

NOTE FOR DISCUSSION IN THE MEETING SCHEDULED ON 31-03-2011

Sub: Installation of load shift mechanism at the Kabbigere Biomass Power Plant to provide BERI electricity to cluster villages during BESCOM load shedding –reg.

The Kabbigere cluster of 8 villages has a connected load of 1122.93 kW as below:

Sl.No	Village-Name	Domestic (Nos)	W/S (Nos)	Flour mill (Nos)	Street light (Nos)	Beri-IP (Nos)	Gen-IP (Nos)	Total Connected Load in kW
1	Kabbigere Village	84	1	1	28	7	17	169
2	Kabbigere Gollarahatti	56	1	Nil	21	2	8	72
3	Chikkanahalli Village	87	Nil	Nil	28	8	30	236.6
4	Obenahalli Village	18	1	Nil	7	3	18	129.33
5	Ajjenahalli Village	51	Nil	1	17	3	27	190
6	Ajjenahalli Gollarahatti	7	1	Nil	4	1	Nil	13
7	Chikkarasanahalli Village	74	1	1	19	7	25	199
8	Chikkarasanahalli Gollarahatti	11	Nil	Nil	9	2	18	114
	Total	388	5	3	133	33	143	
	Total load in kW	81	27	25	5.93	184	800	1122.93

At present, BESCOM is supplying power to the above cluster of villages as per the below mentioned timetable. This time table is likely to be revised in the summer season.

6.00 AM to 12.00 Noon : Load Shedding
12.00 Noon to 6.00 PM : 3 Phase
6.00 PM to 2.00 AM : Single Phase
2.00 AM to 4.00 AM : 3 Phase
4.00 AM to 6.00 AM : Single Phase

By implementing the subject load shift mechanisms, BESCO, will be able to give BERI power , 3 Phase , guaranteed for one & half hours, to group of villages of these cluster of villages , turn by turn, during grid load shedding as below. The villages will thus get nine & half hours of 3 Phase power, instead of eight hours of 3 Phase power.

Area to be catered	Connected Load Kw	BERI Power Supply
Kabbigere & Gollarahatti Villages	266.99	6.00 AM to 7.30 AM
Chikkenahalli Village	257.86	7.30 AM to 9.00 AM
Obenahalli & Ajjinahalli Villages	336.285	9.00 AM to 10.30 AM
Chikkarasanahalli Village	261.795	10.30 AM to 12.00 Noon

From 12.00 Noon to 6.00 AM , BERI power will be evacuated to the grid. If the BESCO load shedding duration increases for any reasons, say from 6.00 AM to 6.00 PM, BERI Power in 3 Phase can be guaranteed for three hours, to the villages as below. The villages will get five hours of 3 Phase power instead of two hours of 3 Phase power.

Area to be catered	Connected Load kW	BERI Power Supply
Kabbigere & Gollarahatti Villages	266.99	6.00 AM to 7.30 AM 12.00 Noon to 1.30 PM
Chikkenahalli Village	257.86	7.30 AM to 9.00 AM 1.30 PM to 3.00 PM
Obenahalli & Ajjinahalli Villages	336.285	9.00 AM to 10.30 AM 3.00 PM to 4.30 PM
Chikkarasanahalli Village	261.795	10.30 AM to 12.00 Noon 4.30 PM to 6.00 PM

BERI is constrained to give power to the group of villages turn by turn because the load demand is higher than generated by BERI. BERI installed capacity is 500 kW. 20% is parasitic load. Even if the gasifier engines are operated at a steady load of 85% of its capacity, the evacuable load is only 340 kW. The load demand in the cluster villages is 1122.93 kW. Therefore, this load of 340 kW is rationed, turn by turn to the four group of villages. Each of these four group of villages have a load demand below 340 kW.

This is the manner in which tail end support to grid load is proposed to be delivered in the decentralised, distributed model of power generation.

By the time this load shift mechanism is put into place, BERI will simultaneously have to keep its 100 kW dual mode gasifier system readied for operation. At present 400 kW systems are operational.

The decentralised distributed generation also reduces T&D losses. If all the 1122.93 kW load demand of the cluster villages is met from the BERI biomass power plant, the annual net reduction of T&D losses is 27141kWh. A statement is enclosed herewith. Decentralised, distributed power generation minimises T&D losses.

BESCOM is requested to implement the proposal urgently within the next two months. BERI Project will deposit the costs with BESCOM. GEF-UNDP funds are available with BERI Project for this work.

G S Prabhu
Project Coordinator

To:

1. The Additional Chief Secretary, Energy Department, Govt. of Karnataka
2. The Principal Secretary, Finance Department, Govt. of Karnataka
3. The Principal Secretary , Rural Development & Panchayat Raj Department, Govt. of Karnataka,
4. The Principal Secretary, Planning, Science, Technology & Statistics Dept; Govt. of Karnataka,
5. The Secretary ,Rural Development & Panchayat Raj Department, Govt of Karnataka,
6. The Managing Director, Karnataka Power Corporation Ltd
7. The Managing Director, Karnataka Power Transmission Corporation Ltd,
8. The Managing Director, BESCOM Ltd, Bangalore, with a request to attend the meeting & to direct the jurisdictional Supt. Engineer, Exec. Engineer & AEE to attend the meeting. The report of PRDC Pvt Ltd. is sent to him separately.
9. The Managing Director, KREDL, Bangalore,
10. The Director, Rural Infrastructure Programme, RDPR Dept., Bangalore,
11. The Chairman, ASTRA, IISc Campus, Bangalore,
12. The Advisor, ABETS, IISc Campus, Bangalore,
13. The Secretary, KSCST, IISc Campus, Bangalore,
14. The Chief Executive Officer, Zilla Panchayat, Tumkur,
15. PS to the ACS & Devp. Commissioner, Govt. of Karnataka, Bangalore