

No. 15/1/2021-Trans
भारत सरकार / Government of India
विद्युत मंत्रालय / Ministry of Power
(पारेषण प्रभाग / Transmission Division)

श्रम शक्ति भवन, रफी मार्ग, नई दिल्ली- 110001
दिनांक: 01.09.2021

To

1. Chief Secretary of all State Governments/ UTs
2. Principal Secretaries/ Secretaries (Power/Energy) of all State Governments/UTs.

Subject: Bringing 33 kV system under Transmission for performance improvement of sub-transmission system.

Sir,

I am directed to say that the sub-transmission system plays an important role as an interface between transmission and distribution system. It is critical for reliability of power supply system. However, the sub-transmission system is beset with problems of higher losses and inefficient performance.

2. Considering the importance of sub-transmission system, Ministry of Power had constituted a Committee under the Chairmanship of CMD, POWERGRID, with representatives from Central Electricity Authority, State Transmission Utilities of Haryana, Maharashtra and Odisha and Central Transmission Utility of India Ltd to suggest measures for reduction of losses in the sub-transmission system & for ensuring reliability and efficient performance and to make recommendation for promoting investment in sub-transmission system.
3. The Committee collected information from 25 State Transmission Utilities (STUs) and 30 distribution companies (DISCOMs) on the performance of the utilities at different voltage level (33 kV, 66 kV, 132/110 kV and 220 kV). The Committee observed that

- i. Losses at 33 kV is about 4.8%, while the loss in 66 kV-220 kV level is only 1.72-2.39%. Besides, yearly availability at 33 kV is about 96.3%, while the same in 66 kV -220 kV level is 98.5-99.4%.
- ii. There is a considerable scope for improvement of performance of 33 kV system, which is presently maintained by DISCOMs, in terms of reduction of losses and improvement in availability of network.
- iii. The distribution system being end-consumer facing entity, the focus of DISCOMS is generally on quick restoration of supply in case of any fault or granting connection to the new consumers, rather than on long term planning and expansion of the distribution network. Further, due to poor financial health of DISCOMS, coordinated planning and expansion of 33kV system including adoption of new technologies and the overall operation and maintenance levels of the 33 kV system is not comparable to that at 66 kV and above voltage levels.
- iv. By better upkeep of 33 kV network, availability of 33 kV system would increase resulting into improved consumer satisfaction. In addition, by better upkeep of 33 kV system, incremental revenue of Rs. 7865 crores per annum could be achieved on account of :

- a) **Reduction in Losses:** If losses can be reduced from 4% to 3%, then energy saved could be of the order of 8.99 billion unit per annum and incremental revenue to States from loss reduction would be Rs 4495 crore per annum (assuming rate of electricity @ Rs 5 per unit)
- b) **Improvement in availability:** Many 33kV substations (around 13%) are with one number (single) transformer and so they do not have any contingency for power supply in case of fault in transformer or maintenance of transformer. Also, it is observed that more than 80% of substations are not provided with modern

technologies such as SCADA facility, Fault Locator/DR facility, Transformer Monitoring Devices, predictive and preventive maintenance tools at substations. If the availability of 33 kV system can improve by 0.75%, then additional 6.74 billion unit per annum would be available to end consumers and bring additional revenue of Rs 3370 crores per annum (assuming rate of electricity @ Rs 5 per unit).

4. Considering all these findings/observations, the Committee inter-alia recommended to bring 33 kV system under State Transmission Utility for improvement in performance of 33 kV system. Further, the Committee also recommended technical measures for improvement of performance of 33 kV networks including Robust network planning/network re-configuration, Network Re-conductoring/Use of higher capacity conductor, Predictive Maintenance, adoption of modern technology for improvement of reliability like Indoor Switchgear/GIS switchgear panel, auto-switched (Thyristor Controlled) Capacitor Bank, Low Loss Power Transformers, SCADA based Substation Automation System (SAS), etc. The report of the Committee is enclosed for ready reference.

5. The Report of the Committee were discussed in a meeting taken by Hon'ble Minister of Power & NRE on 16.08.2021. Based on discussion in the meeting, State/UT Governments are requested to take following steps for over-all sustainable improvement in performance of 33 kV systems:

- i. 33 kV system should be the handed over from DISCOMs to the STU for better planning, loss reduction and increased supply reliability. It can be done in a phased manner. In the first phase, incremental assets in 33 kV network and existing overloaded assets/assets can be handed over to STUs.
- ii. State Govt. would need to provide financial assistance to STU for upgrading/modernising their 33 kV assets.
- iii. In the event, the State Govt. is not in a position to provide financial assistance to STU for upgradation, then STU can be asked to form JV with POWERGRID on 50:50 equity basis for mobilising their financial resources.

6. It may be noted that POWERGRID has already been advised by the Ministry of Power to form JV with STU, where-ever State approaches POWERGRID.

7. This issues with the approval of Hon'ble Minister of Power and New & Renewable Energy.

Encl.: As above.

Yours faithfully,

Mull 1-9-2021
(Mritunjay Kumar Narayan)
Joint Secretary (Transmission)

Copy to:

1. Chairperson, CEA, RK Puram, New Delhi
2. CMD, POWERGRID, Gurugram, Haryana
3. COO, CTU, Gurugram, Haryana.

Copy also to:

1. PS to Hon'ble MoP
2. APS to Hon'ble MoSP
3. PPSs/PSs to Secretary (Power)/ AS(VKD)/ AS(SKGR)/ JS(Transmission)/ JS(Distribution)/ Director (Transmission)/ Director (Distribution), MoP.
4. In-charge, NIC Cell, Ministry of Power with the request to upload the OM on Ministry of Power's website under "Current Notices".