

MINUTES OF THE SECOND MEETING OF COORDINATION FORUM  
HELD ON 13<sup>TH</sup> JANUARY 2008 AT 03.00 P.M.  
IN THE CONFERENCE HALL OF CERC, NEW DELHI

The list of participants is enclosed as Annexure-I. 1.0

Dr. Pramod Deo, Chairman, CERC was in chair.

**2.0 Agenda Item No. 1 : To facilitate smooth and reliable operation of the Electricity Grid at inter-State level**

- 2.1 As decided in the first meeting of the Coordination Forum, Executive Director (SO), POWERGRID made a detailed presentation on the Assessment of Transfer Capability of the inter-State transmission system keeping in view the criteria defined in the IEGC document.
- 2.2 The following issues were covered during presentation: (*copy of the presentation is attached as Annexure-II*)
- Coordinated and very rapidly expanding network
  - Indian Power System: "Very Large Grid" and "Very Large Market"
  - Grid Security: Prime Concerns in all time horizons
  - Comparison between "Transmission Capacity" and "Transfer Capability"
  - Initiative taken for Assessment of Transfer Capability like Workshops at Regional and National Level.
  - Approach Paper for "Assessment of Transfer Capability in the Indian Bulk Electricity Power System"
  - Various Factors Considered during assessment of Transfer Capability by designated Reliability Coordinators in each of the RLDCs
  - Detailed methodology for the Assessment of Transfer Capability through All India Scenario simulations
  - Reliability Margins
  - Peculiarities of Indian Power System (Fog, Storms, etc)
  - Concerns of System operator (Absence of Primary response)
  - A case study on Voltage Collapse in Punjab was discussed in detail out of many case studies
- 2.3 The issue of Reliability Margins in Indian context was deliberated in detail. In reply to specific query of Chairman, CEA, ED(SO), POWERGRID explained that presently a maximum 500MW is kept as reliability margins considering the tripping of a largest size generating unit. Legitimacy and necessity of reliability margins was emphasized in Indian context based on the International experience.
- 2.4 ED(SO), POWERGRID during his presentation brought to the notice of Forum that there were a number of instances when a single element outage has resulted in multiple outages. This could be due to the failure of opening of 400k V line breaker in a two main

and transfer scheme or due to mal-operation/ failure of protection system. On a query from Secretary, CERC, ED(SO), POWERGRID clarified that the issue is deliberated in the Protection Committee of RPC and after exhausting all possible *fora*, the matter would be brought to the Hon'ble Commission. Member (PS), CEA suggested that outsourcing of Study of protection system co-ordination could be considered by RPCs through the fund available in reactive energy account.

- 2.5 Chairman, CERC advised that in future, repeated instances of multiple element outages due to failure/mal-operation of protection system should be brought to the notice of the commission in the form of a petition.
- 2.6 On a query of Member (PS), CEA regarding the criteria considered for assessment of transfer capability and criteria laid down in IEGC, ED (SO), POWERGRID clarified that criteria as laid down in IEGC are being followed for assessment of transfer capability. Notwithstanding the (n-1) element/event contingency and the fact that a single event often causes a multiple element outage, RLDCs were still following (n-1) element outage criteria only for assessing transfer capability as being done at the transmission planning level. However reliability margins were absolutely necessary and needed to be respected. Else it would only result in a threat to system security besides frequent curtailment of transactions in real time leading to disputes.
- 2.7 Member (PS), CEA expressed his concern on the overdrawal by the Utilities under UI mode notwithstanding the declared TTC and ATC by RLDC. Such indiscriminate overdrawal under UI has serious implication on the System Security. He desired that Commission may like to consider a graded penalty for overdrawal under UI in excess of the TTC as grid disturbance under the synchronized operation of a large interconnected grid of NER/ER/NR and WR had widespread repercussions.
- 2.8 ED(SO), POWERGRID explained that generally congestion is not there in inter-State transmission system unlike other developed countries. ED(SO), POWERGRID explained that congestion may occur when say 3 regions (considering East and North-East as one region) are in surplus conditions and only one region ( Northern or Southern) is in deficit condition. Such situations arise for a very small period. It was explained that less than 1% of transactions are being curtailed on account of congestion.
- 2.9 Chairman, CERC made a specific query as to possibility of congestion in Indian Power System. It was explained that in immediate future there won't be congestion in the inter-State transmission system except for a limited period of highly skewed load generation balance (i.e.; either only NR or SR is in deficit and all other regions are in surplus). The transmission system for evacuation of generation capacity addition during XIth plan has been planned. During the transition phase i.e. in case of skewed load development of generation and associated transmission system congestion may occur for a limited period. Matching State transmission system has also to come-up for constraint free system. Handling transition would be a major challenge as far as system operators are concerned.
- 2.10 Secretary, CERC suggested that the issues in grid operation requiring regulatory intervention should be discussed in the proposed Forum of Load Despatchers (FOLD) and the recommendations to FOLD should be sent to the Appropriate Commission for consideration and further action.

