



सत्यमेव जयते

भारत सरकार
Government of India
विद्युत मंत्रालय
Ministry of Power
उत्तर क्षेत्रीय विद्युत समिति
Northern Regional Power Committee

संख्या: NRPC/OPR/107/01/2022/222-260

दिनांक: 09.01.2023

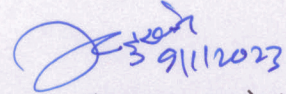
विषय: उत्तर क्षेत्रीय विद्युत समिति की संरक्षण उप-समिति की 46 वीं बैठक में लिए गए निर्णयों का सार ।

Subject: Gist of decisions taken in the 46th Protection Sub-Committee meeting of NRPC.

उत्तर क्षेत्रीय विद्युत समिति की संरक्षण उप-समिति की 46^{वीं} बैठक 22.12.2022 को आयोजित की गयी। उक्त बैठक में लिए गए निर्णयों का सार अनुलग्नक-I में संलग्न है।

46th meeting of the Protection Sub-Committee of NRPC was held on 22.12.2022. The gist of decisions taken in this meeting are enclosed in Annexure-I.

संलग्नक: यथोपरि



(ऋतुराज पाण्डेय)

कार्यपालक अभियंता

(संरक्षण एवं प्रणाली अध्ययन)

सेवा में : संरक्षण उप-समिति के सदस्य (सूची के अनुसार) ।

To: Members of Protection Sub-Committee (As per List)

Gist of decisions taken in the 46th PSC Meeting held on 22.12.2022

1. Confirmation of minutes

1.1 Members confirmed the minutes of 45th Protection sub-committee meeting.

2. Database of protection settings

2.1 EE, NRPC apprised members that in 45th Protection sub-committee meeting held on 24.06.2022 it was decided that a meeting with NIC may be scheduled for exploring the possibility and cost estimate for hosting of portal considering quantum of data and Budgetary quotation/EOI may be requested from suitable vendors.

2.2 He highlighted that as per protection code in draft CERC (Indian Electricity Grid Code) Regulations, 2022 issued by CERC on 07.06.2022, additional responsibilities have been added for RPCs regarding protection setting approval and its database. Hence, it was highlighted database work may be taken up further only after notification of final IEGC by Hon'ble CERC as scope of tender may vary as per requirement.

2.3 POWERGRID stated that they have submitted comments regarding provisions in draft CERC (Indian Electricity Grid Code) Regulations, 2022 and it may be better to wait until final notification of IEGC.

2.4 NRLDC opined that wait till notification of new IEGC may be prudent.

2.5 MS, NRPC suggested that till the time new IEGC is notified, we may decide on funding mode for the project. He stated that POWERGRID may implement the project as they have expertise in various website development. However, the amount of project may be transferred to POWERGRID from NRPC Fund after approval in board meeting.

2.6 It was decided that implementing agency and funding mode may be discussed in upcoming NRPC meetings.

3. Protection Philosophy of NR

3.1 EE, NRPC apprised that in 42nd PSC meeting, it was decided to constitute expert group, comprising members from NRPC Sectt, NRLDC, POWERGRID, STUs, APL, NTPC, NHPC, RE Generator and other experts such as CBIP, expert from other RPCs, that may study various recommendations related to Protection setting as well as adopted philosophy in other regions/utilities and may further propose an updated protection philosophy in time bound manner. He highlighted that nomination from NTPC has not be received even after no. of reminders

3.2 He informed members that a committee has been constituted vide letter dated 08.12.2022. First meeting of the committee will be tentatively held in the 1st week of January.

4. Non-functional carrier Inter-trip feature (Agenda by BBMB)

- 4.1 BBMB stated that Carrier aided protection on Jalandhar-Dasuya ckt-4 is defective since June, 2012 and new PLC Terminals along with Protection couplers have been installed on 220 kV Barnala-Lehra Mohabbat Ckt. by BBMB at both ends on 24.11.2020. However, Inter-connection wiring between Protection Coupler to Distance Protection relays has not been completed at Lehra Mohabbat end by PSTCL in spite of repeated requests. Hence, carrier inter-trip feature (Carrier aided protection of transmission line) is non-functional on 220 kV Barnala-Lehra Mohabbat Line.
- 4.2 The issue couldn't be deliberated due to unavailability of representative from PSTCL.

