

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

No. L-1/(2)/2009-CERC

New Delhi, 30th March 2009

NOTIFICATION

In exercise of powers conferred under Section 178 of the Electricity Act, 2003 (36 of 2003), and all other powers enabling it in this behalf, the Central Electricity Regulatory Commission hereby makes the following regulations to further amend the Indian Electricity Grid Code (hereinafter referred to as "the IEGC"), namely:-

1. **Short title and commencement:** (1) These amendments may be called the Indian Electricity Grid Code (Amendment) Regulations, 2009;

(2) These amendments shall come into force on and from 1.4.2009.

2. **Amendment of Chapter 1, clause 1.2**

In Chapter 1, clause 1.2, the second bullet point shall be substituted as under:

"Facilitation of the operation, maintenance, development and planning of economic and reliable National / Regional Grid"

3. **Amendment of Chapter 1, clause 1.4 (v)**

In Chapter 1 clause 1.4 (v) shall be substituted as under:-

"Scheduling & Despatch Code

This section deals with the procedure to be adopted for scheduling and Despatch of generation of the Inter-State Generating Stations (ISGS) including complementary commercial mechanisms, on a daily basis with the modality of the flow of information between the ISGS, National Load Despatch Centre (NLDC), Regional Load Despatch Centre (RLDC) and the State Load Despatch Centers (SLDCs) and other regional entities."

4. **Amendment of Chapter 1, clause 1.5**

(i) The first sentence of clause 1.5 shall be substituted as under:-

“In case of persistent non-compliance of any of the provisions of the IEGC by a constituent or an agency (other than RPC, NLDC and RLDC), the matter shall be reported by any agency/ RLDC to the Member Secretary, RPC.”

(ii) The third paragraph of clause 1.5 shall be substituted as under:

“In case of non-compliance of any provisions of the IEGC by NLDC, RLDC or RPC, the matter shall be reported to the CERC.”

5. **Amendment of Chapter 1, clause 1.9**

In Chapter 1, clause 1.9, the following definitions shall be inserted, namely:-

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|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Collective Transaction | “collective transaction” means a set of transactions discovered in power exchange through anonymous, simultaneous competitive bidding by buyers and sellers; |
| National Grid | ‘National Grid’ means the entire interconnected electric power network of the country; |
| NLDC | ‘National Load Despatch Centre’ means the Centre established under sub-section (1) of Section 26 of the Act; |
| Power Exchange | “power exchange” means the power exchange established with the prior approval of CERC; |
| Regional Entity | “regional entity” means such persons whose metering and energy accounting is done at the regional level; |
| Transfer Capability | “Transfer Capability” of a transmission network is the ability to transfer electric power when operated as part of the interconnected power system and may be limited by the physical and electrical characteristics of the system considering security aspects of the grid; |

6. **Amendment of Chapter 2, Clause 2.1**

(i) In Clause 2.1.1, the words “National Load Despatch Centre (NLDC)” shall be inserted before the words “Regional Load Despatch Centres”.

(ii) The heading of Clause 2.2, shall read as under:-

“Role of NLDC and RLDCs”

(iii) Under Clause 2.2, a new sub-clause shall be inserted before sub-clause 2.2.1, as under:-

“2.2.1 (A). According to Section 26(2) of the Act the Ministry of Power, Government of India has vide notification dated 2nd March 2005 prescribed the functions of NLDC as under:

- (a) supervision over the Regional Load Despatch Centers.
- (b) scheduling and despatch of electricity over inter-regional links in accordance with grid standards specified by the Authority and grid code specified by Central Commission in coordination with Regional Load Despatch Centers.
- (c) coordination with Regional Load Despatch Centers for achieving maximum economy and efficiency in the operation of National Grid.
- (d) monitoring of operations and grid security of the National Grid.
- (e) supervision and control over the inter-regional links as shall be required for ensuring stability of the power system under its control.
- (f) coordination with Regional Power Committees for regional outage schedule in the national perspective to ensure optimal utilization of power resources.
- (g) coordination with Regional Load Despatch Centers for the energy accounting of inter-regional exchange of power.
- (h) coordination for restoration of synchronous operation of national grid with Regional Load Despatch Centers.
- (i) coordination for trans-national exchange of power.

