

RPAO

Maharashtra State Electricity Distribution Co. Ltd.

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Ref. No: CE/PP/Comments on IEGC/

0 2 0 2 9 0

Date: 19 JUL 2019

To,

✓ The Chief Engineer, Member Convener,
Central Electricity Regulatory Commission
3rd & 4th Floor, Chanderlok Building,
36, Janpath,
New Delhi – 110 001.

Subject: Comments/suggestions for Expert Group to review “Indian Electricity Grid Code and other related issues”

Kind Attention Mr. S.C. Shrivastava,

*CE,
Member
Convener.*

Reference: ENGG/2012/1/2019-CERC dated 21.06.2019

Sir,


This has reference to above cited subject, please find attached herewith MSEDCL's comments/suggestions for Expert Group to review “Indian Electricity Grid Code and other related issues”.

This may please be taken on record & be placed before Expert Group for kind consideration please.

Thanking You.

Yours faithfully,

Encl: A/A


Chief Engineer (Power Purchase)
MSEDCL

Comments/suggestions for Expert Group to review "Indian Electricity Grid Code and other related issues"

- **Need for downward/upward revision in STOA transaction in real time basis:**

The Hon'ble Commission want to maintain the frequency closer to 50Hz & accordingly many new concepts are implemented (like RRAS, AGC, 4th & 5th DSM Regulation etc) and are also in pipeline (like Draft Real time market concept, draft five minute scheduling etc.). These are really welcome steps taken/being taken by Hon'ble commission. In this concept, in order to have flexibility in generation availability, provision for downward revision in STOA transaction need to be modified.

As per present regulation, downward revision for generator in event of tripping of units is governed by regulation 6.5 of CERC (IEGC-2010). However if buyer want to have downward revision, as per provisions in present regulation (clause 1 of Regulation 14 of CERC Open access regulation), downward revision in case of STOA are accepted in case of FCFS & advanced STOA application only. Also the downward revision is effected only after expiry of minimum period of 2 days only. The revision in case STOA transaction shall also need to be revised as per provision stipulated in sub clause 18 of clause 5 of Regulation 6 of IEGC-2010. This will give additional flexibility to system operator.

Presently, at intra state level in Maharashtra, STOA transactions are also under MOD concept, provided STOA is more than 50MW and subject to technical minimum constraint. Accordingly backdown of STOA powers are done.

Suggestion: Provision for downward/upward revision in STOA power shall made for increasing flexibility in real time operation.

- **Burden of Capacity charges on beneficiaries for RGMO compliance of Generators:**

As per SOR of 5th Amendment of IEGC 2010, RLDC is presently allowing Generators to declare two DC, viz Seller DC and On bar DC. The Seller DC is higher than on bar DC and difference between seller DC and on-bar DC is used as a margin for RGMO operation by generators. Although buyer receives power limited to Entitlement (which is based on on-bar DC), but liable to pay fix charges based on Seller DC declared by generators. Hence on one hand buyer receives less power but need to pay fixed cost for higher power. This is unnecessarily increasing power purchase cost of

DISCOMs/beneficiaries. Further, it is also observed that many ISGS generators not providing RGMO response at every time.

Suggestions: Following are two suggestions proposed to address the issue

- 1) Since RGMO is for system security purpose, the fixed charges for capacity reserve for RGMO provision shall be paid from DSM pool, as in case of RRAS where fixed charges are paid to concern beneficiaries whose surplus is used for system & generator gets paid for variable cost .
- 2) Secondly whenever Generators fails to give RGMO response, the said capacity charges shall be borned by concerned generator for said time blocks.

- **Scope of IEGC Regulations need to be made applicable on InSGS generating plant :**

Presently as per regulation 4.3 of IEGC-2010, connection code does not apply to generating units, transmission/distribution system embedded in intra state system, and not connected to ISTS. In case of states where State Grid code is not available, exclusion of Intra generating units, transmission/distribution system embedded in intra state system and not connected to ISTS will not mandate generators to follow some of important clauses of IEGC. In case of Communication regulation framed by Hon'ble CERC, it is mentioned that till respective State commission frame any regulation on Communication, the CERC communication Regulation shall be applicable.

Suggestion: On the similar line of CERC Communication Regulation, if any State does not have State Grid code in place, the IEGC regulation shall be made applicable for such states.

