भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
पूर्वी क्षेत्रीय विद्युत समिति
Eastern Regional Power Committee
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NO. ERPC/SE/PROTECTION/2021/312 **DATE: 14.06.2021**

To

As per List enclosed,

Sub: Minutes of the Special Meeting on "CTPS Islanding Scheme & KBUNL Islanding Scheme" -Reg

Sir,

Please find enclosed herewith the minutes of the Special Meeting on "**CTPS Islanding Scheme & KBUNL Islanding Scheme" held on 08.06.2021** through online MS Teams platform for your kind information and necessary action.

Observations, if any, may please be forwarded to this office at the earliest.

Yours faithfully,

14/06/2021

(D.K. Bauri)
Superintending Engineer(O & PS)

LIST OF ADDRESSES:

1) Chief Engineer (SLDC), Damodar Valley Corporation, GOMD-I Premises,P.O.- Danesh Seikh Lane, Howrah- 711109
2) Chief Engineer (CTC), Damodar Valley Corporation, P.O. Maithon Dam, Dist. Dhanbad, Jharkhand-828207
3) Chief Engineer(SPE), DVC, DVC Tower, Kolkata-54
4) SE(E), Chandrapura TPS, DVC, Bokaro-825303
5) Executive Director, ERLDC, POSOCO, Tollygunge, Kolkata-700033.
6) General Manager(OS), ERHQ-I, NTPC Ltd., Loknayak Jaiprakash Bhawan, (2nd Floor), Dak Bunglow Chawk, Patna-800001
7) General Manager(O & M), KBUNL, Kanti, Muzzaffarpur- 843130
8) Chief Engineer, Trans (O&M), Bihar State Power Transmission Limited, Vidyut Bhawan, Bailey Road, Patna-800021.
9) Chief Engineer(System Operation), BSPTCL, Patna-800021
10) Electrical Superintending Engineer (CRITL), Bihar State Power Transmission Limited, Vidyut Bhawan, Bailey Road, Patna-800021

ERPC :: KOLKATA

Minutes of the Special meeting on "CTPS Islanding Scheme & KBUNL Islanding Scheme" held on 08.06.2021 through MS Teams platform

Member Secretary, ERPC chaired the meeting. List of participants is enclosed at **Annexure-A.**

SE(O), ERPC welcomed all the participants. He informed that this meeting has been convened with reference to the discussions held in the meeting held on 09.04.2021 on "Implementation of Islanding Schemes in ER". In that meeting, it was decided to design both CTPS-B & KBUNL Stage-II islanding scheme with one unit of the respective generating stations and based on the revised study to be carried out by ERLDC.

The followings were deliberated in the meeting:

A. CTPS Islanding Scheme

ERLDC informed that after the last meeting held on 09.04.2021, they had received the revised Load details from SLDC, DVC for CTPS-B islanding scheme. As per the revised data, the off-peak and peak load in the proposed islanding system is 280 MW & 420 MW respectively. SLDC DVC informed that the data has been collected at substation level and it is more authentic than SCADA data.

Based on this revised load details, ERLDC had carried out the islanding simulation study for four different scenarios of load and generation. The islanding system is found to be stable for all the cases except for the case of maximum generation & minimum load during which the frequency rise is little more than the turbine over frequency setting i.e. 51.5 Hz.

ERLDC stated that island system as per the study is mostly stable and the concern regarding fourth scenario can be mitigated by raising the turbine O/f settings to a higher value or by increasing the time delay of the existing setting.

CTPS-B representative informed that the based on the recommendation of the forum, they would take up the issue with their concerned division and OEM for necessary review of the settings.

They intimated that 2 nos. of 132/33 kV Transformers at CTPS are going to be replaced through 2 nos. of 220/33 kV transformers and the existing load at 33 kV would be supplied through these transformers at CTPS. The load quantum would remain same. They further informed that 220/33 kV transformers would be commissioned by July'21.

ERPC secretariat stated that the islanding frequency considered in the study i.e. 48.6 Hz is very close to the frequency setting of last stage of AUFLS scheme which is 48.8 Hz. They further pointed out that as per the Ramakrishna Committee recommendation, there shall be sufficient gap between the last stage of AUFLS scheme & the frequency at which island would be triggered and suggested to consider the triggering frequency for islanding at 48.4 Hz or below.

ERLDC stated that the islanding frequency of CTPS-B need to be confirmed by the OEM of CTPS-B and for that a simulation study may be carried out by the OEM at their end.

After detailed deliberation, the followings were decided:

1. ERLDC would share the simulation study report with all concerned in DVC i.e. SLDC DVC, SPE wing of DVC & CTPS-B.
2. The CTPS-B islanding scheme is to de designed with two units of CTPS-B (2x250 MW) generating station as participating generator and connected loads at CTPS, Putki, Biada, Nimiaghata & Patherdih.
3. The islanding frequency for CTPS-B islanding system was decided as 48.4 Hz.
4. CTPS-B would take up with their OEM for confirmation of the following
   - Provision of Islanded mode of operation in the governor of CTPS-B units.
   - Provision for increasing the turbine over frequency settings to a higher value or enhancement of the time delay in existing settings.
   - Detail study of islanding response of CTPS units based on the necessary simulation at islanding frequency of 48.4 Hz.
   - Detailed study on dynamics of governor and turbine during formation of island at islanding frequency of 48.4 Hz.
5. DVC would take up with concerned OEM for necessary installation & testing of islanding panel at CTPS-B end.

