

## **EASTERN REGIONAL POWER COMMITTEE**

**ADDITIONAL AGENDA FOR 181<sup>st</sup> OCC MEETING TO BE HELD ON 22.07.2021(Thursday) AT 10:30 HRS**

### **ITEM NO.1: Status of 400kV Jigmeling – Punatshangchu – Alipurduar Interim Line**

With the successful charging of the 400kV Jigmeling – Alipurduar Quad Moose direct line 1 & 2 on 22<sup>nd</sup> and 18<sup>th</sup> June 2021 respectively, the direct lines have been kept continuously charged along with one 400kV Jigmeling – Punatshangchhu – Alipurduar interim line where power is being evacuated from all these lines.

With the stabilization of direct Jigmeling – Alipurduar lines, it is proposed to switch off the interim 400kV Jigmeling – Punatshangchhu – Alipurduar line and use only the direct Jigmeling – Alipurduar lines for evacuation of power through Jigmeling Substation. The interim lines shall be kept as standby for evacuation of Mangdechhu power during contingencies only.

Also, as requested and proposed by POWERGRID during the 180<sup>th</sup> OCC Meeting, POWERGRID may keep the interim lines idle charged up to Jigmeling Substation from Alipurduar end as antitheft measure.

**Members may discuss.**

### **ITEM NO.2: Replacement of Check Energy Meters at 132kV Gelephu & 132kV Motanga Substation**

During the 44<sup>th</sup> Commercial Sub-committee Meeting held on July 07, 2021, ERLDC had raised issue regarding non-submission of weekly energy meter data from 132kV Gelephu and 132kV Motanga Substation since more than a year. POWERGRID informed that the check energy meters at both the above substations are of L&T-make which are old and spares not available, and hence proposed for replacing the check energy meters at both substations with Genus-make energy meters. POWERGRID informed that due to COVID-19 travel restrictions, their representative could not travel to Bhutan and therefore enquired if Bhutanese counterpart could collect and install the energy meters if the same were delivered at Indo-Bhutan border in Gelephu and Samdrupjongkhar respectively.

Bhutan Power Corporation (BPC), the owner of the Gelephu and the Motanga Substation, had confirmed to take the energy meters from the Indo-Bhutan border and shall be installed provided POWERGRID provides the detailed installation and data downloading guidance.

During the recent commissioning of 400kV Jigmeling-Alipurduar Quad Moose direct line, the same procedure was followed where POWERGRID had delivered the check energy meters at the Indo-Bhutan border in Gelephu, and BPC had collected and installed in the two 400kV feeders.

POWERGRID is requested to do the needful with prior information to DGPC/BPC. POWERGRID is also requested to confirm the plan for replacement of other L&T/old check energy meters at Chhukha, Tala & Malbase Substations with Genus-make energy meters.

**Powergrid may update.**

**ITEM NO.3: Abnormal error between main and check energy meters of 220kV  
Chhukha-Birpara Feeders**

- a. The percentage error of the readings between main and check energy meters of Chhukha-Birpara (CB) Feeder No. 1 at Birpara end was noticed beyond the permissible limit on June 14, 2021 and thereafter from June 17, 2021 onwards. The error started with 1.7% and increased to 283% on July 01, 2021. However, the percentage error was found to be within the permissible limit of  $\pm 0.6$  % from July 02, 2021 onwards. The percentage error between main and check energy meters at Chhukha end remained within the permissible limit throughout the above duration. The statement of energy recorded by main and check energy meters of 220kV CB Feeder No. 1 at both Chhukha and Birpara end from June 10, 2021 to July 15, 2021 is at **Annexure – 3.1**.
- b. The percentage error between main and check energy meters of Chhukha-Birpara (CB) Feeder No. 2 at Birpara end was also noticed beyond the permissible limit on June 14, 2021 and thereafter from June 18, 2021 onwards. The error started with 1.5% and increased to 77% on June 24, 2021. The percentage error remained very high till July 01, 2021, and thereafter it was found to be within the permissible limit of  $\pm 0.6$  % from July 02, 2021 onwards. The percentage error between main and check energy meters at Chhukha end remained within the permissible limit throughout the above duration. The statement of energy recorded by main and check energy meters of 220kV CB Feeder No. 2 at both Chhukha and Birpara end from June 10, 2021 to July 15, 2021 is at **Annexure – 3.2**.