- **Need for declaration of capacity on basis of both fuel & Water stock:**

As per regulation 6.4.16 of IEGC-2010, it is mentioned that ISGS shall make an advance declaration of ex-power plant MW and MWh capabilities foreseen for the next day; i.e. from 00.00 hrs to 2400 hrs. During shortage condition, in case of thermal stations, they may specify minimum MW, maximum MW, MWh capability and declaration of fuel shortage.

It is observed in case of some of generators; particularly InSGS that generators are revising its DC several times in a day on reason like Improvement in coal Quality (ICQ) and Poor coal quality (PCQ). This makes it difficult for proper power planning. Further it is also observed in case of one of the generator that the generator was informing its

availability full but due to non requirement, MSEDCL issued zero schedule (RSD) to that unit. However when schedule was given to generator, it reduces the DC. Moreover within next two days, generator withdrawn its unit on water shortage. This is clear case of misdeclaration from generator but being there is not regulatory provision to declare availability on basis of fuel & water, there is a scope for generator to take undue advantage. This issue was taken up with State commission & now it is mandatory for InSGS to declare availability taking into account availability of fuel & water and shall provide said information alongwith ex-power plant declaration.

Suggestion: In case of ISGS also such type of provision shall be incorporated in Regulation.

- **Burden of deemed availability of fix charges of generator in case of bottleneck in evacuation on beneficiaries**

The clause 6.5.14 of IEGC 2010 states that

“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 drawls of the beneficiaries shall be deemed to have been revised accordingly.”

In such event of bottleneck in evacuation of power, although generator schedule is revised to actual generation but DC remains same as declared by generator. And in such case, buyer needs to pay full capacity charges irrespective of fact that buyer due to said constraint unable to receive its requisite power. For example if buyer Entitlement is 500MW & its schedule is 500MW but due to constraint, schedule revised to say 250MW. In such case, considering deem availability of generator, buyer is liable to pay capacity charges for 500MW. This is unnecessarily burdening beneficiaries with fix cost. Moreover, in order to meet the demand, DISCOM left with following options

- 1. To schedule costly power
- 2. To schedule Hydro generation which is particularly reserved for peak demand
- 3. To curtail load

Under any of the above option, DISCOM is unnecessarily being burdened, even though not at fault.

Suggestion: To avoid burden of such capacity charges on buyer & ultimately on its consumers in the event of bottleneck in power evacuation, it is suggested that concern transmission licensee responsible for bottleneck in evacuation of power shall pay such charge.

- **Need for fixing norm for coal stock to be considered as Fuel shortage:**

The clause 6.5.21 of IEGC 2010 state that

“The schedule of thermal generating stations indicating fuel shortage while intimating the declared capacity to RLDC shall not be revised in case of forced outage of generating unit”

However, presently there is no norm fixed in any regulation which will indicate particular coal stock as fuel shortage. During last two years, many generating units were closed for coal shortage but there was no information in declaration whether generator has given its Ex plant availability under fuel shortage.

Suggestion: Norms needs to be fixed for coal stock which shall be considered as fuel shortage. The status of DC declared under fuel shortage needs to be available on Web based scheduling portal of RLDC.

- **Reducing revision time from present 4th time block to 2nd or 3rd time block:**

At present, the revision in schedule is effected after 4th time block, counting the first time block in which revision has been given. However in case of RRAS as well as FRAS, the schedule revision becomes effective from immediate time block in which RRAS signal is triggered. This helps system operator to bring system frequency within IEGC band & also helps in relieving congestion in line.

Presently, at State level also, any change in schedule revision takes place from immediate time block in respect of all Intra State entities.

Suggestion: To bring system frequency close to 50HZ, time period for revision shall be reduced i.e from present 4th time block to 2nd or 3rd time block. However in order to have control on numbers of revisions, restrictions can be imposed on number of revisions likewise restrictions in revision of Wind/Solar generators.

- **Need of provision for mandatory Spinning reserve to be kept by DISCOM:**

Presently definition of spinning reserve has been included in IEGC, but as mentioned in SOR of 5th amendment of IEGC, the *Detailed Procedure for implementation of Spinning Reserve* is yet to be published. The same needs to be published at earliest.

Further the regulation only specify spinning reserve to be maintained by generator but no specific clause on spinning reserve to be maintained by individual drawy entity.