B. KBUNL Islanding Scheme

KBUNL representative informed that house load of KBUNL station being supplied through the station transformers would also remain available during islanding operation. The in-house load quantum would be around 40-50 MW and this is in addition to the radial load at 220 kV Gopalganj S/s that has been considered in the islanding study.

ERLDC informed that the radial load considered in the present KBUNL islanding scheme is 125(off-peak) -220 MW(peak). Considering the additional 40 MW in-house load at KBUNL station would provide better stability of the islanding system with two units in operation, they suggested for designing the islanding scheme with two units of KBUNL Stage-II(2x195 MW) generating station.

During discussion regarding generator protection settings, KBUNL intimated that there is no tripping of the units in over frequency protection. However, the Under frequency setting of the generators are set at 48.5 Hz with 2.5 sec delay(stage-I) & at 47.5 Hz with 5 sec delay(stage-II).

ERLDC mentioned that the islanding simulation study had been carried out considering the above U/F settings and the islanding frequency was considered as 48.6 Hz.

It was opined that the settings value of 48.5 Hz for U/F protection of the generators is quite conservative and this needs to be reviewed for successful operation of the islanding scheme.

KBUNL clarified that the Stage-II units are having unique design and the U/f settings hane been adopted based on the recommendation of their Engineering wing.

SE(O), ERPC suggested that as a special case for KBUNL, 48.6 Hz may be considered as triggering frequency for this islanding scheme. However, this is to be finalized after getting necessary clarification with respect to the U/F relay settings of the generators from KBUNL.

ERLDC informed that provision of islanding mode of operation in the governor of the KBUNL units need to be confirmed by KBUNL.

Regarding construction work in the KBUNL switchyard, KBUNL representative submitted that the work got hampered due to Covid Pandemic. They updated that the work has now been resumed and it is expected to be completed by October'21.

Regarding OPGW connectivity in 220 kV MTPS-Gopalganj line, BSPTCL updated that the OPGW has been installed in the line and it would be commissioned within one week.

After detailed discussions, the followings were decided:

1. KBUNL Islanding scheme would be designed considering both units of KBUNL stage-II (2x195 MW) as participating generator and connected radial loads at Gopalganj along with in-house load of KBUNL.
2. The islanding frequency will be at 48.6 Hz and this is subject to revision based on the suggestion received from KBUNL/OEM on underfrequency settings of the generator units.
3. Based on the revised simulation study result, ERLDC would communicate the desired frequency band to KBUNL for their units for stable operation of the islanding scheme. KBUNL would review the proposed range for frequency settings in consultation with their engineering wing & OEM and communicate their observation to ERLDC in this regard. They would also take up for dynamic simulation study with regard to islanding mode of operation of the units.
4. KBUNL would confirm the provision of Islanding mode of operation in the governors of their Stage-II units.
5. Based on the response received from KBUNL to the above queries, a separate meeting would be convened to discuss further course of action.
6. KBUNL would expedite the construction work related to implementation of Islanding scheme in switchyard. They would also take up with concerned OEM for testing and commissioning of islanding relay panel at their end.
7. BSPTCL to submit the present status of the availability of communication channels (i.e. availability and status of OPGW, PLCC, DTPC coupler) in the transmission lines/substations considered under KBUNL islanding scheme.

SE(O), ERPC pointed out that implementation of the Islanding Schemes is being regularly monitored at higher level of Govt of India and being given high priority for early implementation of the same. Therefore, he requested all the stakeholders to expedite all the works related to implementation of Islanding Scheme so that the same can be operationalized at the earliest.

Meeting ended with vote of thanks to the chair.

Annexure-A

List of Attendees of Special Meeting held on 08.06.2021

Sl NO.	Name	Designation	Organization
1.	N S Mondal	Member Secretary	ERPC
2.	D K Bauri	SE	ERPC
3.	P P Jena	EE	ERPC
4.	K Satyam	AEE	ERPC
5.	Amaresh Mallick	CGM(SO)	ERLDC
6.	Saugato Mondal	GM	ERLDC
7.	P P Chand		ERLDC
8.	Saurav Sahay	CM	ERLDC
9.	Chandan Kumar	Manager	ERLDC
10.	Saibal Ghosh	DM	ERLDC
11.	D Majmudar	Manager	ERLDC
12.	Raj Protim	Manager	ERLDC
13.	Jayanta Dutta	DCE(SPE)	DVC
14.	Preetijoy Chowdhuri	SE	CTPS, DVC
15.	Preetosh Ghosh	EE	SLDC, DVC
16.	Yogesh Singla	DGM	KBUNL, NTPC
17.	S K Agarwal		KBUNL, NTPC
18.	Rahul Anand	Sr. Manager	NTPC
19.	Rambaboo singh	ESE	BSPTCL
20.	Gagan Kumar	EEE	SLDC, Bihar
21.	Sweta	AEE, Telecom	BSPTCL
22.	Prachi Gupta	AEE	SLDC, Bihar