

1 Augmentation of 2nd 25/31.5MVA, 220/66kV , 3Ø transformer at 220/66kV , Kotla Sub-Station to 80/100MVA.

During recent past it has been observed that the power transmission, specifically evacuation through 220/66kV Sub-Station at Kotla having Transformation capacity of 131.5MVA (1X80/100MVA +1X25/31.5MVA) is not being done hassle free and restriction are being imposed on the generators owned by private entity and therefore has led to generation loss, which is being viewed seriously by Government authorities. In addition, there are also transmission constraint in 66kV transmission line between Nogli-Kotla and Ghanvi-Kotla. The detail of injections of power presently being evacuated through 220/66 kV Kotla sub-Station is as follows:

PRESENT SCENARIO		
1	66 KV Ghanvi-I Switchyard	50 MW
2	66 KV Ghanvi-II Switchyard	45MW
3	66KV line from Nogli-Kotla	53MW
4	Injection directly at Kotla on 22kV	9MW
	Total:-	157 MW

It is clear from the above details that though 220/66kV Kotla Sub-Station have installed capacity of 131.5MVA the power injection at present is about 157 MW (corresponding Demand recorded approximately 135MVA during June 2015).

In near future the power injection to the tune of 70MW is expected during this Five Year Plan, if projects planned for commissioning during 13th Five year Plan are also included the additional power injection details are further discussed as under : -

FUTURE SCENARIO (Post Wangtoo)		
1	From IPPs Sub-Station Nanti	68.00MW
2	From Ghanvi-II Switchyard	10.00MW
3	From Ghanvi-I Switchyard	22.50MW
4	From Nathpa Sub-Station through Nathpa-Ghanvi-I line.	31.90MW
5	Injection directly on 66kV Line Kotla from Kut &Nogli-Kotla Line	51.00MW

6	Injection directly on 22kV Kotla Line	30.50MW
	Total:-	213.50MW

In view of the above it is expected that around 213.5MW of power shall be injected at Kotla Sub-Station in near future. Even if the demand of the area is taken around 8.5MW then 203.5MW power need to be evacuated through this sub-station.

Keeping in view the future scenario (post Wangtoo) the power from Barakhamba Power House (25MW) and power from Nirmand sub-station of HPPTCL (50MW) after its commissioning can be evacuated through Wangtoo sub-station of HPPTCL, as it shall take around 5 years for commissioning of Nirmand Sub-Station. Further HPPTCL can explore the feasibility of evacuating power from Barakhamba Power House (25MW) and power from Nirmand sub-station of HPPTCL (50MW) through their Wangtoo sub-station which will be commissioned in near future due to the capacity constraint of 220kV line as well as 220/66kV transformer at Kotla.

It is pertinent to mention here that 220 kVline from Kotla to Kunihar is capable of carrying only 200 MVA load and augmentation of Kotla S/stn can only be considered upto the limit 200 MVA .Due to this the power beyond limit of 200 MVA needs to be diverted either to Wangtoo S/stn or Sunda S/stn.

In view of above it is pertinent to mention that at present transformation capacity at Kotla 220/66kV Sub-Station is 131MVA. Clearly this is not sufficient to evacuate the quantum of power coming to this sub-station which is approximately 205 MW even if the min. load/demand of this area is considered to be around 8.5 MW. Further it is assumed that power in Andhra-Nogli area will be evacuated through 220/66kV sub-station Sunda of HPPTCL. Therefore, in the first instance, it is recommended to augment the capacity of 220/66kV, Kotla sub-station by replacing existing 1 No. 25/31.5MVA 3- \emptyset transformer with 3 Nos. of 26.67/33.33MVA, 1- \emptyset transformers taking the total capacity of Kotla sub-station to 200 MVA.Also this 220kV line will be capable of carrying this load without any overloading and hence there will be no constraint on 220kV linesFurther,Kashang-I Power House 65MW of HPPCL and 120 MW of Bhaba Power House will be evacuated through other 220kV Circuit from Bhaba to Kunihar.

In view of above,HPPTCL may explore the feasibility of evacuating power from Barakhamba Power House (25MW) and power from Nirmand sub-station of HPPTCL (50MW) through their Wangtoo sub-station and other alternative evacuation arrangement which will be commissioned in near future due to the capacity constraint of 220kV line as well as 220/66kV transformer at Kotla.

The matter may be considered by STU.