

4. Date of Audit: 15.11.2021

Sl.No.	Name	Designation	Organization	Signature
1	CHITRA BAHADUR THAPA	Dy. Manager	NERLDC	C. Thapa
02.	UJJWAL KR. GUPTA	Eng	PGCIL	U. Gupta
3	SRIJIT NUKHREBBE	DD	NBRPC	S. Nukhrebbe

6. Representatives of the Sub-station/Generating Station assisting the auditing team:

[illegible]

Observations/Recommendations:

Sl.No.	Parameters	Yes/NO	Remarks
1	Whether redundant supply for station auxiliaries is available?	Yes.	2x250 KVA, 33/0.415 KV SST available. 1x250 KVA DG self available.
2	Whether SCADA system is present?	No.	—
3	Whether SAS has been implemented? If no, whether panels are SAS compliant?	No.	—
4	Whether protection relays for transformers/ICTs/reactors are operational?	Yes.	* All E/M relays to be replaced with numerical relays *
5	Whether reliability by way of Bus-Bar scheme is present in 132kV station?	Yes	Main & Transfer Busbar Scheme available.
6	Whether Double Main Arrangement is present in 220kV Station? If yes, whether operational or not?	Yes	Double Main Cum Transfer Scheme operational Segregation not done
7	Whether Bus Bar Protection is available for the 220kV and above station?	No.	Busbar protection to be implemented
8	Whether protection relays for emanating lines are operational?	Yes.	—
9	Whether time synchronisation facility is available in the Sub-station?	No.	Time Synchronisation Equipment (TSE) to be installed.
10	Whether existing RTUs are healthy and reporting?	Partially Yes.	Few analog/digital points are not reporting. **
11	Whether existing communication via PLCC or OPGW? If PLCC then healthiness of PLCC panels	OPGW	—

CPH/

2/2/2014

S. M. Chakrabarti

Dr. B. B. Chakrabarti

Audit Observations / Recommendations of 220/132/33 KV Mariani

Wrong CB position for 220 KV B/C, Bus Reactor Bay, 132/33 KV ICT-1 HV side, 220/132 KV ICT 1 HV side, 220 KV Samaguri feeder.

*** 3) Tan delta & Cap measurement Kit, THRC Measurement Kit, DC Earth Fault locator to be immediately provided.

*** 4) Relay settings to be submitted for 220 KV AGBPP, NTPS 1 & 2, and 132 Golaghat feeders.

After commissioning of 220 KV New Mariani (PG) - Mariani, relay settings to be submitted after implementation of UFR scheme for Upper Assam Islanding.

***** 5) In 132 KV system, all CTs/CVTs upto ICT HV side to be replaced with 0.2 s class accuracy.

6) DC Earth Fault observed in 220 KV system and is to be rectified immediately.

7) Obsolete / Unserviceable isolators ~~nam~~, viz. CB Bypass isolator for 220 KV Samaguri-1, ^{Bus} Transfer Isolator for 220 KV Samaguri-2, CB Bypass Isolator for 220 KV Samaguri-2, 220 KV Bus Coupler Bay Isolator, HV side isolator of 100 MVA ICT-1 & 2 (Bus 1, Bus 2), etc. (as per list)

Officer

26/11/11

S. Mukherjee
15/11

12	In case of OPGW connectivity to the station, whether end equipments are available and functional?	Yes.	✓ Redundant OPGW link to be provided besides 220 Marani-Samaguri 2 line
13	Whether all analog/digital points are reporting in local SCADA?	NA	—
14	Healthiness of Protection coupler/Coupling device?	Yes. Partially	Except 132 KV Marani-Lakwa protection coupler to be provided in all lines
15	Whether sufficient lighting is available in the switchyard?	Yes	Sufficient
16	DC Supply- Whether two DC sources are available?	No.	One 220V DC Source is found unhealthy.
17	Earthing System in the switchyard: Whether as per IS?	No.	Cover slabs missing in many Earth pit
18	List of diagnostic tools, testing equipments etc. and whether are present in sufficient quantity?	No.	To be provided as per list ***
19	Whether firefighting provision is available in the station?	No.	Hydrant System/NIPS to be installed.
20	Whether Protection Audit has ever been carried out before? If yes then compliance status of Audit Observations/Recommendations	Yes.	Compliance as per attachment
21	Whether all relay settings have been submitted in PDMS? If no, then compliance status	No.	***
22	Whether CTs, PTs/CVTs of sufficient accuracy is present in the station?	No	CTs for all feeders except 220KV NTPS DIC to be replaced with 0.2s class. All CVTs to be replaced. ****

Any other specific observations/recommendations:

*1) 220 KV Samaguri 1 & 2 Main Protection to be ensured with Distance Protection. All E/M Backup relays to be changed to Numerical Relays. 132 KV Mokokchung feeder Main Protection to be ensured with Distance Protection.

