.2024

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

Subject: NTPC Submissions on Draft CERC (Indian Electricity Grid Code) (First Amendment) Regulations-2024

Sir,

Hon'ble Commission has published Draft CERC (Indian Electricity Grid Code) (First Amendment) Regulations-2024 and has invited comments from the stakeholders on the draft regulation.

In this regard, please find enclosed submissions of NTPC on Draft CERC (Indian Electricity Grid Code) (First Amendment) Regulations-2024.

Thanking you,

Yours sincerely

Ajay Dua
ED (Commercial)

NTPC Submissions on Draft CERC (Indian Electricity Grid Code) (First Amendment) Regulations, 2024.

1. Amendment to Regulation 49 of the Principal Regulations provides the following:

The following Clause (7-a) shall be inserted after Clause (7) of Regulation 49 of the Principal Regulations:

“(7-a) Revision of Declared Capacity and schedule of a generating station or ESS (as an injecting entity) shall be allowed only in case of bilateral transactions and not in case of collective transaction as per following details:

-----”

Submission:

As per the PPA/contracts agreed with beneficiaries, the delivery of power from NTPC stations is on ex-bus basis and beneficiaries make their own arrangements for the evacuation of power beyond the switchyard of the station. At times it is observed that due to insufficient GNA, beneficiaries are scheduling their long term tied up allocated power under **TGNA bilateral transactions**.

Though the Hon’ble Commission in the draft amendment vide Regulation 49 (7 a) has permitted the revision of DC & Schedule in case of partial outage under bilateral transactions, however it is observed that the revision of schedule for the quantum of power scheduled under TGNA in case of partial outage is not being done referring to clause 49 (4)(a) of IEGC 2023, which provides the following:

“Revision of schedules on request of buyers which are GNA grantees:

(a) SLDCs on behalf of intra-state entities, regional entity ESSs as drawee entities, beneficiaries, regional entity buyers or cross-border buying entities may revise their schedules under GNA as per sub-clauses (b) and (c) of this clause in accordance with their respective contracts:

Provided that scheduled transactions under T-GNA once scheduled cannot be revised other than in case of forced outage as per clause (7) of this Regulation.”

Hence as per above provision, the revision of schedule for the power scheduled under TGNA is being done only in case of forced outage and not in partial outage as being allowed by the Hon’ble Commission in the Suo-motto order dt. 30.09.2023.

As mentioned above, the long term tied up allocated power is being scheduled by beneficiary under TGNA due to the requirement of beneficiaries but due to non-revision of schedule of such power, generators are incurring the DSM loss without any fault on their part but only due to different regulatory provisions.

It is worthwhile to mention here that vide suo-motto order dt. 30.09.2023, the schedule of wind and solar generators is also being allowed due to forecasting error, even in case it is being scheduled under TGNA.

It is humbly submitted that in order to ensure that the revision of DC & Schedule becomes effective in case of bilateral transactions being scheduled under TGNA on beneficiary's requirement, the clause 49 (4)(a) of IEGC 2023 (principal regulations) may also be modified as follows:

Revision of schedules on request of buyers which are GNA grantees:

(a) SLDCs on behalf of intra-state entities, regional entity ESSs as drawee entities, beneficiaries, regional entity buyers or cross-border buying entities may revise their schedules under GNA as per sub-clauses (b) and (c) of this clause in accordance with their respective contracts:

Provided that scheduled transactions under T-GNA once scheduled cannot be revised other than in case of forced/partial outage as per clause (7) of this Regulation.

2. Restriction on DC declaration:

Clause 45 (8) of the Principal Regulations provides that:

" Declaration of Declared Capacity by Regional entity generating stations

(a) The regional entity generating station other than the WS seller shall declare exbus Declared Capacity limited to 100% MCR less auxiliary power consumption, on day ahead basis as per the provisions of Regulation 49 of these regulations:

....."

Submission:

IEGC 2023, DC declaration by the generators has been capped at 100% of MCR less auxiliary power consumption. It stipulates that overload capacity of the generators (105% of MCR) to be provided as Primary Frequency Response during frequency excursions.

Such restriction on DC declaration shall result in artificially depriving grid during power shortage conditions.

