BACKGROUND NOTE

1. The Central Electricity Regulatory Commission (CERC) had asked the Central Transmission Utility (CTU) i.e. the Power Grid Corporation of India (PGCI) in March 1999 to prepare the draft Indian Electricity Grid Code (IEGC), as per certain directives issued by CERC. In response, PGCI had submitted a draft IEGC dated 08.04.1999, which was then made available through PGCI offices to all those interested in perusing and commenting on the same. A public notice was also issued in newspapers inviting objections on the above draft IEGC by 25.05.1999.

2. The comments and objections received from all parties who responded were discussed in the hearings held by CERC in July 1999, and after further interaction between CERC and PGCIL, the first IEGC was issued in January 2000. There was a review of the IEGC in early 2002 and the first revision as per CERC's order dated 22.02.2002 was issued by PGCIL in March, 2002.

3. Some of the provisions in the current IEGC dated 14.03.2002 require a revision to get aligned with the provisions in the Electricity Act, 2003, which has come into force from 10.06.2003. An important provision under section 79(1) (h) in the new Act is that CERC has "to specify Grid Code having regard to Grid Standards." This implies that the new IEGC has to be a CERC document, rather than a document owned by CTU (and only approved by CERC). As per directive 4 of CERC on 31.03.1999, the CTU had to, in consultation with all utilities, prepare, implement, periodically review and revise and comply with the IEGC. This position has now substantially changed.

4. As per Section 73(d) of the Act, only the "Grid Standards for operation and maintenance of transmission lines" are to be specified by Central Electricity Authority (CEA). Further, when read along with sections 2(34), 177(2)(a) and 34 of the Act, it would appear that the Grid Standards to be specified by CEA would be basically for compliance by transmission licensees, whereas the scope of a Grid Code is much more encompassing. We are therefore, proceeding with issuance of the new draft Grid Code, without waiting for the Grid Standards to be specified and issued by CEA. As and when Grid Standards are specified by CEA, if required, the IEGC shall be amended.

5. The present IEGC has a chapter titled "Management of Indian Electricity Grid Code", which was relevant in the previous scenario. It provided for an IEGC Review Panel, with Director (Operation), PGCI as its chairman and convenor. Any change in IEGC required agreement in the IEGC Review Panel and approval by CERC. Now that the responsibility for specifying the Grid code directly vests in CERC, and the Grid Code and its revisions are to be issued adopting the procedure followed for CERC's regulations, the IEGC Review Panel is no longer necessary. The current exercise of preparing the new draft IEGC is also not being routed through the present IEGC Review Panel, for the same reasons. The above chapter has been rewritten, removing all references to the IEGC Review Panel.

6. As per section 28 (3) (c) of the Electricity Act, 2003, the Regional Load Despatch Centres (RLDC) shall "keep accounts of quantity of electricity transmitted through the regional grid", where as preparation of Regional Enrgy Accounts hitherto been a responsibility of the REB Secretariats. For the sake of continuity, preparation of final Regional Energy Accounts and weekly statement of UI charges and VAR charges has been retained in the scope of REB/RPC Secretariat.

7. The Regional Electricity Boards (REB) have been replaced in the new Act by Regional Power Committees (RPC). Pending constitution of RPCs by the Central Government, the draft IEGC refers to these organisations as REB/RPC.

8. Reorganization of the State Electricity Boards (SEBs) envisaged in Part XIII of the Electricity Act, 2003 would lead to formation of a large number of independent entities (generating companies, transmission licensees and distribution licensees) in each State, and consequently a very large number of such intra-State entities in each region. All these entities would come under the regulatory jurisdiction of the concerned State Electricity Regulatory Commission (SERC), and the operational jurisdiction of the concerned State Load Despatch Centre (SLDC). While they would also be connecting into and be synchronized with the same A.C. interconnection, i.e., the regional grid, their operation shall be governed by the State Electricity Grid Code specified by the concerned S.E.R.C. Even the directions issued to them by the Regional Load Despatch Centre (the apex body to ensure integrated operation of the regional power system) have to be routed through the concerned SLDC, as per section 29 (3) of the Act.

9. As a logical extension of the above approach and to ensure clear chain of accountability, the following is proposed: (1) The RLDC shall interact and coordinate only with the SLDCs (and the STUs if necessary) on all matters concerning a State, and with no other intra-State entity. (2) The SLDCs shall be responsible for all related coordination with the intra-State entities, and interacting on their behalf with the RLDC. (3) Each State as a whole shall be treated as an entity in the regional grid, and as one entity for the purpose of allocations/shares in Inter-State Generating Station (ISGS), for daily scheduling and despatch, for accounting of unscheduled interchange

(UI) and reactive energy. (4) The bifurcation of the State's total entitlement in ISGS availability for the day, advising the intra-State entities about their respective entitlements, and collecting their requisitions, compiling them into State's total requisition from ISGS, etc shall be carried out by the SLDC. (5) The STU/SLDC shall be responsible for installation of special energy meters on the interconnecting points of all intra-State entities who need to have such meters, for organizing the periodic collection of meter readings, preparation of intra-State energy accounts and issuing the UI statements for all concerned entities (atleast once a week).

10. Subject to timely completion of the prescribed process for finalization and notification of the revised IEGC, it is proposed that the same be made effective from 1st September 2005.

11. The earlier IEGC was silent regarding the payment for reactive energy exchanges directly between the States on State-owned transmission lines. This aspect is now being covered in the draft IEGC under a new section (6.6.7).

12. The intra-State scheme for pricing of reactive energy exchanges between the intra-State entities has to be very carefully deliberated upon by the concerned SERC/STU, and duly covered in the State Electricity Grid Code. The requirements of local reactive support may differ from State to State and the approach may radically differ from that in this IEGC. For example, the inter-State generating stations (ISGS) have to generate/absorb reactive power as per instructions of RLDC, "without sacrificing on the active generation required at that time", and "no payment shall be made to the generating companies for such VAr generation/absorption". This is because (1) the ISGS are generally located away from load-centres, (2) they

generally have a lower variable cost, and (3) they are paid a capacity charge covering the cost of entire installation, including their reactive power capability. The situation of intra-State stations may radically differ in these respects, and a different approach to their reactive energy output may be necessary.

13. When the first version of IEGC was drafted in 1999, inter-regional exchanges were minimal. Many new inter-regional links have since been commissioned, and substantial amounts of energy is now being exchanged between the regional grids. A new chapter is being added in the IEGC accordingly, to cover various aspects of scheduling, control and commercial issues of inter-regional exchanges.