

PUNJAB STATE ELECTRICITY REGULATORY COMMISSION

Draft Notification

The ----- 2018

No. PSERC/Secy./Regu. – In exercise of the powers conferred by Section 181 read with Section 86(1)(h) of the Electricity Act, 2003 (Central Act 36 of 2003) and all other powers enabling it in this behalf, the Punjab State Electricity Regulatory Commission hereby makes the following Regulations namely :-

1. Short title, extent and commencement

- (i) These Regulations may be called the Punjab State Electricity Regulatory Commission (Punjab State Grid Code) (1st Amendment) Regulations, 2018.
- (ii) These Regulations shall come into force with effect from the date of their publication in the official gazette of the Government of Punjab.
- (iii) These Regulations shall extend to whole of the State of Punjab.

2. NEW DEFINITIONS

B. Date of Commercial Operation or 'COD' shall have the same meaning as provided in Sub-Regulation 11.2A1, 11.2A2 and 11.2A4 of these Regulations.

'Deviation' in a time-block for a Seller means its total actual injection minus its total scheduled generation and for a Buyer means its total actual drawal minus its total scheduled drawal.

Trial Operation or Trial Run shall have the same meaning as provided in Sub-Regulation 11.2A3 and 11.2A5 of these Regulations.

Pooling Station' means the sub-station where pooling of generation of individual wind or solar generators is done for interfacing with the next higher voltage level:

Provided that where there is no separate pooling station for a wind/solar generator and the generating station is connected through common/dedicated feeder and terminated at a Sub Station of distribution company/STU, the sub-

station of the distribution company/STU shall be considered as the pooling station for such wind or solar generator, as the case may be;

- B(ii) a) Words and expressions used in this Grid Code and not defined herein but defined in the Act/IEGC or relevant Regulations of the Commission shall have the meaning as assigned to them under the Act/ IEGC or relevant Regulations of the Commission.
- b) Words and expression used in this Grid Code and not defined in this Grid Code or Act or IEGC or or relevant Regulations of the Commission shall have accepted engineering / dictionary meaning.
- c) Terms defined in singular or plural, as the case may be, shall be construed to apply for plural or singular respectively also.

3. Amendments in Regulation 2.7.3, 2.7.4, 2.7.5 & 2.7.6

The regulations 2.7.3, 2.7.4, 2.7.5 & 2.7.6 shall be substituted as under:

2.7.3 Transmission Planning Committee (TPC) shall coordinate the implementation of Planning Code (Part II) to ensure system planning coordination for the state as a whole.

TPC shall comprise of Chief Engineer level members **and Dy. Chief Engineer/SE level officer as convener** to be nominated by the State Grid Code Review Committee, which shall meet once every three months and deliberate on all technical and operational aspects of Planning Code and shall give their recommendations to the State Grid Code Review Committee.

The rules to be followed by the committee in conducting their business shall be formulated by the committee itself and shall be approved by the State Grid Code Review Committee.

2.7.4 Operation and Co-ordination (OCC) Committee shall coordinate the implementation of Operating Code (Part III) and Scheduling & Dispatch Code (Part IV) to ensure that respective Generators and Distribution Companies using State Transmission System discharge their obligations under the State Grid Code. OCC shall comprise of Chief Engineer level members **and Dy. Chief Engineer/SE level officer as convener** to be nominated by the State Grid Code Review Committee, which shall meet every month and deliberate

on all technical and operational aspects of Load Dispatch and System Operation and shall give their recommendations to the State Grid Code Review Committee.

The rules to be followed by the committee in conducting its business shall be formulated by the committee itself and shall be approved by the State Grid Code Review Committee.

2.7.5 Protection Co-ordination Committee (PCC) shall coordinate the implementation of Protection Code (Part V) to ensure that respective Users using State Transmission System discharge their obligations under the Protection Code.

Protection Co-ordination Committee shall comprise of Chief Engineer level members **and Dy. Chief Engineer/SE level officer as convener** to be nominated by the State Grid Code Review Committee, which shall meet once every three months and shall give their recommendations to the State Grid Code Review Committee.

The rules to be followed by the Protection Co-ordination Committee in conducting its business shall be formulated by the committee itself and shall be approved by State Grid Code Review Committee.

2.7.6 Commercial & Metering Committee (CMC) shall coordinate the implementation of the Metering Code (Part VI) to ensure that the respective constituents discharge their obligations under the Metering Code. The committee shall also be responsible for coordinating the preparation of state energy account in accordance with the provisions of the State Grid Code.

The committee shall comprise of Chief Engineer level members **and Dy. Chief Engineer/SE level officer as convener** to be nominated by the State Grid Code Review Committee, which shall meet every month.