Report of the Committee on Spinning Reserve dated 17 Sep 2018 is attached as **Annexure 1.**

Suggestion: It is necessary that regulation shall also mandate spinning reserve for each drawy entity (irrespective of whether said drawy entity is regional Entity or state Entity). This will help system operator as well as concern DISCOM to meet any eventuality in availability without overdrawing from grid. The said spinning reserve shall be based on peak demand and allowable Deviation limit of individual entity.

- **Strict Enforcement of primary response by generators :**

The primary spinning reserve which is required to be maintained by generator in term of RGMO is still to be complied by many generators. Regulation 5.2(i) of IEGC 2010 mandate generator for RGMO. However, till date said provision is still violated by many generators connected to grid. There is provision for penal actions for Non-compliance of FGMO/RGMO provision. Generator is liable for penal actions under Section 142 / reduction of 1% on RoE. Further, there is also provision under regulation 5.2(h) that *“any generator unit not complying with RGMO shall be kept in operation (synchronised with regional grid) only after obtaining the permission of RLDC”*. But even after non-compliance of said provision, initiation of action by RLDC on any of the generator is not in notice.

Since action is not initiated, many generators are still under non-compliance. Also, as there is no provision of monetary incentive for RGMO, many generators are under non-compliance for RGMO. Hence monetary penalty need to be introduced so that as per expert committee report on "Spinning reserve in India" primary reserve of 4000MW can be obtained from RGMO. The energy injected into grid in response to RGMO, is compensated through DSM charges and its fix charges are presently being borne by beneficiaries.

The issue was discussed in various Western Region OCC meetings during last two years. Report of WRLDC presented in 494th & 517th OCC meetings on response of generator for RGMO are attached for reference as Annexure 2. The expert committee report on spinning reserve has also recommended (21.5, page 51) that Primary reserves of 4000 MW would be maintained on an All India basis considering 4000 MW generation outage as a credible contingency. The same would be provided by generating units in line with the IEGC provisions.

Suggestion: It is to be made mandatory for every generator connected with grid to follow the regulation framed in the interest of system security. Action needs to be initiated on Generators not complying with RGMO response.

- **Need to remove/reduce mark up incentive to generators for secondary & tertiary reserve:**

Generator are being incentivised for secondary & Tertiary reserve by commission. As regarding secondary reserve, AGC /FRAS has been introduced wherein generator get incentivised by way of mark up. Similarly in Tertiary reserve, RRAS has been introduced wherein generator get incentivised by way of mark up. The methodology of mark up is different in both mechanisms.

Suggestion: Although the mark up is being given from regional DSM pool account, if generators are incentivised heavily by such mark up, the ultimate result will be burden on DSM pool and amount available for PSDF & thereby for system improvement work will be reduced by amount of mark up paid. Such mark up will only increase the profit of generator and in long run, no much benefit to system. Hence it is suggested that mark up shall either be stopped or shall be nominal.

- **COD procedure for Renewable energy generators:**

At present, the procedure to be adopted for declaration of COD (Commercial Operation date) of Thermal & Hydro station is given in 4th amendment of IEGC. But no procedure has been given for declaration of COD in respect of Renewable Generating plant. The GoI has ambitious plan of 175GW RE generation by 2020 but in absence of any COD declaration procedure, there is no standard methodology being adopted.

Suggestion: Standard methodology for COD is necessary to ascertain various system security measures taken by concern Renewable generator like LVRT compliance by Wind generators etc. The COD procedure shall also include other Renewable generators connected to grid like battery Storage system, pumped storage Hydro station, bagase, biomass etc.

- **Suggestions on Draft Operating Procedure on Reserve Shutdown:**

1. The Hon'ble commission has approved Detailed Operating Procedure for taking units under Reserve Shut Down which NLDC framed as directed under Regulation 6.3B.6 and 6.3B.7 of IEGC-2010. As per clause 5.7 of said DOP for taking unit under RSD, the concern RLDC have been vested with power to suo-moto revise the schedule of any generating station as per clauses 6.5.14 and 6.5.20 of IEGC to operate at or above technical minimum in the ratio of under-requisitioned quantum (with respect to technical minimum) in the interest of smooth system operation under the specified conditions mentioned in said procedure. But there is no specific para given in said procedure wherein it is mandatory to RLDC to inform all beneficiaries regarding the clause under which the decision is taken by RLDC to either suo-moto revise the schedule or take unit under RSD. In case RLDC exercises power under clause 5.7 of Detailed Operating Procedure for taking units under Reserve Shut Down, concerned RLDC shall intimate beneficiaries about same with reason. If unit is withdrawn under RSD, then in this case any beneficiaries who is/are ready to take its full own share to support technical minimum shall not be liable for compensation payable to generator for more than 7 start up. The reason is that though beneficiary was ready to take its own share but unit declared under RSD due to less/no schedule from remaining beneficiaries.

