

**Central Electricity Regulatory Commission
(Engineering Division)**

Explanatory Memorandum

20.02.2014

1. In terms of Regulation 8 (7) of the CERC (Grant of Connectivity and related matters), Regulations, 2009 as amended vide notification dated 21.3.2012, the CTU had issued a detailed procedure for grant of connectivity duly approved by the Commission vide order dated 21.12.2009. The above procedure provides that a generating station can draw start up power as Unscheduled Interchange (UI). The generating stations connected to the ISTS were drawing power under UI mechanism for their commissioning activities. The Commission has, in the order dated 2.11.2012 in Petition No. 117/MP/2012 held as under:

"14. The other question for our consideration is the drawl of power from the grid under UI during testing and commissioning by the generating station. We have noted from the submission of SRPC that the petitioner was granted permission to avail start-up power till 30.04.2012 in accordance with clause 6(2) of the approved procedure under Connectivity Regulations. The said provision is extracted a sunder:

"However, generating station, including captive generating plant which has been granted connectivity to the grid shall be allowed to undertake interchange of power including drawl of power for commissioning activities and injection of infirm power into the grid during full load testing before being put into commercial operation even before availing any type of open access after obtaining permission of the concerned Regional Load Dispatch Centre, which shall keep grid security in view while granting such permission. This infirm power from a generating station or a unit thereof, other than those based on non-conventional energy sources, the tariff for which is determined by the Commission, will be governed by the Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2009. The power injected into the grid from other generating stations during such testing shall also be charged at UI rates."

It is observed that the Connectivity Regulations do not provide for drawl of power under the UI during testing and commissioning. The detailed procedure which has been issued under the Connectivity Regulations to facilitate implementation of the regulations cannot travel beyond the scope of the regulations to allow drawl of start-up

power under the UI. Moreover, UI by its very nature is deviation from schedule and cannot be conferred the status of scheduled power for the purpose of commissioning and testing. Since these events are planned in advance, the generators should arrange for power for this purpose through some form of access. In that view of the matter, we had directed the petitioner in the Record of Proceedings dated 26.04.2012 to make arrangement for start – up power through some form of access. The petitioner has arranged start-up power from TANGEDCO as a HT power consumer but has stated that the power is costlier than the UI power. We are not inclined to reconsider our directions in respect of drawl of the commissioning power. This will not only be applicable in case of the petitioner, it will be applicable in case of all generators. Accordingly, we direct that the word. "Including drawl of power for commissioning activities" in clause 6.2 of the detailed procedure shall stand deleted with immediate effect. However, the cases of the generators which have drawn power from the grid under the UI prior to the issue of this order shall not be reopened.

15. We are aware that the Commission in the Statement of Reasons to the amendment dated 07.01.2008 to the Central Electricity Regulatory Commission (Terms of Conditions of Tariff) regulations, 2004 (2004 Tariff Regulations) had observed that a generating station should be allowed to draw power under UI from the first synchronization till commercial operation. The relevant observation is extracted as under:

"10. Power Grid Corporation of India Ltd. has further suggested as follows:-

"In case of a first generating unit in a new power station, there could be situations when the generator draws auxiliary supply from the grid on a net basis when the unit is out. Such drawals also need to be charged at UI rates if this amendment comes into force. For the period of construction to the first synchronization of unit, the generator could have any arrangement either through Short Term Open Access (STOA) or through the retail supplier for the area. From the period of first synchronization to commercial operation the arrangement needs to be only UI rates to avoid any accounting complications."

It is to be noted that the 2004 Tariff Regulations was valid till 31.03.2009. There is no provision in the 2009 Tariff Regulations or the UI Regulations or Connectivity Regulations which allow a generator to avail start-up power under UI from the date of first synchronization till the date of commercial operation. As already observed, the provision in the detailed procedure cannot enlarge the scope of the regulations and accordingly, we have directed for deletion of the said provision from the detailed procedure. However, if a provision is required to be made for drawl of start-up power under UI, it should be done through an

amendment to the Connectivity Regulation after taking into account all relevant factors including grid security. We direct the staff to examine the issue whether UI power should be allowed to be drawn by the generators during commissioning and testing without jeopardizing grid security, how such drawl of power can be regulated by the RLDCs, the duration for which such drawl shall be allowed and the rate at which such UI power can be drawn and submit for consideration of the Commission."