The rules to be followed by the Commercial & Metering Committee in conducting its business shall be formulated by the committee itself and shall be approved by the State Grid Code Review Committee.

4. Amendments in Regulation 5.3.6

The regulation 5.3.6 shall be substituted as under:

5.3.6 ~~"All thermal generating units of 200 MW and above and all hydro units of 10 MW and above~~ All Coal/lignite based thermal generating units of 200 MW and above, Open Cycle Gas Turbine/Combined Cycle generating stations having gas turbines of capacity more than 50 MW each and all hydro units of 25 MW and above which are synchronized with the grid, irrespective of their ownership, shall have their governors in operation at all times in accordance with the following provisions:

Governor Action

- i) All coal/lignite thermal generating units of 200 MW and above having Electro Hydraulic Governor (EHG) System, Open Cycle Gas Turbine/Combined Cycle generating stations having gas turbines of capacity more than 50 MW each and all hydro units of 25 MW and above (except those with upto three hours pondage) which are synchronised with the grid, irrespective of their ownership shall be operated under restricted governor mode of operation:
- ii) The restricted governor mode of operation shall essentially have the following features:
 - a) There should not be any reduction in generation in case of improvement in grid frequency below ~~50.2 Hz~~ 50.00 Hz. (for example if grid frequency changes from ~~49.3 to 49.4 Hz~~. 49.9 to 49.95 Hz or from 49.95 Hz to 49.99 Hz then there shall not be any reduction in generation). ~~Whereas~~ For any fall in grid frequency, generation from the unit should increase by ~~5% limited to 105 % of the MCR of the unit subject to machine capability~~ as per the generator droop upto a maximum of 5% of the generation subject to a ceiling limit of 105% of the MCR of the unit having regard to machine capability.
 - b) Ripple filter of +/- 0.03 Hz. shall be provided so that small changes in frequency are ignored for load correction, in order to prevent governor hunting.

- c) If any of these generating units is required to be operated without its governor in operation as specified above, the SLDC shall be immediately informed about the reason and duration of such operation. All governors shall have a droop setting of between 3% and 6%.
- d) After stabilisation of frequency around 50 Hz, the Commission may review the above provision regarding the restricted governor mode of operation and free governor mode of operation may be introduced as per CERC guidelines.
- iii) All other generating units including those hydro plants with pondage upto 3 hours, ~~Gas turbine/Combined Cycle Power Plants~~, wind and Solar generators and Nuclear Power Stations shall be exempted from Sections 5.3.6, 5.3.7 and 5.3.8 till the Commission reviews the situation
- Provided that if a generating unit cannot be operated under restricted governor mode operation, then it shall be operated in free governor mode operation with manual intervention to operate in the manner required under restricted governor mode operation.

5. Amendments in Regulation 5.3.7

The regulation 5.3.7 shall be substituted as under:

5.3.7 Facilities available with/in Load Limiters, Automatic Turbine Run-up System (ATRS), Turbine Supervisory Coordinated Control system etc. shall not be used to suppress the normal governor action in any manner and no dead bands and/or time delays shall be deliberately introduced except as specified in Para 5.3.6 above.

"Provided that periodic checkups by third party should be conducted at regular interval once in two years through independent agencies selected by RLDC or SLDC as the case may be. The cost of such test shall be recovered by the RLDC/SLDC from the Generators. If deemed necessary by SLDC, the test may be conducted more than once in two years."

5. Amendments in Regulation 5.3.8

The regulation 5.3.8 shall be substituted as under:

5.3.8 All coal/lignite based thermal generating units of 200 MW and above, Open Cycle Gas Turbine/Combined Cycle generating stations having gas turbines of more than 50 MW each and all hydro units of 25 MW and above operating at or up to 100% of their Maximum Continuous Rating (MCR) shall normally be capable of have the capability of (and shall not in any way be prevented from) instantaneously picking up to 105%, 105% and 110% of their MCR, respectively, when the frequency falls suddenly. After an increase in generation as above, a generating unit may ramp back to the original level at a rate of about one percent (1%) per minute, in case continued operation at the increased level is not sustainable. Any generating unit, not complying with the above requirements, shall be kept in operation (synchronized with the State grid) only after obtaining the permission of SLDC. The recommended rate for changing the governor setting, i.e., supplementary control for increasing or decreasing the output (generation level) for all generating units, irrespective of their type and size, would be one (1.0) per cent per minute or as per manufacturer's limits. ~~However, if frequency falls below 49.8 Hz, all partly loaded generating units shall pick up additional load at a faster rate, according to their capability.~~

"For the purpose of ensuring primary response, SLDC shall not schedule the generating station or unit(s) thereof beyond ex-bus generation corresponding to 100% of the installed capacity of the generating station or unit(s) thereof. The generating station shall not resort to Valve Wide Open (VWO) operation of units whether running on full load or part load, and shall ensure that there is margin available for providing Governor action as primary response. In case of gas/liquid fuel based units, suitable adjustment in installed capacity should be made by SLDC for scheduling in due consideration of prevailing ambient conditions of temperature and pressure vis-à-vis site ambient

conditions on which installed capacity of the generating station or unit(s) thereof have been specified:

Provided that scheduling of hydro stations shall not be reduced during high inflow period in order to avoid spillage:

Provided further that the VWO margin shall not be used by SLDC to schedule Ancillary Services.”