- (j) providing operational feed back for national grid planning to the Authority and the Central Transmission Utility.
 - (k) levy and collection of such fee and charges from the generating companies or licensees involved in the power system, as shall be specified by the Central Commission.
 - (l) dissemination of information relating to operations of transmission system in accordance with directions or regulations issued by Central Electricity Regulatory Commission and the Central Government from time to time.
“
- (iv) The existing clause 2.2.1 shall be re-numbered as 2.2.1(B).

6A. Amendment of Chapter 2, Clause 2.2.2

Sub-Clause (6) of Clause 2.2.2 shall read as under:-

“Operation of regional UI pool account and regional reactive energy account, provided that such function will be undertaken by any entity(ies) other than RLDCs if CERC so directs.”

7. Amendment of Chapter 4, clause 4.1

(a) In chapter 4, clause 4.1, the following shall be substituted :-

“Introduction

CTU and any agency connected to, or seeking connection to ISTS shall comply with Central Electricity Authority (Technical Standards for connectivity to the Grid) Regulations, 2007. The Connection Conditions given in the subsequent clauses of this chapter specify the minimum technical and design criteria which shall be complied with by CTU and any agency connected to, or seeking connection to ISTS. They also set out the procedures by which CTU shall ensure compliance by any agency with the above criteria as pre-requisite for the establishment of an agreed connection.”

8. Amendment of Chapter 5, clause 5.2

(a) In sub-clause (i) of clause 5.2 of Chapter 5, for the figure and word “49.0Hz.”, the figure and word “49.2 Hz.” shall be substituted.

(b) In sub-clause (l) of clause 5.2. of Chapter 5, for the figures and word “49.0-50.5 Hz”, the figures and word “49.2 -50.3 Hz” shall be substituted.

9. Amendment of Chapter 5, clause 5.4.2

In sub-clause (a) of clause 5.4.2. of chapter 5, for the figures and words

“49.0 Hz.”, the figures and word “49.2 Hz.” shall be substituted.

10 Amendment of Chapter 6, clause 6.1

Sub-clause (a) of clause 6.1, in chapter 6, shall be substituted as under :

“(a) Demarcation of responsibilities between various regional constituents, RLDC and NLDC in scheduling and dispatch.”

11. Amendment of Chapter 6, clause 6.2

In Chapter 6, clause 6.2 shall read as under :-

“Objective

This code deals with the procedures to be adopted for scheduling of the net injection / drawals of concerned regional entities on a daily basis with the modality of the flow of information between the NLDC / RLDCs / SLDCs and regional entities. The procedure for submission of capability declaration by each ISGS and submission of requisition / drawal schedule by other regional entities is intended to enable RLDCs to prepare the despatch schedule for each ISGS and drawal schedule for each regional entity. It also provides methodology of issuing real time dispatch/drawal instructions and rescheduling, if required, to regional entities along with the commercial arrangement for the deviations from schedules, as well as, mechanism for reactive power pricing. The provisions contained in this chapter are without prejudice to the powers conferred on RLDC under sections 28 and 29 of the Electricity Act, 2003.”.

12. Amendment of Chapter 6, clause 6.3

In Chapter 6, clause 6.3, the first para shall be substituted as under:-

“This code will be applicable to NLDC, RLDC/SLDCs, ISGS, SEBs/STUs and other beneficiaries in the Regional grid.”

13. Amendment of Chapter 6, clause 6.4

In Chapter 6, clause 6.4 shall be substituted with the following:-

“6.4 Demarcation of responsibilities

1. RLDCs shall coordinate the scheduling of generating stations owned by Central Government organizations (excluding stations where full share is allocated to host state), Ultra-Mega power projects and other generating stations of 1000 MW or larger size in which, States, other than the host State have permanent shares of 50% or more. Generating stations not meeting the above criteria regarding plant size and share of other States shall be scheduled by the SLDC of the State in which they are located. However, there may be exceptions for reasons of operational expediency, subject to approval of CERC.

2. In case of a generating station, contracting to supply power only to the State in which it is located, the scheduling, metering and energy accounting shall be carried out by the respective State Load Despatch Centre.

3. The State Load Despatch Centre which is responsible for coordinating the scheduling of a generating station shall also be responsible for (i) real-time monitoring of the station's operation, (ii) checking that there is no gaming in its availability declaration, (iii) revision of availability declaration and injection schedule, (iv) switching instructions, (v) metering and energy accounting, (vi) issuance of UI accounts, (vii) collections/disbursement of UI payments, (viii) outage planning, etc.