**2) All Insulator status of 220KV & 132 KV feeders, ICTs HV side is not reporting. No data reporting for 220 KV NTPS-1 & 2 feeders.

Copy-

22/5/11 / S. M. S. / 15/11

AS

Barinder

Audit Observations/Recommendations of 220/132/33 KV Mariani G/S

- 8) 220 KV, 12.5 MVAR Bus Reactor-1 is out of service due to Bushing failure. Same needs to be taken into service at the earliest.
- 9) 220 KV, 12.5 MVAR Bus Reactor-2 is connected only through Mam Bus-1. Same may be connected to Mam Bus-2.
- 10) All the 220 KV elements are connected to 220 KV Bus-1. For improving reliability, it is recommended that proper Bus segregation has to be done in the switchyard. From switchyard layout, it is understood that 220 KV AQBPP and 220 KV Misa (New Mariani) can only be connected to Bus-1 in normal operation. Same has to be rectified at the earliest.
- 11) CT oil leakage observed in all the phases of 12.5 MVAR BR-2 Bay and needs to be attended immediately.
- 12) OTI of 12.5 MVAR BR-2 is observed to be showing error and needs to be rectified at the earliest.
- 13) AG G/L ^{wire} earthing in 220 KV and 132 KV side to be replaced with plate earthing as per guidelines.
- 14) Oil leakage observed in 100 MVA ICT-1 (near radiator banks, conservator tank, main tank) and ICT-2 (Bushing) and the same needs to be attended immediately.

CP/ey-

28/11/11

Shukla
15/11

✓ ~~AK~~ ~~Red~~

Audit Observations / Recommendations of 220/132/33 KV Mariani GSS

- 15) Online DGA of ICT-1 is not in working condition and is to be rectified at the earliest. Online DGA to be installed in 100 MVA ICT-2.
- 16) Defective fans in 100 MVA ICT-2 to be rectified.
- 17) Cables to be properly dressed and laid in cable trenches in switchyard.
- 17) Earth Pits in switchyard to be covered and marked.
- 18) One 220V Lead Acid Battery Bank found unhealthy and is to be replaced with VRLA Batteries along with charger. Second 48V Battery Bank along with charger to be installed.
- 19) AC to be installed in Battery Room.
- 20) Auto-Reclosure Scheme for all 220KV & 132KV feeders to be implemented.

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2/2/2011 S. Muthu
15/11

✓ ~~AK~~ R. R. R.

Requirement of different substation equipments to be replaced under PSDF phase-2 at 220kV, GSS, AEGCL

SL No	Bay Name	Item	Voltage Level	Status	Remarks
1	220kV Samaguri-1	Isolator with earth switch for Line Side	220kV	Replaced at PSDF phase-1	
		Isolator without earth switch for Bus Side	220kV	Replaced at PSDF phase-1	
		Transfer Bus Isolator without earth switch for Main bus II	220kV	Replaced at PSDF phase-1	
		Transfer Isolator without earth switch for Main Bus I	220kV	Replaced at PSDF phase-1	
		CB	220kV	Replaced at PSDF phase-1	
		High Beam Bypass Isolator	220kV	Replacement needed.	Present isolators are not in good condition replacement needed.Also not motorised
		Isolator with earth switch for Line Side	220kV	Replaced at PSDF phase-1	
		Isolator without earth switch for Bus Side	220kV	Replaced at PSDF phase-1	
2	220kV Samaguri-2	Transfer Isolator without earth switch for Main Bus I	220kV	Replaced at PSDF phase-1	
		Transfer Isolator without earth switch for Main Bus II	220kV	Replacement needed.	Isolator not motorised
		CB	220kV	Replaced at PSDF phase-1	
		High Beam Bypass Isolator	220kV	Replacement needed	Present isolators are not in good condition replacement needed.Also not motorised
3	12.5 MVAR Reactor-1	Isolator reactor side	220kV	Motorised. Replacement not needed	
		CT 50/1	220kV	Replacement needed very old CT	Frequent maintenance needed
		Reactor CB	220kV	Replaced under PSDF phase-1	
		Isolator reactor side Tandam Type	220kV	Replacement needed	Isolator not motorised.Also frequent maintenance required
4	12.5 MVAR Reactor-2	CT 50/1	220kV	Replacement needed very old CT	Frequent maintenance needed
		Reactor CB	220kV	Replaced under PSDF phase-1	
		Main Bus-I PT	220 KV	Replaced under PSDF phase-1	