7. Amendments in Regulation 5.3.9

The regulation 5.3.9 shall be substituted as under:

5.3.9 Except under an emergency, or to prevent an imminent damage to costly equipment or danger to human / animal life, no User shall suddenly reduce his generating unit output by more than 100 MW without prior intimation to and consent of the SLDC. ~~particularly when frequency is falling or is below 49.7 Hz.~~ Similarly, no User shall cause a sudden variation in its load by more than 100 MW without prior intimation to and consent of the SLDC, ~~particularly when frequency is deteriorating.~~

All users shall ensure that temporary over voltage due to sudden load rejection and the maximum permissible values of voltage unbalance shall remain within limits specified under CEA Grid Standards as amended from time to time.

8. Amendments in Regulation 5.3.14

The regulation 5.3.14 shall be substituted as under:

5.3.14 All Users shall take all possible measures to ensure that the grid frequency always remains within the ~~49.7-50.2~~ 49.90-50.05 Hz band.

9. Amendments in Regulation 6.4.3(i)

The regulation 6.4.3(i) shall be substituted as under:

6.4.3(i) SLDC/distribution licensee/users and EHV consumers connected to STS shall initiate action to restrict the drawal of its control area, from

the grid, within the net drawal schedule ~~whenever the system frequency falls to 49.8 Hz.~~

10. Amendments in Regulation 6.4.3(ii)

The regulation 6.4.3(ii) shall be substituted as under:

6.4.3(ii) The SLDC/ distribution licensee/users and EHV consumer shall ensure that requisite load shedding is carried out in its control area so that there is no over-drawal ~~when frequency is 49.7 Hz. or below.~~

11. Amendments in Regulation 6.4.3(viii)

The regulation 6.4.3(viii) shall be substituted as under:

6.4.3(viii) SLDC shall devise standard instantaneous message formats in order to give directions in case of contingencies and /or threat to the system security to reduce deviation from schedule by any bulk consumer/State Entity/Injecting utility/User at different overdrawal/under-drawal/over-injection/under-injection conditions depending upon the severity. ~~of the overdrawal.~~ The concerned ~~user/distribution licensee/EHV consumer~~ bulk consumer/State Entity/Injecting utility/User shall ensure immediate compliance with these directions of SLDC and send a compliance report to the SLDC.

12. Amendments in Regulation 11.1

The regulation 11.1 shall be substituted as under:

11.1 Introduction:

This section specifies the procedure to be adopted for the scheduling and despatch of generation of SGS, CPPs/IPP and scheduling of other transactions through long-term access, medium-term and short term open access including complementary commercial mechanisms, on a day-ahead and intra-day basis with the process of the flow of information between the SGS/BBMB Load despatch centre /CPPs/IPP, Northern Regional Load Despatch Centre (NRLDC), Power Exchanges and the State Load Despatch Centre (SLDC) and

other concerned persons to meet system demand and drawal allocation requirements of beneficiaries/Distribution Licensees.

Keeping in view large scale integration of solar and wind generation of variable nature, scheduling of wind and solar generators has also been incorporated in these regulations.

In its control area, SLDCs shall have the total responsibility for

- (i) scheduling/despaching of generation from all SGS (including generation of its embedded licensees);
- (ii) regulating the demand of its control area;
- (iii) scheduling their drawal from the ISGS (within its share in the respective plant's expected capability);
- (iv) permitting long term access, medium term and short term open access transactions for embedded generators/consumers, in accordance with the contracts; and
- (v) regulating the net drawal of its control area from the regional grid in accordance with the respective regulations of the CERC.

13. Amendments in Regulation 11.2

The regulation 11.2 shall be substituted as under:

11.2 Objective:

State Grid Code deals with the procedures to be adopted for scheduling of the net injection / drawals of State Entities on a day ahead basis with the modality of the flow of information between the SLDC/ ALDCs/ Power Exchange and State Entities. The procedure for submission of capability declaration by each SGS/CPPs/IPPs and submission of requisition/ drawal schedule by other State Entities is intended to enable SLDC to prepare the despatch schedule for each SGS/CPPs/IPPs and drawal schedule for each beneficiary/ Distribution Licensee. It also provides methodology of issuing real time despatch/drawal instructions and rescheduling, if required, to State Entities along with the commercial arrangement for the

deviations from schedules, as well as, mechanism for reactive power pricing.