5. Proposal to implement additional protection in 220kV lines emanating from NAPS (Agenda by NAPS)

- 5.1 NAPS briefed about the issue and stated that in 45th Protection sub-committee meeting, it was decided that a committee may be constituted comprising members from NAPS, NRLDC, NRPC Sectt., POWERGRID and UPSLDC to look into the issue and submit its recommendation at the earliest.
- 5.2 MS, NRPC highlighted that issue may be deliberated in this meeting itself as event has taken place in August, 2021 and a lot of time has already been wasted.
- 5.3 NRLDC stated that over current settings proposed by NAPS may be accepted however, proposed voltage settings may not be useful. He stated that it involves major change in protection philosophy and this may be allowed as special case for NAPS without considering this as precedence for other utilities. Further, implemented scheme may be observed for six months and NAPS may intimate observation thereon which can be deliberated further.
- 5.4 Accordingly, it was decided that over current settings may be allowed for implementation however, over voltage settings may be deliberated in a separate meeting before implementation.

6. Tripping in 400kV Uri – Amargarh line of NRSS XXIX (Agenda by Indigrd)

- 6.1 Indigrd briefed about the tripping in 400 kV Uri – Amargarh lines of NRSS XXIX in the month of April and June, 2021 as well as April, 2022. He highlighted that issue may be due to grounding of outer sheath of power cable at NHPC end.
- 6.2 NHPC highlighted that there were issues in cable (oil filled) of both circuits at their end. At instances of sheath overcurrent in oil filled cables, A/R was getting blocked as per design protocol. The issue has been taken up and cable of circuit no. 2 has already been replaced. Cable of circuit no. 1 will get replaced in one year. Therefore, A/R operation does not happen successfully in circuit no.1.
- 6.3 IndiGrid highlighted that their equipments are at risk due to high voltage.
- 6.4 POWERGRID stated that that the line has non-switchable reactor of 50 MVar at Uri end, hence line seems to be overcompensated.

6.5 NRLDC highlighted that A/R status needs to same at both ends of circuit. Therefore, if A/R operation at one end is not possible, then A/R may be kept off at other end also. He highlighted that tripping may be due to LC oscillations as reactors are kept in circuit.

6.6 POWERGRID opined that A/R may be kept off, however cable replacement may be taken on priority. It was also highlighted.

6.7 IndiGrid requested that a study may be done for analysis of such trippings so that tripping may be avoided.

6.8 SE, NRPC opined that study may be carried out regarding overcompensation of line by Indigrid.

6.9 Accordingly, following was decided:

- i. Due to issue at NHPC end of A/R in Uri- Amargarh line ckt-1, A/R at Amargarh end may be kept off till the replacement of cable is completed by NHPC.
- ii. NHPC may replace the cable on priority.
- iii. It may be ensured that A/R is healthy and operative on circuit 2.
- iv. If trippings happen in future, IndiGrid may model the network and undertake study of the event. The same may be put up before this committee for analysis.

7. Third Party Protection audit of PTCUL and UJVN stations (Agenda by NRPC Sectt.)

7.1 EE (P&SS), NRPC informed that as per decisions of 199th OCC meeting (held on 16.09.2022), 2 group of officers were formed for protection audit of PTCUL sub-station and audit was conducted by one group during 12-13 October 2022 at 220 kV s/s of PTCUL. However, two officers (THDC and NRLDC) of 2nd group denied for audit as per schedule intimated to them and they requested for re-scheduling the dates. He highlighted that organizations are not comfortable in engaging officers for the said audit.

7.2 PTCUL stated that audit team is also required to sign on BoQ document.

7.3 Forum decided that PTCUL/UJVN may approach CPRI for the said audit. They may also explore with other constituents/utilities, if they can spare some officers for said audit.