5	220 KV bus PT	Main Bus-II PT	220 KV	Replacement needed, old PT	
		Main BUS-I Pt isolator without ES	220 KV	Replacement needed, old isolator	Isolator not motorised
		Main BUS- II Pt isolator without ES	220 KV	R placement needed	Isolator not motorised
		Bus coupler bay transfer bus side isolator without ES	220 KV	Replaced under PSDF phase-I	Isolator not motorised
6	220 KV Bus coupler bay	Bus coupler bay main bus side isolator without ES	220 KV	R placement needed	
		CB	220kV	R placement needed	One no of CB was diverged to replace it, but could not be replaced due to leakage in one no of cable
		Bus coupler bay CT (800/1)	220 KV	R placement needed	Old CT
		HV side Main Bus- isolator	220kV	R placement needed	Present isolator is not in good condition replacement needed. Also not motorised
7	220/132kV, 100MVA Transformer-1, HV Side	HV side Main Bus- I isolator		R placement needed	Present isolator is not in good condition replacement needed. Also not motorised
		HV side CB	220 KV	Replaced at PSDF phase-I	
		HV side CT 800/600/300-1	220kV	Replaced at PSDF phase-I	
		245 kV Surge Arresters 3 nos	220kV	R placement needed	
8	220/132kV, 100MVA Transformer-2, HV Side	HV side Bus isolator	220kV	Present isolators are not in good condition replacement needed	Present isolator is not in good condition replacement needed. Also not motorised
		HV side CT 500 : 50:1/1	220kV	R placement needed	
		Main Bus-II side isolator	220kV	R placement needed	Present isolator is not in good condition replacement needed. Also not motorised
		245 kV Surge Arresters 3 nos	220kV	R placement needed	

9	220/132kV, 100MVA Transformer-1, LV Side	LV side Line isolator	132kV	Present isolators is not in good condition replacement needed	Not motorised
		LV side Bus isolator	132kV	Present isolators is not in good condition replacement needed	Not motorised
		LV side Transfer Bus Isolator	132kV	Replacement needed	Present isolator is not in good condition replacement needed. Also not motorised
		LV side CT 500/250:1/1	220kV	Replacement needed	
		145 kV Side Arresters 3 nos	220kV	Replacement needed	
10	220/132kV, 100MVA Transformer-2, LV Side	LV side Line isolator	132kV	Present isolators is not in good condition replacement needed	Not motorised
		LV side Bus isolator	132kV	Replacement needed	Not motorised
		LV side Transfer Bus Isolator	132kV	Replacement needed	Not motorised
		LV side CT 300/600:1/1	132kV	Replaced under PSDF phase-1	
		145 kV Side Arresters 3 nos	132kV	Replacement needed	
11	132kV Dimapur feeder	Line Isolator	132kV	Replaced at PSDF phase-1	
		Line Isolator	132kV	Replacement needed	
		Transfer Bus Isolator	132kV	Replacement needed	
		CT 600/1	132kV	Replaced at PSDF phase-1	
		Line CVT 3 nos	132kV	Replaced under PSDF phase-1	
12	132kV LTPS feeder	Line Isolator	132kV	Replaced at PSDF phase-1	
		Line Isolator	132kV	Replacement needed	Not motorised
		Transfer Bus Isolator	132kV	Replacement needed	Not motorised
		CT 800/400/200:1/1/1	132kV	Replacement needed	
		Line CVT 3 nos	132kV	Replaced at PSDF phase-1	
13	132kV Jorhat-1 feeder	Line Isolator	132kV	Replaced at PSDF phase-1	
		Line Isolator	132kV	Replacement needed	Not motorised
		Transfer Bus Isolator	132kV	Replacement needed	Not motorised
		CT 600/300:1/1	132kV	Replaced under PSDF phase-1	
		Line CVT 3 nos	132kV	Only 2 CVTs available, replacement needed	