This code also provides the methodology for re-scheduling of wind and solar energy generators which are State entities on three (3) hourly on one and a half hourly basis and the methodology of claiming the Renewable Regulatory charge for dealing with the variable generation of the wind and solar energy stations of handling deviations for such solar and wind generators within State. For this, Appropriate meters shall be provided for accounting of charges for deviation under relevant regulations. Telemetry/communication system and Data Acquisition System shall also be provided for transfer of information to the SLDC. ~~facility (for real time as well as stored data) shall be provided for accounting of UI charges and transfer of information to SLDC under DSM Regulations.~~

This code also provides for the procedure and mechanism for declaration of commercial operation of State Generating Stations, and State Transmission System.

14. New Regulations 11.2 A & B

The new regulations 11.2 A & B shall be inserted as under:

11.2 A Commercial operation of State generating stations

1. Date of commercial operation in case of a unit of thermal State Generating Stations shall mean the date declared by the generating company after demonstrating the unit capacity corresponding to its Maximum Continuous Rating (MCR) or the Installed Capacity (IC) or Name Plate Rating on designated fuel through a successful trial run and after getting clearance from the respective RLDC or SLDC, as the case may be, and in case of the generating station as a whole, the date of commercial operation of the last unit of the generating station:

Provided that:

(i) Where the beneficiaries / buyers have been tied up for purchasing power from the generating station, the trial run or each repeat of trial run shall commence after a notice of not less than seven days by the generating company to the beneficiaries/buyers and concerned RLDC or SLDC, as the case may be.

(ii) Where the beneficiaries / buyers have not been tied up for purchasing power from the generating station, the trial run or each repeat of trial run shall commence after a notice of not less than seven days by the generating company to the concerned RLDC or SLDC, as the case may be.

(iii) The generating company shall certify that:

(a) The generating station meets the relevant requirements and provisions of the technical standards of Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2010, Indian Electricity Grid Code and State Grid Code, as applicable:

(b) The main plant equipment and auxiliary systems including Balance of Plant, such as Fuel Oil System, Coal Handling Plant, DM plant, pre-treatment plant, fire-fighting system, Ash Disposal system and any other site specific system have been commissioned and are capable of full load operation of the units of the generating station on sustained basis.

(c) Permanent electric supply system including emergency supplies and all necessary instrumentation, control and protection systems and auto loops for full load operation of unit have been put in service.

(iv) The certificates as required under clause (iii) above shall be signed by the CMD/CEO/MD of the generating company and a copy of the certificate shall be submitted to the Member Secretary of the concerned State Power Committee, as & when constituted

- and the concerned RLDC/SLDC, as the case be, before declaration of COD. The generating company shall submit approval of Board of Directors to the certificates as required under clause (iii) within a period of 3 months of the COD.
- (v) Trial run shall be carried out in accordance with Regulation 11.2A.3 of these Regulations.
- (vi) Partial loading may be allowed with the condition that average load during the duration of the trial run shall not be less than Maximum Continuous Rating or the Installed Capacity or the Name Plate Rating excluding period of interruption and partial loading but including the corresponding extended period.
- (vii) Where on the basis of the trial run, a unit of the generating station fails to demonstrate the unit capacity corresponding to Maximum Continuous Rating or Installed Capacity or Name Plate Rating, the generating company has the option to de-rate the capacity or to go for repeat trial run. Where the generating company decides to de-rate the unit capacity, the demonstrated capacity in such cases shall be more or equal to 105% of de-rated capacity.
- (viii) The concerned RLDC or SLDC, as the case may be, shall convey clearance to the generating company for declaration of COD within 7 days of receiving the generation data based on the trial run.
- (ix) If the concerned RLDC or SLDC, as the case may be, notices any deficiencies in the trial run, it shall be communicated to the generating company within seven (7) days of receiving the generation data based on the trial run.
- (x) Scheduling of power from the generating station or unit thereof shall commence from 0000 hrs after declaration of COD.

2. Date of commercial operation (COD) in relation to a generating unit of hydro generating station including pumped storage hydro generating station shall mean the date declared by the generating company after demonstrating peaking capability corresponding to the Installed Capacity of the generating station through a successful trial run, and after getting clearance from the respective RLDC or SLDC, as the case may be, and in relation to the generating station as a whole, the date of commercial operation of the last generating unit of the generating station.