4. The Regional grids shall be operated as loose power pools (with decentralized scheduling and dispatch), in which the States shall have full operational autonomy, and SLDCs shall have the total responsibility for (i) scheduling/dispatching their own generation (including generation of their embedded licensees), (ii) regulating the demand of their customers, (iii) scheduling their drawal from the ISGS (within their share in the respective plant's expected capability), (iv) arranging any bilateral interchanges, and (v) regulating their net drawal from the regional grid as per following guidelines.

5. The system of each regional entity shall be treated and operated as a notional control area. The algebraic summation of scheduled drawal from ISGS, long term, medium term and open access shall provide the drawal schedule of each regional entity, and this shall be determined in advance on daily basis. While the regional entities would generally be expected to regulate their generation and/or consumers' load so as to maintain their actual drawal from the regional grid close to the above schedule, a tight control is not mandated. The regional entities may, at their discretion, deviate from the drawal schedule, within the limit specified by the CERC as long as such deviations do not cause system parameters to deteriorate beyond permissible limits and/or do not lead to unacceptable line loading.

6. The above flexibility has been proposed in view of the fact that all States do not have all requisite facilities for minute-to-minute on-line regulation of the actual net drawal from the regional grid. Deviations from net

drawal schedule are however, to be appropriately priced through the Unscheduled Interchange (UI) mechanism.

7. Provided that the States, through their SLDCs, shall always endeavour to restrict their net drawal from the grid to within their respective drawal schedules, whenever the system frequency is below 49.5 Hz. When the frequency falls below 49.2 Hz, requisite load shedding shall be carried out in the concerned State(s) to curtail the over-drawal.

8. The SLDCs/STUs shall regularly carry out the necessary exercises regarding short-term demand estimation for their respective States, to enable them to plan in advance as to how they would meet their consumers' load without overdrawing from the grid.

9. The ISGS shall be responsible for power generation generally according to the daily schedules advised to them by the RLDC on the basis of the requisitions received from the SLDCs, and for proper operation and maintenance of their generating stations, such that these stations achieve the best possible long-term availability and economy.

10. While the ISGS would normally be expected to generate power according to the daily schedules advised to them, it would not be mandatory to follow the schedules tightly. In line with the flexibility allowed to the States, the ISGS may also deviate from the given schedules depending on the plant and system conditions. In particular, they would be allowed/encouraged to generate beyond the given schedule under deficit conditions. Deviations from the ex-power plant generation schedules shall, however, be appropriately priced through the UI mechanism.

11. Provided that when the frequency is higher than 50.3 Hz, the actual net injection shall not exceed the scheduled dispatch for that time block. Also, while the frequency is above 50.3 Hz, the ISGS may (at their discretion) back down without waiting for an advise from RLDC to restrict the frequency rise. When the frequency falls below 49.5 Hz, the generation at all ISGS (except those on peaking duty) shall be maximized, at least upto the level which can be sustained, without waiting for an advise from RLDC.

12. However, notwithstanding the above, the RLDC may direct the SLDCs/ISGS/other regional entities 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 RLDC has some time for analysis, it shall be checked whether the situation has arisen due to deviations from schedules, or due to any power flows pursuant to short-term open access. These shall be

got terminated first, in the above sequence, before an action, which would affect the scheduled supplies from ISGS to the long term customers is initiated.

13. For all outages of generation and transmission system, which may have an effect on the regional grid, all constituents shall cooperate with each other and coordinate their actions through Operational Coordination Committee (OCC) for outages foreseen sufficiently in advance and through RLDC (in all other cases), as per procedures finalized separately by OCC. In particular, outages requiring restriction of ISGS generation and/or restriction of ISGS share which a beneficiary can receive (and which may have a commercial implication) shall be planned carefully to achieve the best optimization.

14. The regional constituents shall enter into separate joint/bilateral agreement(s) to identify the State's shares in ISGS projects (based on the allocations by the Govt. of India, where applicable), scheduled drawal pattern, tariffs, payment terms etc. All such agreements shall be filed with the concerned RLDC(s) and /RPC , Secretariat, for being considered in scheduling and regional energy accounting. Any bilateral agreements between constituents for scheduled interchanges on long-term/short-term basis shall also specify the interchange schedule, which shall be duly filed in advance with the RLDC.

15. All constituents and other regional entities should abide by the concept of frequency-linked load dispatch and pricing of deviations from schedule, i.e., unscheduled interchanges. All generating units of the constituents, their licensees and generating companies and other regional entities should normally be operated according to the standing frequency-linked load dispatch guidelines issued by the RLDC, to the extent possible, unless otherwise advised by the RLDC/SLDC.