14	132kV Jorhat-2 feeder	Line Isolator	132kV	Replaced at PSDF phase-1	
		Bus Isolator	32kV	Replacement needed	Not motorised
		Transfer Bus Isolator	32kV	Replacement needed	Not motorised
		CT 600/300/1-1	32kV	Replaced at PSDF phase-1	
		Line CVT 3 nos	32kV	Only 1 CVT available, replacement needed	
15	132kV Mukokchung feeder	Line Isolator	32kV	Replacement needed	Not motorised
		Bus Isolator	32kV	Replacement needed	Not motorised
		Transfer Bus Isolator	32kV	Replacement needed	Not motorised
		CT 600-1	32kV	Replacement needed	CT not available
		Line CVT 3 nos	32kV	Replacement needed	CVT not available
16	132 KV Bus coupler bay	Transfer Bus side isolator without earth switch	12 KV	Replacement needed	Not motorised
		Main bus side isolator without earth switch	132kV	Replaced at PSDF phase-1	
		CT (400/1)	12 KV	Replacement needed	Not motorised
17	Bus PT	BUS Pt isolator I without ES	132kV	Replacement not needed already motorised.	
		Bus PT 3nos	132kV	Replaced at PSDF phase-1	
		HV Isolator(Transformer side)	132kV	Motorised. Replacement not needed	
		HV Isolator(Main Bus side)	132kV	Replacement needed	Not motorised
18	132KV/33kV, 25MVA Tr-1 HV side Bay	LA 3 nos	32kV	Replacement needed	
		HV side CT 600-300-150/1-1-1	132kV	Replaced at PSDF phase-1	
		HV Isolator	132kV	Motorised. Replacement not needed	
19	132KV/33kV, 25MVA Tr-2 HV side Bay	LA 3 nos	32kV	Replacement needed	
		HV side CT 300-150/1-1	32kV	Replacement needed	
		Transformer Isolator	3kV	Replacement needed	Not motorised

20	132KV/33kV, 25MVA Tr-1 LV side Bay	33kV Bus Side Isolator	33kV	Replacement needed	Not motorised
		LA 3 nos	33kV	Replacement needed	
		LV CT	33kV	Replaced under PSDF phase-I	
		CB	33kV	Replacement needed	
		Transformer Side Isolator	33kV	Replacement needed	Not motorised
21	132KV/33kV, 25MVA Tr-2 LV side Bay	33kV Bus Side Isolator	33kV	Replacement needed	Not motorised
		LA 3 nos	33kV	Replacement needed	
		LV CT	33kV	Replaced under PSDF phase-I	
		CB	33kV	Replacement needed	
22	66kV Mariani- Nazira feeder-1	CB	66kV	Supplied under PSDF phase-I	Could not be commissioned due to 220VDC operating voltage which is presently not available at 66kV C/R
		CT 400/200-1-1	66kV	Replacement needed	
		LA	66kV	Replaced under PSDF phase-I	
		Line Isolator with earth switch	66kV	Replaced under PSDF phase-I	
		Bus isolator without Earth Switch	66kV	Replacement needed	
23	66kV Mariani- Nazira feeder-2	CB	66kV	Supplied under PSDF phase-I	Could not be commissioned due to 220VDC operating voltage which is presently not available at 66kV C/R
		CT 300/200-1	66kV	Supplied under PSDF phase-I	Can only be replaced after Commissioning of SAS since present panels are of 5 Amps
		LA	66kV	Replaced under PSDF phase-I	
		Line Isolator with earth switch	66kV	Replaced under PSDF phase-I	
		Bus isolator without Earth Switch	66kV	Replacement needed	
	66kV Mariani	CB	66kV	Supplied under PSDF phase-I	Could not be commissioned due to 220VDC operating voltage which is presently not available