Provided that:

- (i) Where beneficiaries have been tied up for purchasing power from the generating station, trial run or each repeat of trial run shall commence after a notice of not less than seven days by the generating company to the beneficiaries and concerned RLDC or SLDC, as the case may be;
- (ii) Where the beneficiaries/buyers have not been tied up for purchasing power from the generating station, the trial run shall commence after a notice of not less than seven days by the generating company to concerned RLDC or SLDC, as the case may be.
- (iii) The generating company shall certify that:
 - (a) The generating station or unit thereof meets the requirement and relevant provisions of the technical standards of Central Electricity Authority (Technical Standards for Construction of Electrical Plants and Electric Lines) Regulations, 2010 and Indian Electricity Grid Code, as applicable;
 - (b) The main plant equipment and auxiliary systems including Drainage Dewatering system, Primary and Secondary cooling system, LP and HP air compressor, Fire fighting system, etc. have been commissioned and are capable for full load operation of units on sustained basis.

- (c) Permanent electric supply system including emergency supplies and all necessary Instrumentations Control and Protection Systems and auto loops for full load operation of the unit are put into service.
- (iv) The certificates as required under clause (iii) above shall be signed by the CMD/CEO/MD of the generating company and a copy of the certificate shall be submitted to the Member Secretary of the concerned Regional Power Committee and concerned RLDC or SLDC, as the case may be, before declaration of COD. The generating company shall submit approval of Board of Directors to the certificates as required under clause (iii) within a period of 3 months of COD.
- (v) Trial run shall be carried out in accordance with sub-Regulation 11.2A3 of this Regulation.
- (vi) Where on the basis of the trial run, a unit of the generating station fails to demonstrate the unit capacity corresponding to Maximum Continuous Rating or Installed Capacity or Name Plate Rating, the generating company shall have the option to either de-rate the capacity or to go for repeat trial run. If the generating company decides to de-rate the unit capacity, the demonstrated capacity in such cases shall be more or equal to 110% of de-rated capacity.
- (vii) In case a hydro generating station with pondage or storage is not able to demonstrate the peaking capability corresponding to the installed capacity for the reasons of insufficient reservoir or pond level, the date of commercial operation of the last unit of the generating station shall be considered as the date of commercial operation of the generating station as a whole, and it will be mandatory for such hydro generating station to demonstrate peaking capability equivalent to installed capacity of the generating station or unit thereof as the case may be, as and when such reservoir/pond level is achieved:
- (viii) If a run-of-river hydro generating station or a unit thereof is declared under commercial operation during lean inflows period

when the water inflow is insufficient for such demonstration of peaking capability, it shall be mandatory for such hydro generating station or unit thereof to demonstrate peaking capability equivalent to installed capacity as and when sufficient water inflow is available. In case of failure to demonstrate the peaking capacity, the unit capacity shall be de-rated to the capacity demonstrated with effect from the COD.

- (ix) The concerned RLDC or SLDC as the case may be, shall accord clearance to the generating company within seven (7) days of receiving the generation data based on the trial run.
- (x) If the concerned RLDC or SLDC as the case may be, notices any deficiency in trial run, it shall be communicated to the generating company within seven (7) days of receiving the generation data based on trial run.
- (xi) Scheduling shall commence from 0000 hrs after declaration of COD.

3. Trial Run or Trial Operation: Trial Run or Trial Operation in relation to a thermal State Generating Station or a unit thereof shall mean successful running of the generating station or unit thereof on designated fuel at Maximum Continuous Rating or Installed Capacity or Name Plate Rating for a continuous period of 72 hours and in case of a hydro Central Generating Station or a unit thereof for a continuous period of 12 hours:

Provided that:

- (i) The short interruptions, for a cumulative duration of 4 hours, shall be permissible, with corresponding increase in the duration of the test. Cumulative Interruptions of more than 4 hours shall call for repeat of trial operation or trial run.
- (ii) The partial loading may be allowed with the condition that average load during the duration of the trial run shall not be less than Maximum Continuous Rating, or the Installed Capacity or the Name Plate Rating excluding period of interruption and partial loading but including the corresponding extended period.

- (iii) Where the beneficiaries have been tied up for purchasing power from the generating station, the trial run or each repeat of trial run shall commence after a notice of not less than seven days by the generating company to the beneficiaries and concerned RLDC or SLDC, as the case may be.
- (iv) Units of thermal and hydro Central Generating Stations and inter-State Generating Stations shall also demonstrate capability to raise load upto 105% or 110% of this Maximum Continuous Rating or Installed Capacity or the Name Plate Rating as the case may be.