2. In compliance to the above order of the Commission, respective RLDCs advised all ISGS in their region to draw start up power from the grid only after taking some type of open access. This put into difficulty the generating stations which were in advanced stage of commissioning. Two generating companies namely EMCO Energy Ltd and KSK Mahanadi Power Co. Ltd. filed Petition No. 259/MP/2012 and Review Petition No. 27/RP/2012 seeking relief under the specific difficulty being faced by them. The Commission vide order dated 7.12.2012 in above petitions ordered as follows:

"8. We have considered the issues raised in the petitions. The Commission in its order dated 2.11.2012 in Petition No.117/MP/2012 had directed to delete the words "including drawl of power for commissioning activities" in clause 6.2 of the Detailed Procedure issued under Connectivity Regulations, as the same was not in conformity with the provisions of Connectivity Regulations. At the same time, the Commission had directed the staff to examine the issue of making provision for drawl of start-up power under UI in the Connectivity Regulations through proper amendment. On account of the above decision, a number of generators, who had arranged their affairs to conduct testing and commissioning by drawing UI power from the grid, are facing difficulties to arrange power for these activities through some form of access at such short notice, affecting their schedules for completion of testing and commissioning activities. Considering the fact that a generic issue of drawal of start-up power for testing and commissioning activities affecting the generating stations is involved, we admit the petitions and issue of notice to the respondents. The respondents shall file their replies to the petitions by 30.12.2012. Rejoinders if any shall be filed by 10.1.2013.

9. As an interim measure, we direct that pending consideration of the issue raised in these petitions, concerned RLDCs shall permit the Petitioner and the Review Petitioner and similarly placed generators including the petitioner in Petition No.117/MP/2011 to draw power from the grid under UI for testing and commissioning

activities, subject to fulfillment of the requirements of grid security and compliance of the directions of RLDCs, till further order."

3. The representative of NTPC who was present during the hearing of Petition No 259/MP/2012 submitted that NTPC is also facing similar difficulties in respect of its generating stations under commissioning such as Mauda, Barh-II etc. He also submitted that most tariff orders issued by State Commissions do not have a category of consumers for supply at 220 kV/400 kV voltage level and therefore, for enabling the generating stations to draw start-up power as a consumer at 220 kV/400 kV from the state system, a separate category of consumers would need to be created by the concerned State Commission which may take time. He further submitted that as the drawl would be through the transmission systems of CTU or inter-State transmission licensees, open access and energy accounting issues would also need to be settled which may take time and may delay the commissioning activities.

4. Appellate Tribunal of Electricity in its judgment dated 24.05.2011 in Appeal No. 166 of 2010 has held that generator requiring start up power from the grid cannot be termed as a consumer. In the light of above, it is more appropriate to allow drawal of startup power by the ISGS from the grid.

5. Commission finally disposed of the petition No. 259/MP/2012 and 27/RP/2012 in petition no. 117/MP/2012 observing as follows:

"18 It is seen that petitioners in both the petitions were in advance stage of commissioning of their respective units and were drawing start-up power after approval of the Regional Load Dispatch Centre. The direction of the Commission in the order dated 2.11.2012 that start-up power cannot be drawn as UI has placed the generators in difficulty since RLDCs had advised the generators in their region to draw start-up

power from the grid only after availing some type of open access. Accordingly, the petitions have been filed for appropriate relief noted above.