Due to very high percentage errors in Chhukha – Birpara (CB) feeder 1 & 2, the check energy meter reading at Birpara end had to be considered for the purpose of energy export accounting by Chhukha for the month of June 2021.

CHP-DGPC requested POWERGRID, Birpara to look into the issue of very high percentage error between the main and check energy meters. POWERGRID, Birpara Substation vide email dated July 16, 2021 intimated that the very high percentage error observed for around 15 days might be a momentary hanging issue of the energy meters. POWERGRID also certified that those energy meters are healthy at present since no errors were observed since July 02, 2021.

DGPC would like to inform that this type of abnormally high percentage error was never observed in any of the energy meters earlier and is a concern now for CHP-DGPC. Further, the momentary hanging issue as intimated by POWERGRID cannot be correct since the problem had occurred simultaneously in the main energy meter of both Feeders No. 1 & 2.

Since the above energy meters are being used for the commercial energy accounting of Chhukha export energy, it is of paramount importance that the energy meters remained always healthy so that there are no commercial issues in future. Therefore, POWERGRID is requested to carry out the detailed Root Cause Analysis of the above issue and share the report with OCC/CHP-DGPC. POWERGRID is also requested to test the energy meters at Birpara end OR replace the main energy meters by a reliable energy meter.

**Powergrid may update.**

#### **ITEM NO.4: Loading of 400kV Tala-Siliguri Feeders**

The prolong shutdown of Tala-Siliguri 400kV Feeder 1 due to damage of the Outdoor Termination of the XLPE Cable on Y-Phase was informed in the 180<sup>th</sup> OCC Meeting. DGPC is trying all possible measures to restore the feeder at the earliest possible but due to the challenges posed by the COVID-19 Pandemic in getting the service, it is unlikely the feeder can be restored within this peak hydro generation season. There are other three healthy 400kV feeders, which is sufficient to evacuate the power generation of Tala HEP.

However, in view of the uncertainty of the availability of these three feeders throughout the season, some contingency plan needs to be in place to avoid generation loss should any of the remaining healthy feeders fails. At present the feeder loading capacity of the 400kV Tala – Siliguri feeders are restricted to 623MW based on the limitation of the CT ratio of 1000/1A at Siliguri end, although the transmission lines are capable to carry 907.85 MW at 750C ambient temperature.

DGPC would like to request POWERGRID to increase the CT ratio and loading limitation of the line at their end in order to have redundancy in place in case of the failure of the healthy feeders.