4. Date of commercial operation in relation to an Intra-State Transmission System or an element thereof shall mean the date declared by the transmission licensee from 0000 hour of which an element of the transmission system is in regular service after successful trial operation for transmitting electricity and communication signal from the sending end to the receiving end:

Provided that:

- (i) In case of Intra-State Transmission System executed through Tariff Based Competitive Bidding, the transmission licensee shall declare COD of the InSTS in accordance with the provisions of the Transmission Service Agreement.
- (ii) Where the transmission line or substation is dedicated for evacuation of power from a particular generating station and the dedicated transmission line is being implemented other than through tariff based competitive bidding, the concerned generating company and transmission licensee shall endeavour to commission the generating station and the transmission system simultaneously as far as practicable and shall ensure the same through appropriate Implementation Agreement in accordance with relevant provisions of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 or any subsequent amendment or re-enactment thereof. In case the transmission line or sub-station dedicated to a generator is being implemented through tariff based competitive bidding, then matching of

- commissioning of the transmission line/sub-station and generating station shall be monitored by Central Electricity Authority.
- (iii) Where the transmission system executed by a transmission licensee is required to be connected to the transmission system executed by any other transmission licensee and both transmission systems are executed in a manner other than through tariff based competitive bidding, the transmission licensee shall endeavour to match the commissioning of its transmission system with the transmission system of the other licensee as far as practicable and shall ensure the same through an appropriate Implementation Agreement. Where either of the transmission systems or both are implemented through tariff based competitive bidding, the progress of implementation of the transmission systems in a matching time schedule shall be monitored by the Central Electricity Authority.
- (iv) In case a transmission system or an element thereof is prevented from regular service on or before the Scheduled COD for reasons not attributable to the transmission licensee or its supplier or its contractors but is on account of the delay in commissioning of the concerned generating station or in commissioning of the upstream or downstream transmission system of other transmission licensee, the transmission licensee shall approach the Commission through an appropriate application for approval of the date of commercial operation of such transmission system or an element thereof.
- (v) An element shall be declared to have achieved COD only after all the elements which are pre-required to achieve COD as per the Transmission Services Agreement are commissioned. In case any element is required to be commissioned prior to the commissioning of pre-required element, the same can be done if CEA confirms that such commissioning is in the interest of the power system.
- (vi) The transmission licensee shall submit a certificate from the CMD/CEO/MD of the Company that the transmission line, sub-station and communication system conform to the relevant Grid

Standard and Grid Code, and are capable of operation to their full capacity.

Note: Transmission Licensee referred to in this Sub-Regulation shall include “Deemed Transmission Licensee” as per the provision of the Act.

5. Trial run and Trial operation in relation to a transmission system or an element thereof shall mean successful charging of the transmission system or an element thereof for 24 hours at continuous flow of power, and communication signal from the sending end to the receiving end and with requisite metering system, telemetry and protection system in service enclosing certificate to that effect from State Load Despatch Centre.

6. Date of commercial operation in relation to a communication system or an element thereof shall mean the date declared by the transmission licensee from 0000 hour of which a communication system or element thereof shall be put into service after completion of site acceptance test including transfer of voice and data to respective control centre as certified by the State Load Dispatch Centre.

7. In the event of inconsistency between the provisions relating to trial operation and commercial operation as specified in Sub-Regulation 11.2A.1 to 11.2A.6 of these regulations and the provisions of Central Electricity Regulatory Commissions (Terms and Conditions of Tariff) Regulations, 2014 or any subsequent enactment thereof, the provisions of these regulations shall prevail.

15. Amendments in Regulation 11.3.7

The regulation 11.3.7 shall be deleted:

~~11.3.7 All state entities (SGS, Distribution Licensees & other beneficiaries) shall abide by the concept of frequency linked load despatch and pricing of deviations from schedule i.e. unscheduled interchanges. All State Entities shall normally be operated according to the standing frequency linked load despatch guidelines issued by the~~

~~SLDC to the extent possible, unless otherwise advised by the SLDC.~~

16. Amendments in Regulation 11.3.8

The regulation 11.3.8 shall be substituted as under:

11.3.8 SLDC may direct the State Entities (beneficiaries or Distribution Licensees)/SGS to increase/decrease their drawal/generation in case of contingencies e.g. overloading of lines/transformers, abnormal voltages, threat to system security. Such directions shall immediately be acted upon. In case the situation does not call for very urgent action, and SLDC has some time for analysis, it shall be checked whether the situation has arisen due to deviations from schedules, ~~pursuant to intra-state short-term open access.~~ These shall be got terminated ~~under intimation to the injecting/drawee utility first, through appropriate measure like opening of feeders, if considered necessary by SLDC before an action, which would affect the scheduled supplies to the long term, medium term customers or short term customers is initiated in accordance with Open Access Regulations.~~

In case short term/medium term open access or long term open access are curtailed, SLDCs shall submit the report to NRLDC regarding the reasons due to which it was not able to curtail deviations from the schedule and agencies which had not taken necessary actions.

