



भारत सरकार
Government of India
केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
ग्रिड प्रबन्धन प्रभाग
Grid Management Division
सेवा भवन ,आर के पुरम, नई दिल्ली -110066
Telefax : 26109750



(आई एस ओ 9001-2000)

8/X/IEGC(Rev)/GM-2010/

Dated:12.03.2010

To,

**The Secretary,
Central Electricity Regulatory Commission
3rd floor, Chanderlok Building
36, Janpath, New Delhi - 110 001**

**Subject: Additional suggestions on IEGC proposed to be implemented
w.e.f. 01.04.2010.**

Sir,

This is further to letter NO CE(SP&PA)/Misc./09/CEA dated 8th March 2010. Additional comments of CEA on the proposed Indian Electricity Grid Code are enclosed for consideration of the Hon'ble Commission.

Yours faithfully,

Encl: As above

(K.N. Garg)
Chief Engineer

Additional suggestions of CEA on the proposed IEGC

1. Glossary and definitions:

S.No. 36 – Generating Unit: This definition needs to be amended to cover solar photovoltaic plants, which do not contain turbine.

S.No. 58- Operation Coordination Sub-Committee (OCC): This definition needs to be amended in view of the fact that OCC not only includes regional entities but also RLDC, SLDCs and trading licensee nominated as Member of that RPC. The definition therefore needs to be amended as-“A sub-committee of RPC, which decides the operational aspects of the Regional Grid.”

S.No. 68-Regional Energy Account (REA): UI Account and Reactive Charge Account have to be excluded from the definition of REA. While REA containing necessary information for billing of capacity charge and energy charge is issued on monthly basis, UI Account and Reactive Energy Account are issued on weekly basis. It may be seen that clause 2.4.5 of proposed IEGC also stipulates preparation of REA on monthly basis.

2. Clause 1.5

The provision in the existing IEGC regarding reporting of non compliance by Member Secretary, RPC may be retained since he is the only person who is aware of operation of the Regional Power System and is neutral in the sense that he is not an active player in day-to-day operation of the Regional Grid. Also, non-compliance of provisions of IEGC can have serious consequences and CERC may be deprived of inputs in this regard, if non-compliances are to be reported in the form of petitions only. However, to avoid frivolous or non-serious matters to be reported to CERC, the existing provision regarding reporting of the matter first to Member Secretary, RPC may be retained. He in turn may verify and report only persistent non-compliances to CERC, which could not be terminated in spite of best efforts. At present, issues of non-compliances are discussed in the RPC fora and attempts are made for continuous improvement. Recently, CEA had advised Member Secretaries of RPCs to lay more emphasis on under-frequency relays in accordance with their role in IEGC.

3. Chapter IV – Connection Code

It is noted that this Chapter contains certain technical requirements which are perceived to be important. It may be pointed out that the tactical requirements for connectivity have been specified by CEA in its regulation

on “Technical Standards for connectivity to the grid”. Incorporating only selected provisions in this Chapter may not be appropriate. Further, in case certain amendments are carried out by CEA in the “Technical Standards for connectivity to the grid”, it may lead to ambiguity. In view of this, it is suggested that this Chapter may mention only relevant regulations namely Central Electricity Authority (Technical Standards for connectivity to the grid) Regulations, 2007 and Central Electricity Regulatory Commission (Grant of connectivity, long – term access and medium – term open access in inter-state transmission and related matters Regulations), 2009.

Further, CEA is working on amendments to be carried out in the Connectivity Standards to facilitate integration of renewable energy sources. The relevant regulation is almost ready for publications in the form of draft for seeking comments of the stakeholders. In case of any deviation between the amendments finalized by CEA and those proposed in the IEGC, there will be implications on the developers. In view of the above, it is suggested that the provisions regarding connectivity of renewable energy sources to the grid may be omitted from the IEGC.

4. Clause 5.2 (t)

All generators are required to comply with instructions of SLDC/RLDC regarding VAr drawal / injection and backing down of active power due to grid security in accordance with clause 6.4(12) and 6.6 (6) of the proposed IEGC. Therefore, specifically mentioning the same for wind farms in sub-clause (i) and (iii) may not be appropriate. Sub-clause (ii) appears subjective in the absence of numerical limits of voltage and/or power factor. As regards sub-clause (iv), under emergency conditions such as faults in the vicinity of or within the wind farm, very quick actions will be required on the part of generators. Such actions should be automated and waiting for instructions of RLDC / SLDC may not serve the purpose.

5. Clause 5.7

In the proposed IEGC terms “security standard” and “system security standard” have been used at some places. It is suggested that these terms should be defined in the “Glossary and definitions”.

6. Clause 6.4(2)

The term “Ultra–Mega power projects” may be defined under “Glossary and definitions”.

The term ISTS has been used with the understanding that list of elements forming part of ISTS remains static over a short term. However, it may be seen from the part (ii) of the definition of inter – state transmission system as given in the Act that depending upon transactions

taking place at any point of time, some elements of state network may also form part of ISTS. Therefore, for the purpose of this clause, it is suggested that expression 'network owned by CTU and transmission licensees who have been granted licence by CERC' may be used in place of ISTS. Also, the term 'State transmission network' used in this clause may have to be defined as network owned by STU and transmission licensees granted licence by SERCs.