- "2.11 On a specific query of Dir.(Comml.), NTPC, ED(SO), POWERGRID clarified that full requisition to Dadri Gas Project is not there during lean demand period is in accordance with merit order.
- 2.12 Chairman, CEA appreciated the efforts of POWERGRID in system operation. In order to improve reliability of the system, the issue of replacement of ageing infrastructure was also discussed. On a query from Chairman, CERC, Addl Secretary (MoP) mentioned that MoP, Govt, of India through its financial institutions REC and PFC has moved proposals for financing for replacement of ageing infrastructure. However, the response was not encouraging.
- 2.13 It was suggested by Mr. S.K.Soonee, Power Grid that there was a need to restrict UI volumes, to narrow the band for frequency variation, to implement Free Governor Mode Operation and to give commercial signal to the generators for enhancing dependability to System Operator.
- 2.14 It was also suggested that CERC might consider framing regulations on the obligations of the power project developers to inform the Commission and CTU about their project schedule so that transmission planning can be done realistically.

### **3.0 Agenda item no.2: To facilitate adequate investments for development of Power Systems in the Country**

- 3.1 Secretary (CERC) made a brief presentation on current transmission charges for Short-Term Open Access (STOA). Current rate of transmission charges for STOA is of the order of 15% of the rate for long-term customers. He explained that the rationale for lower rate is that it uses only the surplus capacity available and has lower priority in scheduling. Commission has indicated moving towards incremental losses with nominal transmission charges.
- 3.2 Member (PS), CEA explained that at the planning stage itself extra margin is being kept to accommodate STOA transaction. Customers, requiring long-term access to transmission system commit to pay the transmission charges. Differential charges for STOA and LTOA is seriously affecting the development of transmission system. He explained the same through a specific case of inter- regional link planned between Southern and Western Region. Western Region beneficiaries did not agree to the proposal arguing that the NR beneficiaries would utilize the link through Short-term open access by paying nominal charges whereas they will have to bear the full transmission charges.
- 3.3 In order to facilitate development of the inter-regional transmission system in a smooth manner there is an urgent need to review the STOA charges and these are made at least equal to Long Term transmission charges, if not more. Member (PS), CEA mentioned that generally the Customers for Long Term access and Short-Term access to the transmission system are same. Long term customer pays the transmission charges in respect of the transmission capacity irrespective of its use. In case of Short-term access the STOA customer pays the nominal transmission charges as per the actual usage of transmission system. Therefore, the customer whose actual usage is more is paying less due to nominal transmission charges for STOA transactions.

- 3.4 CMD, POWERGRID stated that a lot of thrust is being given for development of generation project but seriousness for development of associated transmission system is not there by developers. He gave a specific reference to Sikkim, Arunachal Pradesh where a number of generating stations are planned but no one is approaching for development of transmission system for evacuation of such generation.
- 3.5 Secretary (CERC), during his presentation stated that the apprehension about new generators opting for STOA has been captured in staff paper on “Arranging transmission for New Generating Stations, Captive power Plants and Buyers of Electricity, The staff paper contained proposal to take care of such gaming by generators. The proposal in the staff paper is that If ‘x’ MW generating capacity has been commissioned but associated transmission system is ready for ‘y’ MW (the difference may be due to reason whatsoever), the generator will pay transmission charges for pooled regional transmission system for (x-y) MW. This would entitle him to any or a combination of the following:
- A lien over the ISTS to the extent of sharing of charges, provided flows can be adjusted without lowering redundancies below normal
  - A priority over STOA for scheduling on medium term
  - STOA by paying applicable charges additionally
- 3.6 On a specific query, it was clarified by Secretary (CERC) that the STOA charges will be payable in case beneficiaries are different from those for whom LTOA was envisaged .
- 3.7 Member(PS), CEA stated that the apprehension about long term investment in transmission getting adversely affected on account of the very low rates for STOA is no longer just apprehension but a stark reality. He mentioned there are a number of cases, where generators are applying for long term open access for a limited capacity say a generator having generating capacity of 500MW is asking for LTOA for 100 MW only. He explained the same by citing example of Sterlite, Bhilai Steel Plant etc.
- 3.8 Addl. Secretary(MOP), while appreciating the issue apprehended that it may pose a serious problem in future when generation would get bottled up.
- 3.9 It was decided that the issue is of serious concern and needs to be resolved through Regulations of CERC.

#### **4.0 To facilitate connectivity to the grid and Long Term Open Access at inter-State Transmission System**

- 4.1 GM (Engg-SEF), POWERGRID made a presentation on "Overview, Issues & Suggestions on Long Term Open Access". During the presentation, methodology of processing long term open access applications being received by POWERGRID was explained in detail.
- 4.2 The learning thus far obtained from LTOA processing was also deliberated. It was informed that till date Long Term Open Access application for about 1,75,000 MW has been received by POWERGRID. Most of the applicants indicate commissioning

schedule for generation projects by end of 11 plan i.e. 2011-12. It has been seen that majority of new generation for which applications have been made are in addition to 78,500 MW planned during 11<sup>th</sup> plan as per capacity addition program of Govt, of India. In other words the capacity addition for which Long Term Open Access applications have been received is much more than that has been assessed to meet the future projected demand. This means that there is uncertainty on the quantum of realistic generation addition for which transmission system is required.