16. The ISGS shall make an advance declaration of ex-power plant MW and MWh capabilities foreseen for the next day, i.e., from 0000 hrs to 2400 hrs. During fuel shortage condition, in case of thermal stations, they may specify minimum MW, maximum MW, MWh capability and declaration of fuel shortage. The generating stations shall also declare the possible ramping up / ramping down in a block. In case of a gas turbine generating station or a combined cycle generating station, the generating station shall declare the capacity for units and modules on APM gas, RLNG and liquid fuel separately, and these shall be scheduled separately..

17. While making or revising its declaration of capability, the ISGS shall ensure that the declared capability during peak hours is not less than that during other hours. However, exception to this rule shall be allowed in case of tripping/re-synchronisation of units as a result of forced outage of units.

18. It shall be incumbent upon the ISGS to declare the plant capabilities

faithfully, i.e., according to their best assessment. In case, it is suspected that they have deliberately over/under declared the plant capability contemplating to deviate from the schedules given on the basis of their capability declarations (and thus make money either as undue capacity charge or as the charge for deviations from schedule), the RLDC may ask the ISGS to explain the situation with necessary backup data.

19. The CTU shall install special energy meters on all inter connections between the regional constituents, other regional entities and other identified points for recording of actual net MWh interchanges and MVARh drawals. The installation, operation and maintenance of special energy meters shall be in accordance with Central Electricity Authority (Installation and Operation of Meters) Regulations, 2006. All concerned entities (in whose premises the special energy meters are installed) shall fully cooperate with the CTU/RLDC and extend the necessary assistance by taking weekly meter readings and transmitting them to the RLDC by Tuesday noon.

20. The RLDC shall be responsible for computation of actual net injection / drawal of concerned regional entities, 15 minute-wise, based on the above meter readings. The above data along with the processed data of meters shall be forwarded by the RLDC to the RPC secretariat on a weekly basis by each Thursday noon for the seven day period ending on the previous Sunday midnight, to enable the latter to prepare and issue the Unscheduled inter-change (UI) account. All computations carried out by RLDC shall be open to all regional entities for checking/verifications for a period of 15 days. In case any mistake/omission is detected, the RLDC shall forthwith make a complete check and rectify the same.

21. The ISGS shall be required to demonstrate the declared capability of its generating station as and when asked by the Regional Load Despatch Centre of the region in which the ISGS is situated. In the event of the ISGS failing to demonstrate the declared capability, the capacity charges due to the generator shall be reduced as a measure of penalty.

22. The quantum of penalty for the first mis-declaration for any duration/block in a day shall be the charges corresponding to two days fixed charges. For the second mis-declaration the penalty shall be equivalent to fixed charges for four days and for subsequent mis-declarations, the penalty shall be multiplied in the geometrical progression.

23. The operating log books of the generating station shall be available for review by the Regional Power Committee. These books shall keep record of machine operation and maintenance.

24. Any generation from the generating stations other than hydro generating stations up to 105% of the declared capacity in any time block of 15 minutes and averaging up to 101% of the average declared capacity over a day shall not be construed as gaming, and the generator shall be entitled to UI charges for such excess generation above the scheduled generation (SG).

25. For any generation from the generating stations other than hydro generating stations beyond the prescribed limits, the Regional Load Despatch Centre shall investigate so as to ensure that there is no gaming. Generating stations shall be entitled to recover the Unscheduled Interchange charges only if the investigation establishes that there is no gaming. If gaming is found by the Regional Load Despatch Centre, the corresponding Unscheduled Interchange charges payable to the generating station on account of such extra generation shall be reduced to zero and the amount shall be adjusted in UI pool account of the beneficiaries in the ratio of their capacity share in the generating station.

26. Hydro generating stations are expected to respond to grid frequency changes and inflow fluctuations. The hydro generating stations shall be free to deviate from the given schedule without indulging in gaming and 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 concerned Regional Load Despatch Centre in the day ahead schedule for the 4th day (day plus 3). If gaming is found by the Regional Load Despatch Centre, the corresponding Unscheduled Interchange charges payable to the generating station on account of such extra generation shall be reduced to zero and the amount shall be adjusted in UI pool account of the beneficiaries in the ratio of their capacity share in the generating station.