17. Amendments in Regulation 11.3.9

The regulation 11.3.9 shall be substituted as under:

11.3.19 Hydro generating stations are expected to respond to grid frequency changes and inflow fluctuations. Maximum deviation allowed during a time block shall be as per CERC DSM Regulations.

~~The hydro generating stations shall be free to deviate from the given schedule without causing grid constraint and a compensation for difference between the actual net energy supply by the hydro generating station and the scheduled energy (ex-bus) over day shall~~

~~be made by the SLDC in the day ahead schedule for the 4th day (day plus 3).~~

18. Amendments in Regulation 11.4 (xii)

The regulation 11.4 (xii) shall be deleted

~~11.4.1(xii) The hydro electric generation stations are expected to respond to grid frequency changes and inflow fluctuations. They would, therefore, be free to deviate from the given schedule as long as they do not cause a grid constraint. As a result, the actual net energy supply by a hydro generating station over a day may differ from schedule energy (ex-bus) for that day. Compensation shall then be made by the SLDC to the hydro SGS in the day ahead schedule for the 4th day (day plus 3).~~

19. Amendments in Regulation 11.4.1(xvi)

The regulation 11.4.1(xvi) shall be substituted as under:

11.4.1(xvi) The schedule finalized by the SLDC for hydro SGS, shall normally be such that the scheduled energy for a day equals the total energy (ex-bus) expected to be available on that day, as declared by the generating station, based on foreseen/planned water availability/release. It is also expected that the total net energy actually supplied by the generating station on that day would equal the declared total energy, in order that the water release requirement is met. ~~While the 15-minute block wise deviations from schedule would be accounted for as Unscheduled Interchange (UI), the net energy deviation for the whole day, if any, shall be additionally accounted for as shown in the illustration.~~

Illustration

Suppose the foreseen/expected total energy (ex-bus) for Day-1 is E1, the scheduled energy is S1, actual net energy (metered) is A1, all in ex-bus MWh. Suppose the expected energy availability for Day 4, as declared by the generator, is E4. Then, the schedule for day4 shall be drawn up such that the scheduled energy for Day 4, shall be

$S_4 = E_4 + (A_1 - (E_1))$, Similarly,
 $S_5 = E_5 + (A_2 - (E_2))$,
 $S_6 = E_6 + (A_3 - (E_3))$,
 $S_7 = E_7 + (A_4 - (E_4))$, and so on.

20. Amendments in Regulation 11.5(vi)

The regulation 11.5(vi) shall be substituted as under:

11.5(vi) In case of any Grid Disturbance, Scheduled Generation of all the Generating Stations supplying power under long term/medium term shall be deemed to have been revised to be equal to their actual generation and Scheduled Drawal of all the Beneficiaries / distribution licensees/buyers shall be deemed to have been revised ~~to be equal to their actual generation/drawal~~ accordingly for all the time blocks affected by the Grid Disturbance. Certification of Grid Disturbance and its duration shall be done by SLDC.

The declaration of disturbance shall be done by the concerned SLDC at the earliest. A notice to this effect shall be posted at its website by the SLDC. Issue of the notice at SLDC web site shall be considered as declaration of the disturbance by SLDC. All State entities shall take note of the disturbance and take appropriate action their end.

For bilateral short term and collective transactions, the methodology of settlement of accounts for the period of Grid Disturbance shall be as may be approved by CERC.

21. Amendments in Regulation 11.5 (vii)

The regulation 11.5 (vii) shall be substituted as under:

11.5(vii) In consideration to clause 6.5 (18) of IEGC, Revision of declared capability by the SGS(s) having two part tariff with capacity charge and energy charge ~~(except hydro stations)~~ and requisition by beneficiaries/ Distribution Licensees for the remaining period of the day shall also be permitted with advance notice. Revised schedules/ declared capability in such cases shall become effective from the ~~6th~~

4th time block, counting the time block in which the request for revision has been received in the SLDC to be the first one.

~~SLDC may allow revision, of the declared capacity at 6 hourly intervals effective from 0000, 0600, 1200 and 1800 hours in case of Run of the River (ROR) and pondage based hydro generating stations, if there is large variation of expected energy (MWh) for the day compared to previous declaration.~~

22. Amendments in Regulation 11.5(ix)

The regulation 11.5(ix) shall be substituted as under:

11.5(ix) Notwithstanding anything contained in Regulation 11.5(vii) in case of forced outage of a unit of a generating station (having generating capacity of 100 MW or more) and selling power under Short Term bilateral transaction (excluding collective transactions through power exchange), the generator or electricity trader or any other agency selling power from the unit of the generating station shall immediately intimate the outage of the unit along with the requisition for revision of schedule and estimated time of restoration of the unit, to SLDC. The schedule of beneficiaries, sellers and buyers of power from this generating unit shall be revised accordingly. The revised schedules shall become effective from the 4th time block, counting the time block in which the forced outage is declared to be the first one. The SLDC shall inform the revised schedule to the seller and the buyer. The original schedule shall become effective from the estimated time of restoration of the unit. However, the transmission charges as per original schedule shall continue to be paid for two days.