24	Golgahat feeder-1	CT 300/200-1	66k V	Supplied under PSDI phase-1	
		LA	66k V	Replaced under PSDI phase-1	
		Line Isolator with earth switch	66k V	Replaced under PSDI phase-1	
		Bus isolator without Earth Switch	66k V	Replacement needed	
25	66kV Mariani-Golgahat feeder-2	CB	66k V	Supplied under PSDI phase-1	Could not be commissioned due to 220 VDC operating voltage which is presently not available
		CT 300/200-1	66k V	Replacement needed	
		LA	66k V	Replaced under PSDI phase-1	
		Line Isolator with earth switch	66k V	Replaced under PSDI phase-1	
		Bus isolator without Earth Switch	66k V	Replacement needed	
26	66kV bus section isolator	66 K V common bus section isolator(With out ES)	66k V	Replacement needed	Not motorised
		33 K V common bus section isolator(With out ES)	33 k V	Replacement needed	
		33 K V bus section II incoming isolator (Without ES)	33k V	Replacement needed	
27	33KV bus	33 K V common bus section isolator for 25 MVA transformer I & II (Without ES)	33 k V	Replacement needed	
		33 K V bus section I incoming isolator (Without ES)	33 k V	Replacement needed	
		33 K V line isolator with ES	33 k V	Replacement needed	
28	33 KV chanki feeder	33 KV CT with (200/1)	33 k V	Replacement needed	
		33 KV line isolator with ES	33 k V	Replacement needed	
29	33 KV Jorhat (ONGC) feeder	33 KV CT with (200/1)	33 k V	Replacement needed	
		33 KV line isolator with ES	33 k V	Replacement needed	
30	33 KV Tiabor feeder	33 KV CT with (400/1)	33 k V	Replacement needed	
31	Nickel Cadmium Lead Acid Battery Bank	220VDC with 110no of Cell, minimum 24 H	22V DC	Replacement needed	Present Lead Acid battery is not working. Most of the cell got damaged
32	Energy meters for 220kV feeders	For Samaguri-I, Samaguri-II, Namrup-I, Namrup-II, Kathalguri and Missa	220 V	Replacement needed	

Sl No.	Recommendations during Protection Audit 2013	Status as on 05.08.18 (Attended/Not Attended)	If Not complied, target date of completion
1	Old MOCB type CBs may be replaced, if required.	ARCBS replaced except 66KV Mariani I	End of the year 2018
2	The old gapped type SA, if exists, need to be replaced by heavy duty station class, gapless type surge arrester of suitable rating. The healthiness of old Gapless Surge Arrester need to be ensured, and may be replaced, if required.	Replaced with new polymer type surge arrester	
3	No. of CT cores are not adequate. CT accuracy class is not as per CEA's regulations. CT ratio is not suitable for bus bar protection. CTs of suitable ratios (if bus bar protection is to be provided) and accuracy class need to be provided. The healthiness of old CTs need to be ensured and may be replaced, if required.	Most of the old CTs has been replaced with suitable accuracy and class having spare core for busbar protection	
4	PT/CVTs accuracy class is not as per CEA regulation. PT/CVTs of suitable accuracy class need to be provided. The healthiness of old PT/CVTs need to be ensured and may be replaced, if required.	Most PTs has been replaced with new one. Healthiness has been checked from time to time.	
6	Two sets of batteries (110V) with associated chargers for station DC supply and two sets of batteries (48V) with associated chargers for reliable communication system shall be in place as per CEA's regulations.	Installed as per CEA regulation as per recommendation.	
7	DG set not available		Jan-19
8	The bus PT / CVT is being used for both protection and metering of transformer and lines. Dedicated line CVT may be used for distance protection	Separate line CVTs has been introduced to 220 Namrup feeder.	
9	Protection scheme as per CEA's regulations need to be provided for lines, ICT, EM/static relays to be replaced by Numerical relays complying to IEC 61850 protocol. DR, EL and TSE need to be provided. BC&PU and SAS may be provided. Telecommunication link may be established for communication and protection purpose.	Most of the EM/static relays has been replaced with numerical relays rest are used for backup protection only.	SAS and new CR panel work in progress estimated to be completed by dec 2018
10	Required FF provision has to be made as per CEA's regulations.		
11	Earthing system needs improvement		New and improved earthing system to be implemented in a very short period under PSDF scheme. Estimate has been send to the higher authority.
12	The modern diagnostic tools including relay test kit need to be procured to assess healthiness of transmission line and various substation equipment/material including protective relays. Minimum diagnostic tools are to be provided as per CEA's regulations.	Not Available	
13	Busbar and LBB protection not available		
Sl No.	Observations during Protection Audit 2017	Status as on 06.08.18 (Attended/Not Attended)	If Not Attended, Target date of completion
1	No fire fighting system at the switchyard.		Fire fighting scheme for 100 MVA transformers is in process.
2	No DG set		End of the year 2018
3	DPR setting for 132 and 220 kV to be reviewed RK task force recommendation not implemented, relays not tested for long time	RK task force recommendation has been implemented	
4	LBB, bus bar protection not available.	Not Available	
5	Sid DR, EL not available, however in built DR & EL available.		With new SAS system and CR panels standard DR and EL will be provided
6	Relays of 33 kV and below are electromechanical		SAS to be implemented very soon along with new CR panel