27. RLDC shall periodically review the actual deviation from the dispatch and net drawal schedules being issued, to check whether any of the constituents and other regional entities are indulging in unfair gaming or collusion. In case any such practice is detected, the matter shall be reported to the Member Secretary, RPC for further investigation/action.

28. NLDC shall be responsible for scheduling and despatch of electricity over inter-regional links in accordance with grid standards specified by the Authority and grid code specified by Central Commission in coordination with Regional Load Despatch Centers. NLDC shall be responsible for coordination with Regional Load Despatch Centers for the energy accounting of inter-regional exchange of power. NLDC shall be responsible for coordination for trans-national exchange of power.

29. NLDC shall develop a procedure for scheduling of inter-regional power exchanges, calculation of available transfer capability and power exchanges of the country with other countries including aspects such as, scheduling and coordination for inter-regional exchanges, allocations across the regional boundaries, scheduling and HVDC setting responsibility, etc

30. In case the State in which an ISGS is located has a predominant share in that ISGS, the concerned parties may mutually agree (for operational convenience) to assign the responsibility of scheduling of the ISGS to the State's LDC. The role of the concerned RLDC, in such a case, shall be limited to consideration of the schedule for inter-State exchange of power on account

of this ISGS while determining the net drawal schedules of the respective states.”

14. Amendment of Chapter 6, clause 6.5

In Chapter 6, clause 6.5 shall be substituted with the following clause:-

“6.5 Scheduling and Dispatch procedure (to be read with provisions of Open Access Regulations 2008)

1. All inter-State generating stations (ISGS), in whose output more than one State has an allocated/contracted share, shall be duly listed. The station capacities and allocated/contracted shares of different beneficiaries shall also be listed out.
2. Each State shall be entitled to a MW dispatch up to (foreseen ex-power plant MW capability for the day) x (State’s share in the station’s capacity) for all such stations. In case of hydro-electric stations, there would also be a limit on daily MWh dispatch equal to (MWh generation capacity for the day)X (State’s share in the station’s capacity).
3. By 9 AM every day, the ISGS shall advise the concerned RLDC, the station-wise ex-power plant MW and MWh capabilities foreseen for the next day, i.e., from 0000 hrs to 2400 hrs of the following day.
4. The above information of the foreseen capabilities of the ISGS and the corresponding MW and MWh entitlements of each State, shall be compiled by the RLDC every day for the next day, and advised to all beneficiaries by 10 AM. The SLDCs shall review it vis-à-vis their foreseen load pattern and their own generating capability including bilateral exchanges, if any, and advise the RLDC by 3 PM their drawal schedule for each of the ISGS in which they have shares, long-term bilateral interchanges, approved short-term bilateral interchanges and composite request for day-ahead open access and scheduling of bilateral interchanges.
5. Scheduling of collective transaction:
 - a. NLDC shall indicate to Power Exchange(s), the list of interfaces/control areas/regional transmission systems on which unconstrained flows are required to be advised by the Power Exchanges(s) to the NLDC. Power Exchange(s) shall furnish the interchange on various interfaces/control areas/regional transmission systems as intimated by NLDC. Power Exchange(s) shall also furnish the information of total drawal and injection in each of the regions. Based on the information furnished by the Power Exchanges, NLDC shall check for congestion. In case of congestion, NLDC shall inform the Exchanges about the period of congestion and the available limit for scheduling of collective

transaction on respective interface/control area/transmission systems during the period of congestion for Scheduling of Collective Transaction through the respective Power Exchange. The limit for scheduling of collective transaction for respective Power Exchange shall be worked out in accordance with CERC directives. Based on the application for scheduling of Collective Transaction submitted by the Power Exchange(s), NLDC shall send the details (Scheduling Request of Collective Transaction) to different RLDCs for final checking and incorporating them in their schedules. After getting confirmation from RLDCs, NLDC shall convey the acceptance of scheduling of collective transaction to Power Exchange(s). RLDCs shall schedule the Collective Transaction at the respective periphery of the Regional Entities.

- b. The individual transactions for State Utilities/intra-State Entities shall be scheduled by the respective SLDCs. Power Exchange(s) shall send the detailed break up of each point of injection and each point of drawal within the State to respective SLDCs after receipt of acceptance from NLDC. Power Exchange(s) shall ensure necessary coordination with SLDCs for scheduling of the transactions.
- c. Timeline for above activities will be as per Procedure for Scheduling of Collective Transaction issued by the CTU or Government Company or authority or corporation operating the RLDCs and NLDC.