It is suggested that pit head coal stations having low ECR, may be allowed to Declare DC up to **105% of MCR less auxiliary power consumption** and operate up to their available capacity and the required quantum of PFR may be met through other stations viz. non pit head stations etc.

This would increase the generation of the cheaper stations and would also optimize the power procurement cost of the Discoms. Further, such relaxation may provide a higher availability on high demand days and reduce the stress on the rail network.

It is humbly submitted that in view of above the DC restriction may please be removed and clause may be modified as follows:

***" Declaration of Declared Capacity by Regional entity generating stations
(a) The regional entity generating station other than the WS seller shall declare exbus Declared Capacity on day ahead basis as per the provisions of Regulation 49 of these regulations:
....."***

3. Restriction on number of DC revisions on account of Partial outage

The Draft amendment provides that:

"49 (7-a): Revision of Declared Capacity and schedule of a generating station or ESS (as an injecting entity) shall be allowed only in case of bilateral transactions and not in case of collective transaction as per following details:

*(a)The generating station (other than lignite, gas based thermal generating station, and hydro generating station) or ESS (as an injecting entity), shall be allowed a maximum of **4 (four) revisions of Declared Capacity and schedule in a day** subject to a maximum of **60 (sixty) revisions during a month**, due to reasons such as a partial outage of the unit or variation of fuel quality or any other technical reason to be recorded in writing.
....."*

Submission:

It is pertinent to mention that operation of thermal power plants involves running of a large number of auxiliary systems and some of these systems do not have in-built redundancy. Due to major equipment outages (i.e. BFP, ID fan, PA Fan, FD Fan etc.) there may be a loss of generation of around 40% of unit capacity.

Unit capability may get affected due to the reasons beyond the control of the generator e.g. break-down of auxiliaries not having redundancies, Outage of the auxiliaries due to changes in weather conditions such as excessive rains or outage of scrapper conveyors due to clinkering on account of variations in the coal quality etc. which may require revisions of Declared Capacity (DC).

Such events of loss of significant generation capacity of a unit due to technical reasons is beyond the reasonable control of generator, is inevitable and cannot be avoided in spite of having best practices of operation.

Though the Draft amendment has provided relief to some extent by allowing limited number of DC revisions in case of partial outage, however it pertinent to mention that the said provision is independent to the number of units in a station and is insufficient for the stations having number of units more than 2.

It is requested that for the stations having units more than two the same may be revised as 6 revisions per day restricted to 90 revisions in a month.

4. Requirement of giving higher DC by hydro station during high inflow of water:

Regulation 45(8)(a) of IEGC 2023 provides as follows:

Quote

The regional entity generating station other than the WS seller shall declare ex-bus Declared Capacity limited to 100% MCR less auxiliary power consumption, on day ahead basis as per the provisions of Regulation 49 of these regulations:

Provided that the hydro generating stations may declare ex-bus Declared Capacity more than 100% MCR less auxiliary power consumption limited to overload capability in terms of sub-clause (a) of clause (10) of this Regulation during high inflow periods:

Provide further that a high inflow period for this purpose shall be notified by the respective RPC.

Unquote

Further the Regulation 45(10)(a) of IEGC 2023 provides as follows:

Quote

Optimum Utilization of Hydro Energy:

(a) During high inflow and water spillage conditions, for Storage type generating station and Run-of-River Generating Stations with or without Pondage, the declared capacity for the day may be up to the installed capacity plus overload capability (up to 10% or such other limit as certified by the OEM and approved by CEA) minus auxiliary consumption, corrected for the reservoir level. In case, the overload capability of such a station is more than 10% as approved, such a station shall declare the overload capability in advance.

(b) During high inflow and water spillage conditions, the concerned RLDC shall allow scheduling of power from hydro generating stations for overload capability up to 10% of Installed Capacity or any other limit as per sub-clause (a) of this clause without the requirement of additional GNA for such overload capacity, subject to the availability of margins in the transmission system.