19 The pre-commissioning / start-up power is required for about 8-10 months prior to unit commissioning for test run of major auxiliaries and for boiler light up/ synchronization. The auxiliaries being large drives especially MDBFP, ID fan motors etc.,. In the large size supercritical units of 660 MW and 800 MW the size of largest drive i.e. MDBFP ranges from 11.5 MW to 19 MW. These large drives involve drawing starting MVA in the range of 100 MVA, which necessitates strong grid support in terms of short circuit MVA. Therefore, the start-up power is generally preferred to be drawn through the planned transmission system for Grid Connectivity at 400/765 KV level, matching with start-up power schedule. The option of drawl of this power through 220 kV grid can be considered, subject to the technical suitability (strong grid). During commissioning/ start-up activities, the load profiles vary considerably, in the range of 5-25 MW. Such start-up power requirement is not expected to be higher than the auxiliary power consumption of the generating station which could be of the order of 40 MW in case of a 660 MW unit or 50 MW in case of 800 MW units. This is also substantiated by the sample hourly drawals of start-up power for 2 units of NTPC stations namely Barh STPS (2 x 660 MW) and Vindhychal STPS Stage IV (2 x 500 MW).

20. We find force in the submission of the petitioners that the huge quantum of power needed for undertaking pre-commissioning activities and start-up cannot be drawn through the normal distribution network which operates at 33 kV level. This has also been accepted by TANGEDCO that 33 kV lines available for drawing the power for construction cannot cater to the requirement which is of the order of 30 to 40 MW. TANGEDCO has suggested that the generator should avail power for construction purpose by laying lines at higher levels of voltage. It is true that it may be possible to take such power from the State Discom after laying the distribution line which may withstand the requirement of load. However, it may not be cost effective to develop infrastructure for the generating stations connected to the ISTS for the start-up power, which would be required initially before commercial operation and thereafter only occasionally in the eventuality of outage of all units of the generating station. However, the generator in its discretion can take start-up power from the distribution company.

21 In a large sized grid, such drawal of start-up power is unlikely to create any system security problem in the normal course. In any case, drawal of start-up power by generating stations would be with the approval of RLDCs and may be disallowed by the system operator, in case of threat to grid security. In case, the number of stations intending to avail start-up power simultaneously is very large and is likely to

jeopardize the grid security, the concerned RLDC may stagger their start-up supply looking into the grid security angle.

22. The requirement of start-up power is not always firm in nature and it is difficult to be adhered to through a schedule, even if power is contracted through short-term open access. The deviation from the schedule becomes inevitable. Therefore, settlement through UI would in any case be unavoidable. In such a situation, generating station would become entitled to UI for under-drawl. In case of drawl of start-up power through the UI mechanism, the generating station pays the UI charges.

23 Though the generator is free to tie up start-up power through short-term open access or through the distribution licensee, the most viable alternative is drawl from the Regional grid since the generator is connected to the ISTS. Any drawal of power by the generator through Regional grid without any open access shall have to be paid for at the applicable UI rates.

24 TANGEDCO has suggested that the regulations that specify the period between synchronization and commercial operation should be strictly enforced by levying penalty or disallowing the IDC for the extended period. We find these suggestions to be outside the scope of the present proceedings. Each case has to be examined and decided against the facts and circumstances applicable.

25 In the light of above discussion, it is directed that drawal of start-up power under UI shall be permitted in respect of the generating stations which have been approved for direct connectivity to the ISTS by the CTU. While allowing drawal of start-up power, the concerned RLDC should satisfy itself that the power drawn is for the purpose of start-up only and not for the purpose of construction activities in the generating station which should be met by making arrangement with the concerned distribution company. The generator shall be obliged to furnish all necessary information called for by the RLDC while permitting start-up power. It is however clarified that the generators are not precluded from making alternative arrangement for start-up power through some form of open access.

26. We direct the staff of the Commission to process the proposal for amendment of the Connectivity Regulations based on the above decision.

6 As mentioned above, the Commission has taken a view that drawal of Start-up power as Deviations could be allowed. Accordingly, it is proposed to amend the Connectivity Regulations to provide the same. The detailed procedure framed under Connectivity Regulations shall also provide

for the drawal of start-up power in line with the proposed amendment. A procedure for availing start-up power by generators under Commissioning phase based on a proposal by POSOCO is also being prescribed.