2. It was noticed by MSEDCL that unit was withdrawn for forced outage & then after completion of required maintenance work, concerned generator instead of taking unit on-bar, declared unit under RSD. There is no clarification in this respect in present methodology in case of unit withdrawn under forced outage. It is suggested that in case of withdrawal of any unit under forced outage, concerned generator should intimate its availability after completion of work to its beneficiaries as well as RLDC. After intimation of technical availability, if any of beneficiary gives consent for taking its own share to run said unit atleast upto technical minimum, then while computation of compensation after 7 start up, concerned beneficiary should not be made liable for compensation, as he was ready to take its own share but generator did not take unit on bar due to no support from other beneficiaries.
3. While computation of total scheduled energy of any of beneficiaries for calculation of Compensation for degradation of Heat Rate (SHR) and Auxiliary Energy Consumption (AEC), actual sale in bilateral sale/collective sale from its own share in station against quantum consented by said beneficiary shall be added in concerned beneficiary's actual schedule from said station. For example, against 100MW entitlement given by generator, beneficiary given consent for sale of 80MW under IEX & actual sale in IEX is only 40MW, then this 40MW shall be added in actual schedule of said station for respective time blocks. Similarly if consent for sale through bilateral sale/collective is given by one or more beneficiaries to generator from its own share & actual sale is less than consented, then schedule against IEX sale shall be considered on prorata basis.
4. In present mechanism, as per clause 4.1 , sub clause (xiv) (b), "*the compensation amongst other beneficiaries shall be shared in the ratio of un-requisitioned energy below 85% of their entitlement*". It is suggested that instead of taking entitlement which include DC under RSD, sharing of compensation should be in ratio of scheduled energy to total ON BAR DC. The main reason for same is that even though one/more beneficiary are ready to take its own share but generator unable to take unit on bar due to constraint of technical minimum schedule. Such beneficiary/ies should not be burden with compensation on account of less/no schedule from other beneficiaries causing unit to be taken under RSD. Hence instead of taking cumulative entitlement (which is sum of ON Bar & OFF Bar DC), only ON Bar DC should be considered which is consider while computing total compensation on account of partial loading of station.

5. As per provision in fourth amendment of IEGC, clause 6.3B, sub clauses 3 (i) it is mentioned that in case of coal / lignite based generating stations, following station heat rate degradation or actual heat rate, whichever is lower, shall be considered for the purpose of compensation:

S. No.	Unit loading as a % of Installed Capacity of the Unit	Increase in SHR (for supercritical units) (%)	Increase in SHR (for sub-critical units) (%)
1	85-100	Nil	Nil
2	75-84.99	1.25	2.25
3	65-74.99	2	4
4	55-64.99	3	6

It is necessary that while computing compensation, if actual heat rate is lower than given in above table, then actual heat rate should be used instead of calculated heat rate based on above values.

ANNEXURE - I

REPORT OF

THE COMMITTEE ON SPINNING RESERVE



September 17, 2015

CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI

023

Chapter – V

Recommendations

21. Conclusions

21.1 Spinning Reserves required to be maintained of requisite quantum depending upon the grid conditions. Operation at constant frequency target of 50.0 Hz with constant area Interchange would be the philosophy adopted.

21.2 Definition of Spinning Reserve in IEGC to be modified with following:

"The spinning reserve means "the capacity which can be activated on decision of the system operator and which is provided by devices which are synchronized to the network and able to effect the change in active power."

21.3 The spinning Reserve may be maintained, to start with at the regional level.

21.4 The respective RLDC shall be the Nodal agency at the regional level and NLDC at the country level.

21.5 Each region should maintain secondary reserve corresponding to the largest unit size in the region and Tertiary reserves should be maintained in a de-centralized fashion by each state control area for at least 50% of the largest generating unit available in the state control area. This would mean secondary reserves of 1000 MW in Southern region; 800 MW in Western regions; 800 MW in Northern region; 660 MW in Eastern region and 363MW in north-eastern region. (total approx. 3600 MW on an All India basis). Primary reserves of 4000 MW would be maintained on an All India basis considering 4000 MW generation outage as a credible contingency. The same would be provided by generating units in line with the IEGC provisions.