Common recommendation

* No of CVTs per bay

220kV Samaguri I → 2 nos

220kV Samaguri II → 2 nos

220kV Namrup I → 3 nos

132 kV LTPS → 3 nos

Goalaghat → 3 nos.

Jorhat I → 2 nos

Jorhat II → 1 nos.

15/11/21

Asstt. General Manager
220KV Grid Sub-Station
AEGCL, Mariani

Voltage mismatch, will be ref
after SAS implementation.

Done.

Done.

Done with C's Accuracy Class in
PSDF Scheme.

Done.

Installed under PSDF

*

Will be commission soon.

Not available.

Done under PSDF

Not available (Fault locator
provided)

Not available.

Not available.

DG set available.

Done.

Not available.

SAS not implemented yet

Sl. No.	Recommendations during Protection Audit 2013	Status as on 06.08.18 (Attended/Not Attended)	If Not complied, target date of completion
1	Old MOCB type CBs may be replaced, if required.	All CBs replaced except 66kV Mariza-1	End of the year 2018
2	The old gapped type SA, if exists, need to be replaced by heavy duty station class, gapless type surge arrester of suitable rating. The healthiness of old Gapless Surge Arrester need to be ensured, and may be replaced, if required.	Replaced with new polymer type surge arrester	
3	No. of CT cores are not adequate. CT accuracy class is not as per CEA's regulations. CT ratio is not suitable for bus bar protection. CTs of suitable ratios (if bus bar protection is to be provided) and accuracy class need to be provided. The healthiness of old CTs need to be ensured and may be replaced, if required.	Most of the old CTs has been replaced with suitable accuracy and class having spare core for busbar protection	
4	PT/CVTs accuracy class is not as per CEA regulation. PT/CVTs of suitable accuracy class need to be provided. The healthiness of old PT/CVTs need to be ensured and may be replaced, if required.	Most PTs has been replaced with new one. Healthiness has been checked from time to time.	
6	Two sets of batteries (110V) with associated chargers for station DC supply and two sets of batteries (48V) with associated chargers for reliable communication system shall be in place as per CEA's regulations.	Installed as per CEA regulation as per recommendation.	
7	DG set not available		Jan-19
8	The bus PT / CVT is being used for both protection and metering of transformer and lines. Dedicated line CVT may be used for distance protection	Separate line CVTs has been introduced to 220 Namrup feeder-1	
9	Protection scheme as per CEA's regulations need to be provided for lines, ICT, EM/static relays to be replaced by Numerical relays complying to IEC 61850 protocol. DR, EL and TSD need to be provided. BC&PU and SAS may be provided. Telecommunication link may be established for communication and protection purpose.	Most of the EM/static relays has been replaced with numerical relays test are used for backup protection only.	SAS and new CR panel work in progress estimated to be completed by dec 2018
10	Required IP provision has to be made as per CEA's regulations.		
11	Earthing system needs improvement.		New and improved earthing system to be implemented in a very short period under PSDP scheme. Estimate has been send to the higher authority.
12	The modern diagnostic tools including relay test kit need to be procured to assess healthiness of transmission line and various substation equipment/material including protective relays. Minimum diagnostic tools are to be provided as per CEA's regulations.	Not Available	
13	Busbar and LBB protection not available		
Sl. No.	Observations during Protection Audit 2017	Status as on 06.08.18 (Attended/Not Attended)	If Not Attended, Target date of completion
1	No fire fighting system at the switchyard.		Fire fighting scheme for 100 MVA transformers is in process.
2	No DG set		End of the year 2018
3	DPR setting for 132 and 220 kV to be reviewed. RK task force recommendation not implemented, relays not tested for long time	RK task force recommendation has been implemented.	
4	LBB, bus bar protection not available.	Not Available	
5	Std DR, EL not available, however in built DR & EL available.		With new SAS system and C/R panels standard DR and EL will be provided.
6	Relays of 33 kV and below are electromechanical		SAS to be implemented very soon along with new CR panel.