Unquote

Submission:

As per the above-mentioned clauses, hydro stations are allowed to declare DC up to 110% of normative ex-bus capacity, **only during the high inflow periods specified upfront by respective RPC**. However, it has been observed that RPC declared high inflow period does not necessarily coincide with the actual high inflow period in a year. For instance, high inflow period in respect of NTPC Koldam, as declared by RPC for FY 2024-25 is June to September, but high inflow was observed in month of May 24

also. Restriction imposed on DC & Schedule beyond **high inflow periods specified upfront by respective RPC** shall cause spillage of water and wastage of natural resources. In order to obviate such situations and in view of above, it is requested that following facilitation may please be provided for hydro stations:

Hence in view of optimum utilization of the hydro resources and to avoid spillage, it is requested that hydro stations may be allowed to declare DC up to 110% of normative ex-bus capacity whenever there is high inflow which may be beyond the RPC declared high inflow period.

5. Amendment to Regulation 49 of the Principal Regulations provides the following:

A new sub-clause (a)(v-a) shall be added after sub-clause (a)(v) of Clause (2) of Regulation 49 of the Principal Regulations as follows:

“(v-a) In case a regional entity generating station, whose tariff is determined under Section 62 of the Act, gets a schedule below minimum turndown level for Off-Peak hours of the day, however, gets a schedule above minimum turndown level for Peak hours of the day, where Peak hours and Off-Peak hours shall be as declared by the concerned RLDC under the Tariff Regulations, the schedule below the minimum turndown level may, on the request by such generating station to NLDC shall be adjusted as follows:

“d. The above steps shall be carried out only after the generating station furnishes to the RLDC the efforts made by such generating station to achieve a schedule of Minimum turndown level through the sale of power in the Power market (under bilateral or collective transactions).”

Submission:

It may please be noted that Electricity (Late Payment Surcharge and Related Matters) (Amendment) Rules-2024 has made it mandatory for generators to bid the URS in the day ahead market and if the power so offered by the generating company is not cleared in Day-Ahead Market, it shall be offered in other market segments, including the Real Time Market, in the power exchange. The power shall be offered in the market at a price not exceeding 120 per cent of its energy charge plus applicable transmission charges.

It further provides that, If the generating company fails to offer such un-requisitioned surplus power in the power exchange, the un-requisitioned surplus power to the extent not offered in the power exchange up to the declared capacity shall not be considered as available for the payment of fixed charges.

It is pertinent to mention that NLDC has also issued a procedure on 3.6.24 for the implementation of above provisions and thereby all market participation related information is being furnished to RLDCs.

As the Electricity (Late Payment Surcharge and Related Matters) (Amendment) Rules-2024 has made it mandatory for generators to bid the URS in the day ahead market and penal provisions as mentioned above has been provided,

Therefore, the requirement of furnishing the efforts made by such generating station to achieve a schedule of Minimum turndown level through the sale of power in the Power market (under bilateral or collective transactions) to RLDC may be considered accordingly.

6. Revision in estimated restoration time of a unit in case of planned outage and forced outage.

Regulation 49(7) of IEGC 2023 is as follows:

Quote

Revision of Declared Capacity and schedule shall be allowed on account of forced outage of a unit of a generating station or ESS (as an injecting entity) only in case of bilateral transactions and not in case of collective transaction.

.....

Provided that the generating station or ESS (as injecting entity) or trading licensee or any other agency selling power from a generating station or unit(s) thereof or ESS may revise its estimated restoration time once in a day and the revised schedule shall become effective from the 7th time block or 8th time block as per clause (4) of this Regulation, counting the time block in which the revision is informed by the generator or ESS to be the first one:

.....

Unquote

Submission:

As per the provisions of the above clause, generating station may revise its estimated restoration time once in a day in case of forced outage but the regulations are silent in case of planned outage.

It is pertinent to mention that, when a unit is revived after overhauling, re-commissioning of all Boiler & Turbine side equipment, valves, temperature & pressure transmitters, switchgears etc. is carried out as per procedure. Further after rolling the turbine up to 3000 rpm, Generator electrical testing is done. However, some unexpected issues may arise during the revival process.

All these uncertainties contribute to variation in the actual restoration time from the planned restoration time of unit being revived from planned outage.

It is also submitted that as per the provisions of the Grid Code, in case of forced outage a generating station or unit(s) thereof may revise its estimated restoration time once in a day. In real time basis when a unit is brought back from forced outage, the Generating Station may require to revise their declared capability based on the various technical constraints which cannot be anticipated in advance particularly in case of electrical faults.