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21.6 The reserve requirement may be estimated by the nodal agency on day ahead basis along with day ahead scheduling of all available generating stations.

21.7 Implementation of AGC is necessary along with reliable telemetry and communication. **The AGC may be planned to be operationalised in the power system from 1.4.2017.**

21.8 It is essential that load forecasting is done at each discom level, at each SLDC/State level and each RLDC/Regional level and finally at NLDC/country level.

21.9 It is also essential to forecast the generation from renewable sources of energy by the generators, by the discoms, by the SLDcs and by the RLDCs.

21.10. **To start with a regulated framework in line with the Ancillary Services Regulations may be evolved for identification and utilising of spinning reserves and implemented with effect from 1.4.2016. This framework may continue till 31.3.2017.**

21.11 The reserve at the regional level, shall be assigned to specific identified generating station or stations duly considering the various technical and commercial considerations including energy charges of the generating stations. The nodal agency should be empowered to identify the ISGS irrespective of type and size of the generating station for providing spinning reserve services and it should be mandatory for such generating stations to provide spinning reserve services.

21.12 The nodal agency may have the option of carrying such reserves on one or more plants on technical and commercial considerations and may withhold a part of declared capacity on such plants from scheduling. It could be in terms of % of declared capacity or in MW term as deemed fit.

21.13 A framework as specified in the Central Electricity Regulatory Commission (Ancillary Services Operations) Regulations, 2015 may be followed for the Spinning Reserve Services as well. The Central Electricity Regulatory Commission (Ancillary Services Operations) Regulations, 2015 may be amended to incorporate the necessary changes in this regard.

21.14 Going forward, a market based frame work may be put in place from 1st April 2017 for achieving greater economy and efficiency in the system A detailed study is required to be carried out before the market mechanism on spinning reserves is put in place. It is suggested that the NLDC be directed to commission study through a consultant in the context and submit a proposal to the Commission for approval.



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Government of India
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
पश्चिम क्षेत्रीय विद्युत समिति

Western Regional Power Committee

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आई एस ओ : 9001-2008
ISO: 9001-2008

सं: पक्षेविस/प्रचा. / प्रसस-कार्यवृत्त /2017-18/ 493 दिनांक 12/4/2017

सेवा में.

विषय:- प.क्षे.वि.समिति, मुंबई की प्रचालन एवं समन्वय समिति की 494 वीं बैठक का कार्यवृत्त।

महोदय,

पश्चिम क्षेत्रीय विद्युत समिति, मुंबई की प्रचालन एवं समन्वय समिति की दिनांक 12.04.2017 को WRPC, MUMBAI में आयोजित 494 वीं बैठक का कार्यवृत्त आपकी सूचनार्थ संलग्न है।

धन्यवाद।

भवदीय,

संलग्न : उपरोक्तानुसार

सत्यनारायण एस

(सत्यनारायण एस)
अधीक्षण अभियंता (प्रचालन)

SLDC, MP were requested to give full support for protection coordination at both ends and PLCC panel shifting.

The Sub-Committee noted as above.

6. FREQUENCY RESPONSE CHARACTERISTICS

With the help of SCADA data the frequency response characteristics of region/states and generating units are being evaluated by WRLDC for grid events involving generation/load loss that cause sharp variations in grid frequency. Based on past four events average response of generators has been evaluated

It may be inferred from the response that

- a. Response of NTPC Mouda was consistently above 60%. The average response was 85 %.
- b. Average response of MB Power, Lanco, Essar Mahan, Sipat-II, Korba-II, JPL Tamnar, VSTPS-IV, APML Tiroda and NSPCL was in the range of 10 – 20 %.
- c. The response of all the other stations was either zero or between 0-10 %.

Generating stations and States may apprise the following to OCC

1. NTPC Mouda whose response is consistently above may share the details of FGMO/RGMO logic implemented and df/dt measurement etc, for the benefit of total western region. The details may be shared to OCC forum through small presentation.
2. All other generating stations whose response is poor/inadequate may share the same details (the details of FGMO/RGMO logic implemented and df/dt measurement etc.) and issues faced in FGMO/RGMO implementation.
3. All SLDCs are requested to analyse the performance of State generators & observations may be presented.