Provided that a generator or a trading licensee any other agency selling power from the generating station or units(s) thereof may revise its estimated restoration time once in a day and the revision schedule shall become effective from the 4th time block, counting the time block in which the revision is advised by the generator to be the first one.

Provided further that the schedule of the buyers and sellers shall be revised after forced outage of a unit, only if the source of power for a particular transaction has clearly been indicated during short-term open access application and the said unit of that generating station goes under forced outage.

23. Amendments in Regulation 11.5(xiii)

The regulation 11.5 (xiii) shall be substituted as under:

11.5(xiii) Special dispensation for scheduling of wind and solar generation

~~(a) Scheduling of wind power generation plants would have to be done for the purpose of UI where the sum of generation capacity of such plants connected at the connection point to the transmission or distribution system is 10 MW and above and connection point is 33 kV and above, and where PPA has not yet been signed. For capacity and voltage level below this, as well as for old wind farms (A wind farm is collection of wind turbine generators that are connected to a common connection point) it could be mutually decided between the Wind Generator and the transmission or distribution utility, as the case may be, if there is no existing contractual agreement to the contrary. The schedule by wind power generating stations supplying power under long term access, medium-term and short-term open access (excluding collective transactions) may be revised by giving advance notice to SLDC. Such revisions by wind power generating stations shall be effective from 6th time block, the first being the time-block in which notice was given. There may be one revision for each time slot of 3 hours starting from 00:00 hours of a particular day subject to maximum of 8 revisions during the day.~~

~~(b) The schedule of solar generation shall be given by the generator based on availability of the generator, weather forecasting, solar insolation, season and normal solar generation curve and shall be vetted by the SLDC in which the generator is located and~~

~~incorporated in the inter-state schedule. If SLDC is of the opinion that the schedule is not realistic, it may ask the solar generator to modify the schedule.~~

~~(c) SLDC shall maintain the record of schedule from renewable power generating stations based on type of renewable energy sources i.e wind or solar from the point of view of grid security. While scheduling generating stations in a region, system operator shall aim at utilizing available wind and solar energy fully.~~

a) Wind and Solar generators as specified in PSERC (Forecasting, Scheduling and Deviation Settlement Mechanism) Regulations, 2018, as & when notified, shall mandatorily provide to the concerned SLDC, in a format as prescribed by SLDC, the technical specifications at the beginning and whenever there is any change. The data relating to power system parameters and weather related data as applicable shall also be mandatorily provided by such generators to concerned SLDC in real time. The frequency and other details in this regard shall be provided in the Detailed Procedure to be prepared by SLDC and approved by the Commission.

b) Forecasting shall be done by wind and solar generators which are State entities as well as the concerned SLDC as specified in PSERC (Forecasting, Scheduling and Deviation Settlement Mechanism) Regulations, 2018, as & when notified. The concerned SLDC may engage forecasting agency(ies) and prepare a schedule for such generating stations. The forecast by the concerned SLDC shall be with the objective of ensuring secure grid operation. The forecast by the wind and solar generator shall be generator centric. The wind and solar generators which are State entities will have the option of accepting the concerned SLDC's forecast for preparing its schedule or provide the concerned SLDC with a schedule based on its own forecast. Any commercial impact on account of deviation from

schedule based on the forecast chosen by the wind and solar generator shall be borne by it.

c) As specified in PSERC (Forecasting, Scheduling and Deviation Settlement Mechanism) Regulations, 2018, as & when notified, the schedule by wind and solar generators which are State entities (excluding collective transactions) may be revised by giving advance notice to the concerned SLDC, as the case may be. Such revisions shall be effective from 4th time block, the first being the time-block in which notice was given. There may be one revision for each time slot of one and half hours starting from 00:00 hours of a particular day subject to maximum of 16 revisions during the day.

d) The schedule of solar generators which are State entities shall be given by the generator based on availability of the generator, weather forecasting, solar insolation/irradiance, season and normal solar generation curve.

24. Amendments in Regulation 11.5 (xxi)

The regulation 11.5(xxii) shall be substituted as under:

11.5(xxii) While availability declaration, by SGS shall have a resolution of ~~one~~ one decimal (0.1) MW and one (1) MWh one decimal (0.1) MWh, all entitlements, requisitions and schedules shall be rounded off to the nearest two decimal for each of the transaction, to have a resolution of 0.01 MW and 0.01 MWh."