Ideally, all the ISGS should be controlled by respective RLDC. This is because there may be a possibility of undue favour by SLDC to generating stations operated by entities forming part of erstwhile SEB or to those supplying entirely to the State as compared to those supplying minimum or no power to the State concerned. Therefore, in case of generating stations connected only to state transmission network {item (ii) of (c)}, it may not be appropriate to give control to SLDC in all cases. In this case also, the criterion as to whether or not more output is being supplied to the State concerned, needs to be applied. However, ability of RLDC to oversee flows and congestion aspects in the state transmission network appears to be a concern. But this concern is taken care of to some extent after commissioning of ULDC scheme. This concern may be further alleviated by having an arrangement similar to open access transactions, wherein SLDC issues no-objection certificate or standing clearance and may advise RLDC about any specific issues arising on particular day or time period. The other concern could be workload of RLDCs, but presently institutional capacity of RLDCs is much better as compared to SLDCs and RLDCs have demonstrated their institutional capacity by handling a large number of open access transactions.

The proposal in item (v) regarding change of control between RLDC and SLDC based on commissioning in various stages may not be practical. This decision should be taken based on the commercial agreements in place for the ultimate capacity at the time of commissioning of 1st unit. Generally, commercial arrangement is clear at the time of financial closure itself so things should be clearer by the time first unit gets commissioned. This decision should not be altered even if there is deviation in this regard when entire capacity is commissioned.

Further, while applying the criterion regarding supply within the state vis-à-vis outside the state, merchant capacity may be considered as being supplied out side the state, which does not appear to be the case in the proposed provisions.

It is also suggested that a term 'Control Centre' may be defined for ISGS, which may be SLDC or RLDC based on criteria laid down in this clause. Thereafter, in subsequent clauses term 'Control Centre' should be used in place of RLDC e.g. clause 6.4 (12) regarding direction to increase/decrease generation, 6.4(19) regarding demonstration of declared capability etc.

7. Clause 6.4 (21)

The meters used at interconnections are termed as “interface meters” in Central Electricity Authority (installation and operation of meters) Regulations, 2006. Accordingly, term ‘special energy meters’ used in this clause and wherever appearing in the proposed IEGC should be replaced by the term “interface meters”. It may be pointed out that UI regulations issued by CERC already used the term interface meters.

8. Clause 6.4 (28)

Commercial implications of inter-regional exchanges of power get reflected in the REA, UI accounts and Reactive Energy account prepared by RPC Secretariat concerned. Therefore, it appears that intention in the proposed IEGC is that NLDC should maintain statistics of inter-regional exchanges of power. If so, the provision regarding energy accounting may be reworded appropriately.

9. Clause 6.5 (19)

It is noted that in the UI regulations, a limit has been put on under injection by the generator. To do so, the generators must have facility to revise their declaration in case of forced outages. However, this clause of proposed IEGC allows only generator with two part tariff and long term contract to revise their schedule in case of forced outage. Therefore to have a level playing field and to enable generators to generate close to their schedule, generators supplying through bilateral transactions under open access should be given right to revise declaration in case of forced outages. Since such events are not so common in a well maintained generating station, a limit say once per day may also be specified for this purpose.

10. Clause 6.5 (23)

Wind forecasting tools are independent of the generating plant of the wind farms and therefore, there appears to be no technology related reason for proposal to exempt wind farms for which PPAs have already been signed from the requirement of wind forecasting. This exemption appears to have been made on the consideration that it will upset existing commercial agreements. In this regard, it needs no emphasis that new regulatory initiatives can always override prevailing contracts, like when ABT was implemented it altered the agreed commercial arrangement between existing generating stations and their beneficiaries.

Also, there appears to be ambiguity in the provisions regarding revision of schedules due to two separate provisions- one regarding effectiveness of the revision from the sixth time block and the other regarding scheduling on 3 hour time slot basis. It is suggested that revision of the schedule should be effective only from the beginning of next 3 hour time slot, provided notice to this effect is given at least four time blocks in advance.

12. Annexure I (Complimentary Commercial Mechanism)

To bring in more clarity, it is suggested that Commercial Mechanism regarding renewable sources should be made part of a separate Annexure.

From para 1 and 2 of the Annexure, it appears that this mechanism is applicable to ISGS only as no mention has been made about transactions made using access to ISTS. However, in para 4 regarding Renewable sources, it appears that these provisions are applicable to renewable ISGS as well as to renewable energy sources supplying power using access to ISTS. This aspect may be looked into while finalizing the IEGC.

From para 5, it appears that in some cases, Renewable Regulatory charge would be payable while in some other cases, it would be receivable. Therefore, it is suggested that there should be a provision for creation of a Renewable Energy Charge pool on the lines of UI pool.

Also, it is suggested that there is need to relook into sharing of UI charges between buying state and wind/solar generator particularly for over-injection exceeding 30%. In shortage conditions, when frequency may be low (and hence UI rate will be high), the proposed provision may provide perverted incentive for the wind/solar generator to under-declare capability and get lower schedules. Thereafter, he may over-inject beyond schedule in excess of 30% to earn undue money. This is particularly true since no check is proposed on the forecasting tool of the wind/solar generator. One way out could be to specify the requirement for forecasting tool that it will be free from manual intervention and forecasting results should be recorded in such a manner that they can not be tampered with. If such technological requirement is not feasible, the proposed commercial mechanism may be re-casted to avoid such gaming.

In para 6, it is proposed that for wind/solar generators, a maximum deviation of 50% will be allowed in a time block. However, consequences of deviations beyond 50% are not clear. Generally, grid security may be endangered only in case of over-injection. Such provision, without additional financial implications may not serve the desired purpose.