WRLDC expressed very serious concern w.r.t poor frequency response of WR utilities for grid events involving generation/load loss more than 1000 MW which caused sharp variation in frequency.

GM, WRLDC informed the forum that, enough time have been given to all utilities of WR for complying the CERC order on Frequency response. But there is not much tangible results achieved in frequency response which is less than 10% for most of the stations and even ZERO response for some of the units. In view of this, WRLDC has no option left except filing the petition before Honble CERC. There would be no further discussion on technical and

commercial constraints of the generating stations in compliance of CERC order which has clearly mandated the stations to ensure compliance to the IEGC provisions in respect of primary response.

Member Secretary, WRPC directed all generators to participate in frequency control which is regulatory requirement for grid security. He directed that a final letter may be issued by WRLDC with a cut-off date to all concern generators.

The Sub-Committee noted as above.

7. EXTENSION OF RGMO STATUS TO SLDC / WRLDC

Generating stations whose signal integration is still pending and stations from whom no response has been received so far are tabulated below.

S.No	Station	Current Status	Remarks
1	TRN Energy	Pending	RGMO Not Commissioned
2	GMR Warora	Pending	Reply awaited from Station
3	GMR Chhattisgarh	Pending	Reply awaited from Station
4	MCCPL	Pending	Reply awaited from Station
5	MB Power	Pending	Reply awaited from Station
6	Mouda	Pending	Reply awaited from Station
7	KSTPS U#1 & U#7	Pending	Reply awaited from Station
8	BALCO	Pending	Extended date of Integration April 1 st week
9	JP Nigrie	Pending	Proposed date of testing 5 April 17
10	VSTPS U#1-10	Pending	Wiring completed by NTPC, Signal integration in RTU by POWERGRID

Generating stations TRN Energy, GMR Warora, GMR Chhattisgarh, MCCPL, MB Power, Mouda, KSTPS and VSTPS to give the plan for integrating RGMO status in WRLDC.

State SLDCs may update the current status of mapping of RGMO signals of State generators in SLDC SCADA.

AGM WRLDC stated that in line with IEGC 5.2 compliance, it is essential to monitor RGMO status at SLDC/RLDC. The unit wise status of RGMO at ISGS needs to be telemetered. So far 49 units from 18 generating stations have been wired in WRLDC SCADA.

RGMO DISPLAY 05-Apr-2017 21:23:33

NAME	UNIT	RGMO	NAME	UNIT	RGMO	NAME	UNIT	RGMO	NAME	UNIT	RGMO
CGPL U10	IN	●	JPL TAMNAR U1	OUT	●	SIPAT U1	IN	●	MAHAN U1	IN	●
CGPL U20	IN	●	JPL TAMNAR U2	IN	●	SIPAT U2	IN	●	DB PWR U1	IN	●
CGPL U30	IN	●	JPL TAMNAR U3	OUT	●	SIPAT U3	IN	●	DB PWR U2	IN	●
CGPL U40	IN	●	JPL TAMNAR U4	OUT	●	SIPAT U4	IN	●	NSPCL U1	OUT	●
CGPL U50	IN	●	JHABUA U1	IN	●	SIPAT U5	IN	●	NSPCL U2	OUT	●
VSTPS U11	IN	●	SOLPR NTPC U1	OUT	●	SASAN U1	IN	●	KSTPS U2	IN	●
VSTPS U12	OUT	●	VSTPS U13	IN	●	SASAN U2	IN	●	KSTPS U3	IN	●
LANCO U1	IN	●	SKS U2	OUT	●	SASAN U3	IN	●	KSTPS U4	IN	●
LANCO U2	IN	●	JPL U1	IN	●	SASAN U4	IN	●	KSTPS U5	IN	●
DHRWL U1	IN	●	JPL U2	IN	●	SASAN U5	IN	●	KSTPS U6	IN	●
DHRWL U2		●	JPL U3	IN	●	SASAN U6	IN	●			
KSK U1	IN	●	JPL U4	IN	●	RKM U1	IN	●			
KSK U2	IN	●	KWFCL U1	IN	●	RKM U2	IN	●			

Member Secretary, WRPC appreciated the efforts of WRLDC to make the visibility of RGMO position at control centre and requested all generators for taking faster action to wire the 100 % status of RGMO at WRLDC SCADA.

