

Agenda for 19th Meeting of the Standing Committee on Transmission System Planning in Northern Region

Item –I Discussion on “Draft National Electricity Plan – Transmission”

Towards fulfillment of the requirement as mandated in Section 3 (4) of Electricity Act 2003, CEA has prepared the “Draft National Electricity Plan - Transmission” covering planning issues and Transmission Programme during the 10th and 11th Plan period. The Programme has been evolved based on projected demand of 150 GW (with regional diversity) and generation capacity of 204 GW, corresponding to the 34834 MW addition Programme during 10th plan and 64157 MW addition during 11th plan period. The transmission plan has been evolved with an integrated all-India system in which the National Grid would facilitate free flow of power across the regional boundaries.

The document is available on our website (<http://www.cea.nic.in/>). We have invited views and comments from all the stakeholders. The response from stakeholders has already started pouring in. To have a face-to-face interaction with constituents of this region, it has been included as part of the agenda for forthcoming meeting of this Standing Committee.

Summary of the document is given at Annex.

The members may deliberate.

Item – II Confirmation of the minutes of 18th Standing Committee on Power System Planning in Northern Region held on 6.06.2005 at Dalhousi, Himachal Pradesh.

- 1.1 The minutes of the 18th meeting of Standing Committee on Power System Planning in Northern Region held on 6.06.2005 at Dalhousi, Himachal Pradesh, were circulated vide CEA letter No. 1/9/2004-SP&PA/ 749-764 dated 25.08.2004. No Comments from any constituent states have been received.
- 1.2 The minutes of the meeting may please be confirmed.

Item – III Requirement for 220 kV bays by Himachal Pradesh from 200 kV Nalagarh S/S of POWERGRID.

- 3.1 Himachal Pradesh have informed about heavy growth in industrial load in their Baddi, Barotiwala, Nalagarh, Kalaamb and Giri area. The high load growth in this areas are to continue as government of Himachal have declared special incentive

to industries setting up their production units by 2007, with the result heavy load growth is expected in these areas.

- 3.2 Presently only one circuit of 220 kV Kunihar – Panchkula D/C line is LILOed at Baddi and 132 kV D/C line exists between Kunihar – Panchkula. The above arrangement are not adequate to meet the load of the above industrial hubs in Himachal Pradesh.
- 3.3 As the major load center is located near Nalagarh (i.e. load of Baddi, Barotiwala, Nalagarh) it is suggested feed the load of these at 220 kV. Presently two nos. of 400/220 kV, 315 MVA ICT are existing. Two nos. of 220 kV bays at Nalagarh have been earmarked for Punjab and two for Chandigarh. Out of these only one nos. of 220 kV bays so far been utilized by Chandigarh to feed its load of around 40-50 MW at Manimajra. The other three bays are not being used. Due low drawl through 400/220 kV Nalagarh transformer, high voltage problem to the tune of about 430-440 kV is being experienced at Nalagarh.
- 3.4 HPSEB has proposed to construct 400 kV Nalagarh – Kunihar D/C line and charge initially at 220 kV by utilizing 2 nos. of 220 kV at Nalagarh (PG). They have also proposed a 220 kV S/S of HPSEB at Nalagarh which would be connected by LILO of the Nalagarh(PG) – Kunihar line. When this is charged at 400 kV by HPSEB, a separate 220 kV D/C line between Nalagarh(PG) – Nalagarh(HPSEB) would be constructed by HPSEB. HPSEB has indicated that with the above arrangement they could able to draw about 300-400 MW immediately. This would also help in mitigating the over voltage problem at Nalagarh.
- 3.5 In view of the above the HPSEB proposal may be agreed.

Members of the committee may discuss and concur on this issue.

Item – IV Creation of 400/220 kV S/S at New Wanpore in Kashmir.

- 4.1 Power Development commissioner J&K informed that the load demand of Kashmir valley which was of the order of 1000 MW would increase to about 1500 MW during 11th plan period and for that in addition to the 4th 400 KV ICT at Wagoora agreed in the 18th standing committee meeting, a new 400/220 kV S/S would be required.
- 4.2 During winter peak when the demand of the valley is maximum and the generation reduces to minimum, with four nos. of ICT at Wagoora (1260 MVA at 0.8 pf) along Pampore – Kishenpur 220 kV D/C and Pampore – Udhampur 132 kV D/C (presently S/C) the system would be inadequate to meet the load of Kashmir valley.
- 4.3 The matter was also raised by the representative from J&K during 18th SCM held in Dalhousie and was further deliberated in a meeting held with J&K, NHPC and

POWERGRID and considering the fact that after addition of 4th transformer the existing S/S at Wanoora does not have any scope for further expansion even as per planning criteria of CEA, so the requirement of a new 400/220 kV S/S near New Wanpow by LILO of Wagoora - Kishenpur kV D/C line was found justified. The new S/S could be covered as a part of system strengthening scheme of Northern region.

Members of the committee may discuss and concur on this issue.

Item – V Creation of 400/220 kV S/S at East of Loni Road in Delhi.

