

Northern Regional Power Committee

Report of the Protection Audit

A. General Information:

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| i. Name of utility

iii. Date of commissioning

v Name and Organization of Audit Team | ii. Name of Voltage level of sub-station:

iv. Type of bus-switching scheme:

vi. Name of representative from utility whose audit is being carried out |
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B. Check List for Protection Audit

S.No	Check		Functional/Non-functional/Enabled/Disabled	Type of relay * (Numerical/Static/Electromechanical)	Setting found as in field*/**	Compliance status w.r.t. regulatory provisions
1.	DC system					
	No. of independent DC Sources	1/2/3/4				
	Potential between +ive & earth (Source-1)	-----V				
	Potential between -ive & earth (Source-1)	-----V				
	Potential between +ive & earth (Source-2)	-----V				
	Potential between -ive & earth (Source-2)	-----V				
	Potential between +ive & earth (Source-3)	-----V				
	Potential between -ive & earth (Source-3)	-----V				
	Potential between +ive & earth (Source-4)	-----V				
	Potential between -ive & earth (Source-4)	-----V				
2.	Event Logger panel	Yes/No				
3.	Event Logger Time Synchronised	Yes/No				
	Disturbance Recorder	Yes/No				
	DR Time Synchronised	Yes/No				
4.	Transformer Protection Panel:					
	Tripping by Buchholz relay(Alarm)	Yes/No				
	Differential Protection	Yes/No				
	2 nd Harmonic Block(Setting)					
	Event Logger operation	Yes/No				
	Restricted Earth Fault Protection (HV side)	Yes/No				
	Event Logger operation	Yes/No				
	REF Protection (LV side)	Yes/No				
	Event Logger operation	Yes/No				

	Backup over current	Yes/No				
	Event Logger operation	Yes/No				
	Earth Fault protection	Yes/No				
	Event Logger operation	Yes/No				
	Over Flux Protection	Yes/No				
	Event Logger operation	Yes/No				
	Local Breaker Back up	Yes/No				
	Retrip	Yes/No				
	Current and Time setting					
	Seperate single and three phase initiation	Yes/No				
	Earth fault	Yes/No				
	Event Logger	Yes/No				
5.	Reactor Protection Panel:					
	Tripping by Buchholz relay(Alarm)	Yes/No				
	Differential Protection	Yes/No				
	2 nd Harmonic Block (Setting)					
	Event Logger operation	Yes/No				
	REF Protection (HV side)	Yes/No				
	Event Logger operation	Yes/No				
	REF Protection (LV side)	Yes/No				
	Event Logger operation	Yes/No				
	Backup over current	Yes/No				
	Event Logger operation	Yes/No				
	E/F protection	Yes/No				
	Event Logger operation	Yes/No				
	Over Flux Protection	Yes/No				
	Event Logger operation	Yes/No				
	LBB/BFR	Yes/No				
	Retrip	Yes/No				
	Current and Time setting					
	Seperate single and three phase initiation	Yes/No				
	Earth fault	Yes/No				
	Event Logger operation	Yes/No				
6.	Distance Protection Panel: M-I/II					
	Pole discrepancy relay	Yes/No				
	PLCC panel	Yes/No				
	Zone-1/2/3/4/5 (Settings)	Yes/No				
	Time check-Z-1/2/3/4/5 (Settings)	Yes/No				
	SOTF	Yes/No				
	Aided schemes	Yes/No				
	Fault Locator	Yes/No				
	Power swing (Settings R and X)					

	All Zone block	Yes/No				
	DR	Yes/No				
	Binary Inputs					
	Breaker Contacts	Yes/No				
	Carrier Receive	Yes/No				
	Time Synchronization	Yes/No				
7.	Bus Bar Protection	Yes/No				
	Stability Check					
	EL output for this event	Yes/No				
	DR if available	Yes/No				
8.	Single Phase Auto Recloser Scheme	Yes/No				
9.	CT					
	Suitable as per fault level					
10.	DG Set	Yes/No	Auto/Manual			
11.	Mock Testing of a sample protection associated with transmission line***	Yes/No	i. If Yes then observation ii. If no, the reason for the same			

* This column is applicable for relays only

** Method and Calculation to arrive at this setting has to be submitted by the utility to NRPC secretariat within 07 days of the protection audit.

** Purpose is to check whether the operation of that protection relay energises the breaker Trip coil.

C. Observation w.r.t. compliance to NRPC protection philosophy

D. Any other Observation/Suggestion by the team of protection expert:

(Name, Signature and Contact Number of Members of team comprising for carrying out protection audit and the representative of the utility whose audit is being carried out)

Copy to: (i) Station In-charge where audit has been carried out
(ii) Representative of the utility present with the protection audit team
(iii) SE (O), NRPC