

Tata Power-DDL comments on IEGC- 2010

Tata Power-DDL Observations are as follows:

1. 2.1.(ff) Force Majeure:

Force majeure considered in IEGC are applicable for performance indices calculation, however the force majeure are not considered in power scheduling and dispatching activity.

A suitable definition in line with the above may also be considered for the purposes of DSM regulations. The Discom/Buyer should not be held liable for under-drawl or over drawl in case of any Force Majeure Events and consequential DSM penalties. Tripping of transmission line, STU /CTU equipment should be considered as force majeure for Distribution companies.

2. 2.3.2- Functions of RLDC:

For past few years it has been observed that in case of corridor congestion during short term import transactions, RLDC (NRLDC in our case) Invites Corridor E-bidding, wherein interested bidders are requested to quote e-bidding charges for securing corridor over and above the open access charges. In this regard, it may be noted that ensuring availability of adequate transmission capacity is responsibility of CTU and beneficiaries should not be burdened with the extra transmission charges payable due to availability of less transmission/import capacity.

It is suggested that system of pro-rata corridor allocation should be implemented in place of e-bidding of corridor as being done earlier. In case e-bidding is being considered necessary by the concerned RLDC, the same may only be done with the Approval from Hon'ble CERC.

3. 2.8 Role of STU:

Following addition is proposed in functions of STU:

To consult state DISCOMs /understand their requirements and put up their issues in Regional standing committee meeting. Disseminate the decisions taken in their regional standing committee meeting to the DISCOMs and other state constituents.

4. 3.4 Planning Philosophy:

In addition to the exiting provisions of the grid code, the following may be included in the planning philosophy for ISTS lines:

1. An independent agency may be created /existing authority may be entrusted with the jobs of monitoring the performance/degree of utilization of the transmission system/assets vis a vis its technical and declared capacity. Any new transmission assets should be planned only after ensuring that the existing assets are being utilized up to its full capacity and subsequent to clearance from the above agency.” A certificate to this effect from the independent agency should be made a part of the tariff petition to be filed before CERC regarding any new transmission asset.

2. Additionally, Extensive planning of transmission capacity needs to be done considering the ongoing huge RE capacity addition. However, we propose that proper

due diligence needs to be done for identifying the potential locations where these projects are coming considering the expected timelines for commissioning of the expected solar/ wind power generation. It should not happen in future that a huge transmission system is created on request of certain beneficiaries/project and in case of non-commissioning of such assets, their transmission charges are billed on the other beneficiaries. Connectivity and open access should be granted to these generators only after ascertaining the feasibility of these projects.

5. 4.6.2 Data and communication facilities:

In addition to the existing provisions contained in the grid code, there should be Proper use of data analytics to assess information/data including disturbance recorder/ sequential event recorder output at RLDC to analyze any grid disturbance/event. Further, there should be a strong IT infrastructure back bone which has end to end connectivity from NLDC/RLDC/SLDC to DISCOMs and open access consumers. The same is required in view of many ambitious projects being targeted by India such as Real Time Markets, Fast ancillary services market, Security constrained economic dispatch (SCED) and various other breakthrough changes being contemplated for Indian power markets. The same would ensure proper and timely information dissemination across different market players and would enable everyone to take an informed decision thereby leading to overall cost reduction. Robust IT system should be in place for effective and timely data transfer between DISCOMs and SLDC, RLDC, STU etc.

6. 5.2 System Security Aspects:

There is a need of review of protection systems especially considering large quantum of solar rooftop injection/ community solar at load end and variability and quantum of power generation expected from the large scale wind and solar generation. Tata Power-DDL submissions on the above are as mentioned below:

5.2 (d) - Any tripping shall be precisely intimated by SLDC /RLDC as soon as possible within 10 minutes of the event. One of the reasons due to which the DISCOMs under draw is when a section of the load is disconnected due to tripping of transmission lines or power transformers maintained by CTU or STU due to faults. Further, the problem is compounded by the fact that Delhi DISCOMs procure bulk of the power from generating stations situated outside Delhi, except for some distributed solar (less than 2 MW), and are thus completely dependent on the STU and CTU for delivery of power. Any subsequent corrective action to revise our schedule to the altered demand will take at least 4 time blocks. It has been observed that nearly 70% of the tripping events are restored within 4 time blocks which provides insufficient time to take corrective measures.

The Commission may appreciate that, unless intimated beforehand, the DISCOMs /Buyers cannot account for these events in Schedule planning. By their inherent nature, a tripping or fault cannot be predicted. Also as the fault has occurred in a system not maintained by the DISCOM/Buyer, the DISCOM/Buyer cannot take any action to reduce them by predictive or preventive maintenance.