- 5.1 The 400/220, 4x315 MVA ICT at Mandola are presently critically loaded and with the further increase in load of Delhi the loading on the ICT would likely to increase further. There is a need for Creation of a new 400/220 KV S/S between Mandola and NCR Dadri. The Matter was discussed with GM DTL and it was informed that location near East of Loni Road in Delhi could be available for creation of the 400 kV S/S. DTL is contemplating creation of 220/66/33 kV S/S at East of Loni Road by LILOing the existing Mondola – Patpargang 2200 kV D/C line for improving the reliability of power supply to North east areas of Delhi. However, existing loading condition on 400/220, 4x315 MVA ICT at Mondola would not permit any further overloading on Mondola ICT. With the creation of 400/220 kV S/S near Loni Road under central sector loads from Mandola S/S could be transferred to East of Loni road S/S and to that extent Mandola ICTs could be relieved. The substation could benefit the North East part of Delhi and also the load centers of Sahibabad/Ghaziabad areas as the existing loading on Muradabad - Sahibabad D/C line as well as the loading on Muradnagar ICT remains critical.

The 400/220 kV S/S near Loni Road of Delhi can be agreed under Central Sector as a part of system strengthening scheme of Northern region, as this S/S would meet the load requirement North East part of Delhi as well as UP areas.

Members of the committee may discuss and concur on this issue.

Item – VI Transmission system for Lata Tapovan (108 MW) and Tapovan Vishnugad (520 MW) HEPs of NTPC.

The proposal for evacuation of power from Lata Tapovan (108 MW) and Tapovan Vishnugad (520 MW) HEPs of NTPC was put up for discussion in the 18th SCM of NR held on 6/06/05. In the meeting it was decided that the transmission system from these projects would be firmed in the next standing committee meeting depending upon the confirmation of the commissioning schedule for these projects by NTPC.

The following transmission system which was prime-facie agreed in the last standing committee needs to be confirmed.

Lata Tapovan (108 MW)

- Establishment of 400/132 kV GIS pooling station at Kuwari Pass
- LILO of one circuit of Vishnugad – Muzaffarnagar line at Kuwari Pass
- Lata Tapovan – Kuwari Pass 132 kV D/C line

Tapovan Vishnugad (520 MW)

- Tapovan Vishnugad – Kuwari Pass 400 kV D/C
- Kuwari Pass – Roorkee 400 kV D/C

The above proposals are required to be firmed up depending upon the commissioning schedule of these projects confirmed by NTPC.

Members of the committee may discuss and concur on this issue.

Item – VII Evacuation system from Hydroprojects in Uttaranchal.

- 7.1 The matter regarding the power evacuation arrangement have been taken up in the 18th Standing committee meeting held on 6/06/05, wherein representative from Uttaranchal intimated their desire to built the proposed integrated transmission system from the generation projects upto pooling points with in the state and Uttaranchal would draw its share of free power along with its central sector share at its pooling station and the balance power shall be injected to the Regional Grid.
- 7.2 Managing Director Power transmission Corporation of Uttaranchal Ltd.(PTCUL) vide his letter dated 20/05/05 to CEA has furnished a list of generation project under phase I along with its developers and new list of generation project adding some new generation projects (**list enclosed in Annex-II**) and have requested CEA to evolve integrated evacuation system so that the power could be transferred to the Northern Grid. Managing Director (PTCUL) has requested to examine the modalities for construction of interstate transmission lines connecting the Regional Grid for injecting the balance power. It has also been informed that since the developers might have entered into PPA with the beneficiaries of the projects in Uttaranchal so the issue regarding construction of interstate transmission lines could be discussed in the Standing committee meeting.
- 7.2.1 The following issues are required to be addressed
- Identification of developers/executing agencies and fixation of commissioning schedule of various generation projects
 - Tie up for sale of power and PPA between developers and state beneficiaries
 - Identification of project specific evacuation scheme for phased implementation
 - Requirement for taking up license by PTCUL for construction of Interstate transmission lines as per Electricity Act 2003.

Members of the committee may discuss and concur on this issue.

Item – VIII Enhancement of Transmission Capacity in East – West Corridor of Northern Region

To improve the load ability of long transmission lines, series compensation have been provided on Kanpur – Ballabgarh, Panki – Muradnagar, Lucknow – Bareilly and series compensation on Allahabad – Mainpuri D/C line is under implementation. Further, to enhance the power transfer capability through East –West Corridor of Northern Region various strengthening schemes have been identified and are likely to be materialized.

With the commissioning of Tala and Kahalgoan II project the power flow towards Northern region is likely to increase further. Keeping this in view, there is need to review the existing network so that the transmission system is adequate in most of the operating conditions. Accordingly POWERGRID have carried out studies, wherein it is observed that during the contingency outage of one HVDC pole coupled with outage of one AC line, certain transmission lines gets critically loaded, where as margins are available other parallel corridors. So to balance the loading and optimize the overall loading on the lines compensation on the following lines has been suggested:

- Anpara – Unnao 765 kV S/C line (charged at 765 kV) – 30% comp.
- Unnao – Bareilly 400 kV D/C 45% comp.
- Gorakhpur – Lucknow 400 kV D/C - 30% comp.
- Bareilly – Mandaula 400 kV D/C - 30% comp.

The cost of the above schemes would be about Rs. 120 crores.

The copy of the POWERGRID Study along with the report is enclosed. POWERGRID may present their studies.

Members of the committee may discuss and concur on this issue.

Item – IX Any other item with the permission of the chair