6. The SLDCs may also give standing instructions to the RLDC such that the RLDC itself may decide the best drawal schedules for the States.

7. By 6 PM each day, the RLDC shall convey:

(i) The ex-power plant “dispatch schedule” to each of the ISGS, in MW for different hours, for the next day. The summation of the ex-power plant drawal schedules advised by all beneficiaries shall constitute the ex-power plant station-wise dispatch schedule.

(ii) The “net drawal schedule” to each regional entity , in MW for different time block, for the next day. The summation of the station-wise ex-power plant drawal schedules from all ISGS and drawal from regional grid consequent to other long term, medium term and open access transactions , after deducting the transmission losses (estimated), shall constitute the regional entity-wise drawal schedule.

8. 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 indulge in gaming and do not cause a grid constraint. As a result, the actual net energy supply by a hydro generating station over a day shall differ from schedule energy (ex-bus) for that day. A compensation shall then be made by the concerned load dispatch centre in the day ahead schedule for the 4th day (day plus 3).

9. The declaration of the generating capability by ISGS should also include limitation on generation during specific time periods, if any, on account of restriction(s) on water use due to irrigation, drinking water, industrial, environmental considerations etc.

10. The concerned Load Despatch Centre shall periodically check that the generating station is declaring the capacity and energy sincerely, and is not manipulating the declaration with the intent of making undue money through UI.

11. Since variation of generation in run-of-river power stations shall lead to spillage, these shall be treated as must run stations.

12. Run-of-river power station with pondage and storage type power stations are designed to operate during peak hours to meet system peak demand. Maximum capacity of the station declared for the day shall be equal to the installed capacity including overload capability, if any, minus auxiliary consumption, corrected for the reservoir level. The Regional Load Despatch Centers shall ensure that generation schedules of such type of stations are prepared and the stations dispatched for optimum utilization of available hydro energy except in the event of specific system requirements/constraints.

13. The schedule finalized by the concerned load dispatch centre for hydro generating station, 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 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, and 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

$S4 = E4 + (A1 - E1)$, Similarly,
 $S5 = E5 + (A2 - E2)$,
 $S6 = E6 + (A3 - E3)$, $S7 = E7 + (A4 - E4)$, and so on."

14. While finalizing the above daily dispatch schedules for the ISGS, RLDC shall ensure that the same are operationally reasonable, particularly in terms of ramping-up/ramping-down rates and the ratio between minimum and maximum generation levels. A ramping rate of upto 200 MW per hour should generally be acceptable for an ISGS and for a regional constituent (50 MW in NER), except for hydro-electric generating stations which may be able to ramp up/ramp down at a faster rate.

15. The SLDCs/ISGS shall inform any allowable modifications/changes to be made in drawal schedule/foreseen capabilities, if any, to RLDC by 10 PM or preferably earlier.

16. While finalizing the drawal and dispatch schedules as above, the RLDC shall also check that the resulting power flows do not give rise to any transmission constraints. In case any impermissible constraints are foreseen, the RLDC shall moderate the schedules to the required extent, under intimation to the concerned constituents. Any changes in the scheduled quantum of power which are too fast or involve unacceptably large steps, may be converted into suitable ramps by the RLDC.

17. Notwithstanding anything contained in Regulation 6.5(20), in case of forced outage of a unit, the RLDC shall revise the schedules on the basis of revised declared capability. The revised declared capability and the revised schedules shall become effective from the 4th time block, counting the time block in which the revision is advised by the ISGS to be the first one.

18. In the event of bottleneck in evacuation of power due to any constraint, outage, failure or limitation in the transmission system, associated switchyard and substations owned by the Central Transmission Utility or any other transmission licensee involved in inter-state transmission (as certified by the RLDC) necessitating reduction in generation, the RLDC shall revise the schedules which shall become effective from the 4th time block, counting the time block in which the bottleneck in evacuation of power has taken place to be the first one. Also, during the first, second and third time blocks of such an event, the scheduled generation of the ISGS shall be deemed to have been revised to be equal to actual generation, and the scheduled drawals of the beneficiaries shall be deemed to have been revised to be equal to their actual drawals.

19. In case of any grid disturbance, scheduled generation of all the ISGS and scheduled drawal of all the beneficiaries shall be deemed to have been revised to be equal to their actual generation/drawal for all the time blocks affected by the grid disturbance. Certification of grid disturbance and its duration shall be done by the RLDC.