It is submitted that such revisions in DC requested are unintentional and restrictions placed on the revision of restoration time of the unit while bringing the unit back, deprives the grid from the power and generators are forced to bear the financial implications due to deviation from the schedule for the reasons, beyond its reasonable control.

In view of the above, it is requested that restriction placed in the revisions of estimated restoration time may be removed and revisions in restoration time may be allowed as per the request of generator in case of forced and planned outages.

7. Facilitation required for having the schedule for testing of equipment, such as, emission control systems.

It may please be noted that for the testing of emission control system (ECS) for putting the system into operation or testing of any other equipment for putting in to use may require operation of the unit on full load. Such equipment is required to be installed to meets various policy/statutory guidelines issued by the Government instrumentality. However, in IEGC-2023, no facilitation has been provided to generators for getting full schedule under such specific situations.

Further, various tests like capability tests, efficiency tests, and other mandatory tests need to be carried out in a generating station on regular intervals.

At times, that specific requests made to the beneficiaries of the stations for providing the schedule is also not accepted and the non-availability of the requisite schedule leads to delay in the testing and start of operation of such critical equipment.

Therefore, a suitable provision may be provided in the IEGC to ensure necessary schedule by RLDCs to generators to facilitate testing of ECS or any other equipment which are required to be commissioned in compliance with the policy/statutory guidelines issued by the Government.

8. Provision of schedule revision from 4th Block, in case of forecasting error of WS seller:

Clause (8) of Regulation 49 provides that:

“In case of requirement of revision of schedule due to forecasting error, a WS seller may revise its schedule only in case of bilateral transactions and not in case of collective transaction. Such revision of schedule shall become effective from the time block and in the manner as specified in sub-clause (c) of clause (4) of this Regulation.”

Sub-clause (c) of clause (4) of Regulation 49 provides that:

Based on the request for revision in schedule made as per sub-clauses (a) and (b) of this clause, any revision in schedule made in odd time blocks shall become effective from 7th time block and any revision in schedule made in even time blocks shall become effective from 8th time block, counting the time block in which the request for revision has been received by the RLDCs to be the first one.

Submission:

With the implementation of the IEGC-2023 w.e.f. 01.10.2023, the revision in schedules on account of forecasting errors for WS generator has become more stringent since as per Grid Code, the revised schedule becomes effective from 07th and 08th time-block instead of 4th block as provided under IEGC 2010.

The increase in schedule revision time has made intraday revisions of schedule difficult and non-accurate since it requires accurate weather prediction at least 02 hours before. This in turn is resulting in increase in DSM impact for RE generators as the actual generation for RE generators mainly depend upon Solar Irradiance or Wind speed, which changes frequently due to local weather conditions (such as cloud cover, sandstorms, rain, etc.) and such variations are difficult to predict 2 hours before.

It is submitted that the schedule revision for WS sellers may please be made effective from 4th Block instead of 7th /8th block and Clause (8) of Regulation 49 may be modified as follows:

“In case of requirement of revision of schedule due to forecasting error, a WS seller may revise its schedule only in case of bilateral transactions and not in case of collective transaction. Such revision of schedule shall become effective from 4th time block.”

9. Requirement of procedure for revival of a unit from USD:

It is pertinent to mention that during the low demand conditions, there may be situations wherein station may get schedule below the Minimum Turn-down Level (MTL), in all time-blocks of the day and unit may be required to be taken under Unit Shut Down

(USD). Hence a procedure needs to be in place for the revival of such units and DC declarations by such units under USD.

It is observed that the procedure for SCUC, USD and SCED issued by NLDC on 16.04.2024 does not have provisions by which a unit taken under USD can be smoothly revived. After USD, advance visibility should be there with generator for bringing unit on bar and as Super critical units require at least 35-36 hours to come on bar, hence reasonable start up time needs to be provided to the units taken under USD.

It is submitted that the RSD procedure issued under IEGC 2010 has clearly laid down the provisions for revival of RSD units and same had facilitated revival of RSD units by scheduling it considering its start up time, ramp rate, minimum time for which such unit shall remain on bar etc. It may be appreciated that these provisions for revival from USD are relevant and required to ensure revival of units under shutdown.

In view of above it is humbly submitted that NLDC may be directed to incorporate detailed guidelines for revival of a unit from USD in the procedure issued for SCUC, USD and SCED.

XXXXXXXX