**Members may discuss.**

**Annexure – 3.1**

**Statement of Energy Meter Reading at Chhukha & Birpara End from June 10 to July 15, 2021 for 220kV CB Feeder No. 1**

Date	Chhukha End Energy Recorded by		Percentage Error	Birpara End Energy Recorded by		Percentage Error
	Main Meter (MU)	Check Meter (MU)		Main Meter (MU)	Check Meter (MU)	
10-06-2021	1.7360	1.733400	0.150%	1.709760	1.70928	0.02807%
11-06-2021	1.6440	1.643760	0.015%	1.616640	1.616640	0.00%
12.06.2021	2.1980	2.195160	0.129%	2.159520	2.15888	0.02964%
13.06.2021	2.3010	2.306640	-0.245%	2.276960	2.26672	0.44972%
14.06.2021	2.2740	2.273040	0.042%	2.216640	2.25472	-1.71792%
15.06.2021	2.2740	2.275080	-0.047%	2.236480	2.22656	0.44355%
16.06.2021	2.2690	2.268480	0.023%	2.213120	2.22256	-0.42655%
17.06.2021	2.6000	2.593920	0.234%	2.515520	2.58464	-2.74774%
18.06.2021	2.7120	2.712240	-0.009%	2.088000	2.61840	-25.40230%
19.06.2021	2.6430	2.645280	-0.086%	2.209600	2.59920	-17.63215%
20.06.2021	2.6080	2.605680	0.089%	3.186720	2.55264	19.89757%
21.06.2021	2.7110	2.715960	-0.183%	1.715200	2.66160	-55.17724%
22.06.2021	2.4970	2.497560	-0.022%	1.739200	0.86720	50.13799%
23.06.2021	2.4790	2.478000	0.040%	1.536160	4.03040	-162.36850%
24.06.2021	2.3170	2.316840	0.007%	1.291200	2.28016	-76.59232%
25.06.2021	2.3780	2.371200	0.286%	2.192480	2.33136	-6.33438%
26.06.2021	2.3870	2.388960	-0.082%	2.343040	2.33360	0.40290%
27.06.2021	2.3310	2.330160	0.036%	3.816320	2.31040	39.46000%

28.06.2021	2.3100	2.310000	0.000%	2.076160	2.25840	-8.77774%
29.06.2021	2.0710	2.075640	-0.224%	1.822080	2.05344	-12.69758%
30.06.2021	2.4910	2.489520	0.059%	1.721120	2.42560	-40.93149%
01.07.2021	2.5100	2.510880	-0.035%	0.642720	2.46688	-283.81877%
02.07.2021	2.5720	2.572920	-0.036%	2.510080	2.50800	0.08287%
03.07.2021	2.4840	2.477880	0.246%	2.430400	2.42752	0.11850%
04.07.2021	2.4930	2.493120	-0.005%	2.424960	2.42176	0.13196%
05.07.2021	2.4650	2.464200	0.032%	2.424320	2.42832	-0.16499%
06.07.2021	2.3830	2.384280	-0.054%	2.331840	2.32720	0.19898%
07.07.2021	2.4780	2.481120	-0.126%	2.331840	2.32720	0.19898%
08.07.2021	2.4780	2.481120	-0.126%	2.445760	2.44608	-0.01308%
09.07.2021	2.6240	2.623440	0.021%	2.589760	2.58992	-0.00618%
10.07.2021	2.5360	2.534640	0.054%	2.468640	2.47200	-0.13611%
11.07.2021	2.5320	2.526600	0.213%	2.500640	2.49760	0.12157%
12.07.2021	2.5460	2.545800	0.008%	2.481600	2.48336	-0.07092%
13.07.2021	2.5680	2.567880	0.005%	2.522240	2.52112	0.04440%
14.07.2021	2.5530	2.552880	0.005%	2.520160	2.52080	-0.02540%
15.07.2021	2.5340	2.538360	-0.172%	2.486880	2.48752	-0.02574%