The Sub-Committee noted as above.

8. TELEMETRY ISSUES

Telemetry issues are being taken up regularly in OCCM. In the month of March, 17 due to intermittency of data from following nodes problems were faced in computation of drawl calculations and impeding suggestable measures for better system operation. Utilities may apprise OCC, actions being taken for ensuring consistency of data during n-1 of communication channel upto WRLDC.



भारत सरकार
Government of India
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
पश्चिम क्षेत्रीय विद्युत समिति



Annexure
-2B

Western Regional Power Committee
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सं. : पक्षेविस /प्रचा./प्रसस-कार्यवृत्त/2019 **3 5 8** ~~3 5 8~~

दिनांक: **29 MAR 2019**

सेवा में,

सूची के अनुसार

विषय: पश्चिम क्षेत्रीय विद्युत समिति की प्रचालन एवं समन्वय समिति की 517 वीं बैठक का कार्यवृत्त ।

महोदय,

पश्चिम क्षेत्रीय विद्युत समिति की प्रचालन एवं समन्वय समिति की दिनांक 13 मार्च 2019 को मुंबई में आयोजित 517 वीं बैठक का कार्यवृत्त आपकी सूचनार्थ संलग्न है ।

धन्यवाद ।

संलग्न:- उपरोक्तानुसार

भवदीय,

29/03/19
(जे.के. राठोड)

अधीक्षण अभियंता (प्रचा.)

■ WRLDC Agenda Items

9.1 Primary Frequency Response

The average primary response of generators for last three events are shown below.

S.No	Generator/Station	Event-33	Event-34	Event-35	Average Response as % of Ideal
		NR-1400	NR-960	NR-900	
		16-01-19 12:26:00	23-01-19 06:37:10	05-02-19 11:57:10	
		49.97	49.96	50.13	
		49.92	49.92	50.16	
		-0.05	-0.04	0.03	
1	VSTPS-III(2x500)	0%	178%	120%	99%
2	KSTPS-II(3x500)	19%	101%	114%	78%
3	KSTPS-I (3x200)	70%	41%	120%	77%
4	KSTPS-III(1x500)	40%	110%	70%	73%
5	SIPAT-I(3x660)	71%	19%	121%	70%
6	MB Power(2x600)	47%	100%	49%	65%
7	DB Power(2x600)	51%	120%	7%	59%
8	SASAN(6x660)	47%	0%	121%	56%
9	Essar Mahan(2x600)	82%	34%	51%	56%
10	Lanco (2x300)	16%	25%	120%	54%
11	APML Tiroda(5x660)	23%	41%	86%	50%
12	VSTPS-IV(2x500)	0%	120%	20%	46%
13	Mouda-I(2x500)	119%	0%	11%	43%
14	Mouda-II (2x660)	53%	0%	59%	37%
15	JPL I (4x250)	73%	0%	36%	37%
16	JPL Tamnar (Stage II)(4x600)	0%	5%	95%	33%

17	Balco (4x300)	28%	0%	64%	30%
18	CGPL(5x830)	47%	40%	0%	29%
19	KSK(3x600)	5%	22%	20%	16%
20	VSTPS-II(2x500)	0%	0%	40%	13%
21	SIPAT-II(2x500)	0%	0%	30%	10%
22	JP NIGRIE(2x600)	0%	9%	0%	3%
23	VSTPS-I (6x210)	0%	0%	0%	0%
24	GMR Raipur(2x685)	0%	0%	0%	0%
25	TRN (2x300)	0%	0%	0%	0%
26	Jhabua (1x600)	0%	0%	0%	0%

Data non-current/Zero Generation

Based on the “report of expert group to review and suggest measures for bringing power system operation closer to national reference frequency”, the minimum frequency response expected is at least 40% of ideal response.

Hon’ble CERC notified Terms and Conditions of Tariff Regulations, 2019 on 7 Mar 19 and these regulations shall come into force on 1.4.2019. Clause no 30.2.i & 30.2.ii related to RGMO or FGMO are quoted below

Quote

- *In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch center or protection system based on the report submitted by the respective RLDC.*
- *in case of existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues.*

Unquote