- 4.3 It was also explained that in most of the cases the developers of the generation projects are not sure about the beneficiaries, which eventually leads to difficulties in assessing the required transmission system augmentation/strengthening. In this regard, references were drawn with the example of large number of generation projects coming up in Andhra Pradesh, Orissa, Chhattisgarh, Jharkhand etc. It was inferred that a large number of applicants are interested only in exploring pre-feasibility of the generation project and approach POWERGRID with Long Term Open Access application as there is no financial commitment involved other than application fee of Rs. 1.0 Lakh. It was explained that the transmission requirement for the entire capacity addition indicated above shall not only lead to sub optimal utilisation of the investments but shall also create lot of operational problems. The concerns of generation developer with regard to establishing pre-feasibility of the project is well understood, however to infuse optimal investment into transmission it is important that some certainty must be imparted into the entire transmission system planning process. It is necessary that the generation projects may be offered services for carrying out feasibility studies outside the ambit of the Open Access process and only those generation projects may be allowed to approach for Long Term Open Access process who have covered some definite milestones with respect to generation project development. Additionally it would be desirable that some financial commitment is taken from applicant right at the application stage to filter out non serious applications.
- 4.4 It was also explained that the transmission system evolved for LTOA applicant generally comprise of dedicated portion, common system for group of generations and regional/inter-regional system strengthening. The evolved systems are discussed with CEA and constituents at the regional standing Committee for planning and Regional Power Committees of concerned regions. It has been seen that most the generation projects have multi-regional beneficiaries requiring discussions in all the concerned regions. As constituents of different regions have their own perspective therefore it has been seen during the course of processing of LTOA applications that finalization of the transmission system takes long time. Member(PS), CEA suggested that as the process of arriving at a consensus took considerable time, it was necessary for PGCIL to adopt the process of approaching the CERC for Regulatory approval for taking up the project. This procedure has also been stipulated in the National Electricity Policy and Tariff Policy of Government of India.
- 4.5 GM (Engg.-SEF), POWERGRID explained that while processing the applications it has been observed that there is large quantum of capacity additions proposed in different pockets like about 50,000 MW in Chhattisgarh, about 20,000 MW in Orissa and similar large quantum in Jharkhand, Andhra Pradesh, Tamil Nadu etc. The transmission system requirement for generation projects of such magnitude is huge and any mismatch between the quantum of generation project for which the system is planned/implemented and the quantum actually materialized is far reaching. Further,

due to inherent lumpy characteristics of transmission system equivalent scaling of the system matching with the quantum of generation project actually getting materialized, out of the entire capacity addition indicated, is not possible always. This would lead to increased burden of transmission charges to the generation projects initially connecting to the grid.

- 4.6 Member(PS),CEA said that the step up voltage level for new generation projects needed to be fixed taking into account the overall transmission planning requirements and the project developers should be mandated to adopt the same.
- 4.7 It was suggested by Chairperson, CEA that adequate project preparation levels should be mandated as pre condition for seeking grid connectivity by the developers on new generator projects.
- 4.8 During the presentation, concerns were expressed in view of the fact that apart from the uncertainty in the commissioning schedule, plant capacity, beneficiaries and its allocation, many of the generation projects apply LTOA for a quantum much less than its proposed installed capacity. It is perhaps due to the fact that applicants want to trade larger quantum of power through short term open access as the charges for the same is much less than LTOA charges. Chairman, (CEA) also expressed his concern on this issue while Member(PS), CEA opined that as the players for STOA and LTOA are same, the present system of STOA charges being a fraction of the LTOA charges, the Utilities who are using the transmission more intensely are being subsidized by those Utilities who are using the network to a lesser extent.
- 4.9 GM (Engg-SEF), POWERGRID further suggested few courses of action to deal with the problems in processing the long term open access cases. It was suggested that in order to filter out non-serious applicants, there should be some security mechanism in three important stages of the whole process, Stage-I while applying for LTOA based on which planning procedure begins, Stage-II while signing of BPTA, based on which construction activity begins and Stage-III while commissioning of transmission/generation project, based on which collection of transmission charges begins.
- 4.10 The issues and suggestions brought out by POWERGRID were discussed at length in the meeting. The need for the security mechanism was appreciated by all. It was decided that the issues and suggestions of POWERGRID could be considered by CERC while framing regulations.
- 4.11 During the discussions, there was a consensus that it should be adequate on the part of generators to indicate the region(s) in which they would sell the electricity for the purpose of building the transmission infrastructure subject to the condition that the generators undertake to pay the transmission charges along with suitable payment security.
- 4.12 It was also suggested that those generation projects where there is lack of clarity on tariff determination in accordance with tariff policy requirements on the power being required to be mandatorily sold by the host States to their distribution utilities, may not be considered for grid connectivity as the commissioning of such projects would be doubtful due to likely litigation/differences among the parties.

The meeting ended with a vote of thanks to the chair.