Therefore, the DISCOM should not be held liable for any under-drawl on account of any unforeseen failure of a CTU or STU equipment, which resulted in such under-drawl and may be excluded from DSM liability in case of such events.

5.2 (u)-

- Though the IEGC-2010 mandated the scheduling of wind power, it has not been implemented till now due to the fact that proper wind forecasting tools are not available for Indian site conditions, which can accurately forecast the wind energy at 15 minute intervals. Further, while the accuracy of forecasting is very less in low wind season compared to high wind season, the magnitude of the absolute error is quite high in high wind seasons. While wind power forecasting is mandated for the wind farm operators, it is the grid system operator like SLDC and NLDC who are primarily responsible for proper management and safe operations of the grid. It is proposed, therefore, to set up state as well as regional/central level specialised data management centres for renewable energy for analysing the trend of generation of these resources and help SLDC & RLDC to schedule this clean power to the full extent in place of curtailment/ closing down of such generation. These centres will also house the forecasting unit, that will analyse the forecasts being received from all the wind and solar power operators and then carry out their own forecasting for the purpose of proper assessment of the expected generation and help safe operation of the grid. As the accuracy of forecast is generally different at low and high wind seasons, different range of margins and penalties for the error in forecasting may be prescribed for the different seasons.
- National Wind Solar Hybrid Policy released in 2018 and IEGC should define the guidelines to synchronize the power so generated to address the threat to Grid security. Also guidelines to be made to ensure smooth Grid integration of Renewable Energy.
- IEGC should define the guidelines to ensure:
 - RE Grid Integration and More Efficient Grid Operation
 - Upgrade grid technology & Grid operation protocols
 - Utilization of RE and its effect on Generation Plan.

7. Clause 5.3(e)- Demand Estimation for Operational Purpose and Clause 5.4:Demand Management

SLDC must have implemented the Online estimation of demand for operational purpose and therefore this clause should be reviewed.

8. Clause 6.5 , scheduling and Dispatch procedure(point -25):

For any revision of scheduled generation including post facto deemed revision; there shall be a corresponding revision in scheduled drawls of beneficiaries.

Tata Power-DDL Observations:

Post facto revision of schedule should not be allowed in circumstances as real time power management is done as per drawl schedule. Hence final drawl schedule of the day should be used for all commercial and operational purpose. Any revision in end of day schedule after the 00:00 Hrs. of the day should be though proper approval of buyer and seller.

General Observations/suggestions:

1. Central Power scheduling and billing software for RLDC, SLDC and DISCOMs:

Without intervention of technology, adherence to timely scheduling is very difficult. Major concern is that while going through acceptance procedure of RLDC and respective SLDC, message reaches to beneficiary or generator before one or two time block of actual implementation resulting in deviation between schedule and drawl and resultant deviation charges.

Further, commercial activities of RLDC and SLDC are still through MS-Excel which is completely manual and needs human intervention. The non-co-ordination of commercial and operational teams is evident as schedule data in real time power management and billing varies to a great extent resulting into issuance of provisional and final REA.

Centralized web-based scheduling and power optimization software is need of an hour for all the entities. Having common platform for scheduling and dispatching shall ensure the transparency and minimize the risk of grid security.

2. Utilization of PSDF (Power System Development Fund):

PSDF is collection of funds on account of DSM deviation from generator and distribution companies. The scheme related to grid security and DSM regulation like intra state ancillary, battery storage, expansion of transmission corridors should be given priority through utilization of PSDF.

3. Intra-state ancillary:

Ancillary services are an indispensable part of the power system operation, which are required for improving and enhancing reliability of the power system. Ancillary Services may include a number of different operations such as frequency support, voltage support, and system restoration.

Hon'ble Commission has issued regulations on Reserves Regulation Ancillary Services (RRAS) which have been in operation for more than a year now on regional level. In view of above, it is now necessary to lay down **Intra-state ancillary services** for States. Objective of intra-state ancillary services is to create reserves during contingency and absorbing the challenges of renewable penetration at state level. The payment to intra state Ancillary can be done through DSM pool at the state level.

4. Battery Storage:

To address these pressing requirements, Innovative technologies like Battery Storage would be the driving force to compensate for unpredictable renewable energy sources. Battery Energy storage can help in multiple ways to minimize financial losses through battery discharging for peak shaving, distribution asset life cycle increase, real time power management.

5. Since as per IEGC, EHV starts from voltage level exceeding 33000 volts, therefore planning criteria should be defined for 66KV and above voltage rating Grid substation and Lines for network reliability. Currently, it is defined for 132KV and above.

6. Mechanism to be defined to ensure implementation of Detailed Project Report (DPR) on priority wherever CTU/STU fails to comply with the Planning criteria.