will be replaced after SAS implementation.


Accuracy Class of PT and CT at 220 KV Grid Substation, AEGCL, Mariani

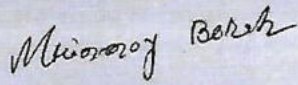
Sl No	Name of the transmission lines/Transformer	Voltage level	CT		CVT Class	Remark
			CT Metering accuracy class	Connected CT ratio		
1	220 KV Samaguri-I feeder	220KV	0.5	800/1	0.5	
2	22 KV Samaguri-II feeder	220KV	0.5	800/1	0.5	
3	220 KV Namrup-I feeder	220KV	0.2	800/1	0.5	
4	220 KV Namrup-II feeder	220KV	0.2		0.5	
5	220KV Kathalguri Feeder	220KV	0.5	800/1		PGCIL Utility
6	220KV Misa Feeder	220KV	0.5	800/1	0.5	PGCIL Utility
7	220 KV/12.5MVAR Reactor I	220KV	0.5	50/1	0.5	
8	220 KV 12.5MVAR Reactor II	220KV	0.5	50/1	0.5	
9	220 KV Bus Coupler	220KV	1	800/1		
10	220/132 KV 100MVA Transformer I HV	220KV	0.5	300/1		
11	220/132 KV 100MVA Transformer II HV	220KV	1	500/1		
12	220/132 KV 100MVA Transformer I LV	132 KV	1	500/1		
13	220/132 KV 100MVA Transformer II LV	132 KV	0.5	600/1		
14	132KV Lakuwa Feeder	132KV	0.5	400/1	0.5	
15	132KV Dimapur Feeder	132KV	0.5	600/1	0.5	
16	132KV Jorhat-I Feeder	132KV	0.5	600/1	0.5	
17	132KV Jorhat-II Feeder	132KV	0.5	600/1	0.5	
18	132 KV Mochokchung Feeder	132 KV				
19	132 KV BUS coupler	132KV	0.5	400/1		
20	132 /33 KV Transformer I HV	132KV	0.5	150/1		
21	132 /33 KV Transformer II HV	132KV	0.5	150/1		
22	66KV Nazira-I Feeder	66KV	0.5	400/5		

23	66KV Nazira-II Feeder	66KV	T 10 320			CT not comissioned as CR panels are of 5Amps and Supplied CT under PSDF are having 1Amp Secondary voltage
24	66KV Golaghat- I Feeder	66KV	T 10 320	200/5		
25	66KV Golaghat-II Feeder	66KV	0.5			CT not comissioned as CR panels are of 5Amps and Supplied CT under PSDF are having 1Amp Secondary voltage
26	132/133 KV Transformer LV	33 KV	0.5	600/1		
27	132 /133 KV Transfomer II LV	33 KV	0.5	600/1		
28	33 KV Titabor Feeder	33 KV	1	400/5		
29	33 KV PGCIL Feeder	33 KV	0.2	200/1		
30	33 KV Jorhat (ONGC) Feeder	33 KV	0.5	200/5		
31	33 KV Chanki Feeder	33 KV	0.5	200/5		
32	33 KV Teok Feeder	33 KV	0.5	200/1		

PT Details :

Sl No	PT	Accuracy Class
1	220 KV BUS PT -II	0.5
2	220 KV BUS PT -II	0.5
3	220 KV BUS PT	0.5
4	66 KV BUS PT -1	1
5	66 KV BUS PT -2	0.5
6	33 KV BUS PT -1	0.5
7	33 KV BUS PT -2	0.5


Sub Div Engineer
220KV G-1d Sub-Station
AEGCL Mariani


Assistant Manager
Sub Station Maintenance S/Divn
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