**Annexure – 3.2**

**Statement of Energy Meter Reading at Chhukha&Birpara End from June 10 to July 15, 2021 for 220kV  
CB Feeder No. 2**

Date	Chhukha End Energy Recorded by		Percentage Error	Birpara End Energy Recorded by		Percentage Error
	Main Meter (MU)	Check Meter (MU)		Main Meter (MU)	Check Meter (MU)	
10-06-2021	1.7340	1.731600	0.138%	1.701920	1.70448	-0.15042%
11-06-2021	1.6420	1.641840	0.010%	1.609600	1.61264	-0.18887%
12.06.2021	2.1950	2.191680	0.151%	2.150880	2.15456	-0.17109%
13.06.2021	2.3040	2.309160	-0.224%	2.269280	2.26128	0.35253%
14.06.2021	2.2700	2.270280	-0.012%	2.213760	2.24784	-1.53946%
15.06.2021	2.2720	2.272200	-0.009%	2.234720	2.22064	0.63006%
16.06.2021	2.2650	2.265240	-0.011%	2.213280	2.21630	-0.13663%
17.06.2021	2.5960	2.590560	0.210%	2.539360	2.54496	-0.22053%
18.06.2021	2.7090	2.708640	0.013%	2.159360	2.64208	-22.35477%
19.06.2021	2.6400	2.640000	0.000%	2.265440	2.58944	-14.30186%
20.06.2021	2.6030	2.602440	0.022%	3.352480	2.54448	24.10156%
21.06.2021	2.0320	2.038440	-0.317%	1.765920	1.99120	-12.75709%
22.06.2021	2.4940	2.493840	0.006%	1.965920	2.45712	-24.98576%
23.06.2021	2.4750	2.493840	-0.761%	1.834880	2.42176	-31.98465%
24.06.2021	2.3140	2.493840	-7.772%	1.277600	2.27136	-77.78334%
25.06.2021	2.3740	2.493840	-5.048%	2.539200	2.32336	8.50032%
26.06.2021	2.3840	2.493840	-4.607%	2.772160	2.32528	16.12028%
27.06.2021	2.3280	2.326200	0.077%	3.911200	2.30352	41.10452%

28.06.2021	2.3070	2.307000	0.00%	2.236160	2.24960	-0.60103%
29.06.2021	2.0680	2.074680	-0.323%	1.682880	2.04576	-21.56303%
30.06.2021	2.4860	2.484840	0.047%	1.757280	2.42144	-37.79477%
01.07.2021	2.5060	2.505960	0.002%	3.486240	2.47328	29.05595%
02.07.2021	2.5680	2.568360	-0.014%	2.510720	2.51504	-0.17206%
03.07.2021	2.4790	2.473440	0.224%	2.429760	2.43200	-0.09219%
04.07.2021	2.4880	2.488680	-0.027%	2.429280	2.42752	0.07245%
05.07.2021	2.4620	2.459160	0.115%	2.412320	2.42448	-0.50408%
06.07.2021	2.4530	2.456040	-0.124%	2.388640	2.38768	0.04019%
07.07.2021	2.4730	2.476440	-0.139%	2.427520	2.43808	-0.43501%
08.07.2021	2.6190	2.618640	0.014%	2.572800	2.57200	0.03109%
09.07.2021	2.4200	2.421000	-0.041%	2.364000	2.36864	-0.19628%
10.07.2021	2.5310	2.530320	0.027%	2.468640	2.47200	-0.13611%
11.07.2021	2.5280	2.522400	0.222%	2.483200	2.48480	-0.06443%
12.07.2021	2.5420	2.541600	0.016%	2.463520	2.47024	-0.27278%
13.07.2021	2.5630	2.561400	0.062%	2.506080	2.50864	-0.10215%
14.07.2021	2.5470	2.549760	-0.108%	2.504960	2.50944	-0.17885%
15.07.2021	2.5310	2.534280	-0.130%	2.470080	2.47536	-0.21376%

### **220 kV Feeder 1**

#### **Chhukha End Energy Meter Details:**

Main Meter: Sl. No. WB U03117, Make: Secure

Check Meter: Sl. No. NP-2529 A, Make: Secure

#### **Birpara End Energy Meter Details:**

Main Meter: Sl. No. NP-6465A, Make: L&T

Check Meter: Sl. No. LT-0328-A, Make: L&T

**220 kV Feeder 2**

**Chhukha End Energy Meter Details:**

Main Meter: Sl. No. WB U03116, Make: Secure

Check Meter: Sl. No. NP-2520 A, Make: Secure

**Birpara End Energy Meter Details:**

Main Meter: Sl. No. ER-1106A, Make: Genus

Check Meter: Sl. No. LT-0327-A, Make: L&T make