20. Revision of declared capability by the ISGS(s) (except hydro stations) and requisition by beneficiary(ies) 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 time block, counting the time block in which the request for revision has been received in the RLDC to

be the first one.

Provided that RLDC may allow only one revision, 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.

21. If, at any point of time, the RLDC observes that there is need for revision of the schedules in the interest of better system operation, it may do so on its own, and in such cases, the revised schedules shall become effective from the 4th time block, counting the time block in which the revised schedule is issued by the RLDC to be the first one.

22. To discourage frivolous revisions, an RLDC may, at its sole discretion, refuse to accept schedule/capability changes of less than two (2) percent of previous schedule/capability..

23. The Regional Load Despatch Centre shall also formulate the procedure for meeting contingencies both in the long run and in the short run (Daily scheduling).

24. Generation schedules and drawal schedules issued/revised by the Regional Load Despatch Centre shall become effective from designated time block irrespective of communication success.

25. For any revision of scheduled generation, including post facto deemed revision, there shall be a corresponding revision of scheduled drawals of the beneficiaries.

26. A procedure for recording the communication regarding changes to schedules duly taking into account the time factor shall be evolved by the Central Transmission Utility.

27. After the operating day is over at 2400 hours, the schedule finally implemented during the day (taking into account all before-the-fact changes in dispatch schedule of generating stations and drawal schedule of the States) shall be issued by RLDC. These schedules shall be the datum for commercial accounting. The average ex-bus capability for each ISGS shall also be worked out based on all before-the-fact advise to RLDC.

28. Collective Transaction through Power Exchange(s) would normally be curtailed subsequent to the Short Term Bilateral Transaction(s).

29. RLDCs would curtail a Transaction at the periphery of the Regional Entities. SLDC(s) shall further incorporate the inter-se curtailment of intra-State Entities to implement the curtailment.

30. RLDC shall properly document all above information i.e. station-wise

foreseen ex-power plant capabilities advised by the generating stations, the drawal schedules advised by regional entities, all schedules issued by the RLDC, and all revisions/updating of the above.

31. The procedure for scheduling and the final schedules issued by RLDC, shall be open to all constituents and other regional entities for any checking/verification, for a period of 5 days. In case any mistake/omission is detected, the RLDC shall forthwith make a complete check and rectify the same.

32. While availability declaration by ISGS shall have a resolution of one (1) MW and one (1) MWh, all entitlements, requisitions and schedules shall be rounded off to the nearest two decimal at each control area boundary for each of the transaction, to have a resolution of 0.01 MW and 0.01 MWh.”

15. Amendment of Chapter 6, Annexure I in Chapter 6, clause 5

The fourth sentence of clause 5 shall read as under:-

“Payment of UI charges shall have a high priority and the concerned constituents and other regional entities shall pay the indicated amounts within 10 (ten) days of the statement issue into the regional UI pool account operated by the RLDC, provided that the Commission may direct any entity other than RLDC to operate the regional UI pool account.”

16. Amendment of Chapter 6, Annexure I in Chapter 6, clause 6

The second sentence of clause 6 shall read as under:-

“These payments shall also have a high priority and the concerned constituents and other regional entities shall pay the indicated amounts into regional reactive pool account operated by the RLDC within 10 (ten) days of statement issue, provided that the Commission may direct any entity other than RLDC to operate the regional reactive pool account.”

17 Amendment of Chapter 6, Annexure I

In Chapter 6, Annexure-I, following provisions shall be inserted after clause 11:-,

“12. INTERFACES FOR SCHEDULING AND UI ACCOUNTING IN INTER-REGIONAL EXCHANGES:

1. The regional boundaries for scheduling, metering and UI accounting of inter-regional exchanges shall be as follows:

- Eastern Region end of inter-regional links between Eastern Region and Southern, Western and Northern Regions.
- North-eastern end of inter-regional links between Eastern and North Eastern

Region

- Western Region end of inter-regional links between Southern and Western Region
- Western Region end of inter-regional links between and Northern and Western Region.

2.. No attempt shall be made to split the inter-regional schedules into link- wise schedules (where two regions have two or more interconnections).”

18. Omission of Annexure 2 of Chapter 6

Annexure-2 of Chapter 6 of IEGC shall be omitted.

19. Omission of Chapter 7

Chapter 7 of IEGC shall be omitted.

Sd/=
(Alok Kumar)
Secretary