Agenda of System Studies Meeting in NER

Date: 20.03.2015. Venue: State Guest House, Agartala

1. SPS based load disconnection in case of tripping of 400/220 kV, 315 MVA ICT at Bongaigaon

In case of tripping of 400 kV Bongaigaon – Azara & 400 kV Bongaigaon –Byrnihat lines, 400/220 kV, 315 MVA ICT at Bongaigaon may be overloaded and tripped at peak hours. In case of tripping of this ICT, Capital area, Dhaligaon area of Assam & Nangalbibra area of Meghalaya & North Bengal & Bhutan system may be collapsed.

To safe, secure & reliable operation of these areas of NER, SPS is to be designed for load disconnection in these areas.

It was decided during last SSM that this issue will be discussed with ERPC so that load relief of 120 MW can be shared by Eastern Region also.

2. SPS based generation reduction of AGTPP in case of tripping of 132 kV AGTPP – Kumarghat line

It has been observed from study results that after commissioning of Palatana 2nd Module, Monarchak Unit I & II and AGTPP Unit 5 & 6, 132 kV AGTPP – Kumarghat, 132 kV Monarchak – Udaipur, 132 kV Baramura – Teliamura & 132 kV Teliamura-Ambassa lines will be highly loaded.

In case of tripping of 132 kV AGTPP - Kumarghat line, following lines will be overloaded:-

1. 132 kV Monarchak - Udaipur : 72 MW
2. 132 kV Dhalabil - Agartala : 84 MW
3. 132 kV Dhalabil - Kamalpur : 79 MW
4. 132 kV Baramura - Teliamura : 88 MW
5. 132 kV Teliamura - Ambassa : 86 MW
6. 132 kV PK Bari - Kumarghat : 92 MW
7. 132 kV PK Bari - Ambassa : 81 MW
8. 132 kV PK Bari - Kamalpur : 76 MW

During last SSM, the Sub-committee recommended considering the load relief of 32 MW for the time being and if required, the same will be reviewed again.

3. Second in-feed for NER-ER Corridor

At present NER Grid is connected to rest of NEWS Grid through only one infeed i.e. Bongaigaon - Salakati substation. On 23.02.15 at around 1809 Hrs due to tripping of all the outgoing feeders of 400 kV Bongaigaon substation, 220kV Salakati- BTPS D/C lines overloaded and tripped. This resulted into isolation of NER grid from the rest of NEWS Grid and subsequently major part of NER Grid collapsed.

This type of grid disturbances may be avoided if there is more than one infeed of NER Grid with ER Grid.

At present Bongaigaon Thermal Power Plant (BgTPP) is connected with 400 kV Bongaigaon S/S through 400 kV Bongaigaon – BgTPP D/C lines. Second infeed of NER Grid with ER Grid may be formed, albeit in the same geographical location, if one circuit each of 400 kV Bongaigaon – Binaguri lines and 400 kV Bongaigaon – Balipara lines terminated to BgTPP in place of Bongaigaon.

Committee may like to discuss.

4. SPS requirement of States

NER states may review the critical loading within their system and the vulnerability of important load centers[if any] and propose SPS scheme so that the same can be implemented in a coordinated manner under the aegis of NERPC to ensure power supply to important load centers during contingencies and also integrity NER grid is maintained.

Committee may like to discuss.

5. Review of SPS I, SPS II, SPS III & SPS IV related to Paltana GBPP, OTPC after commissioning of Palatana Module II

The following four (4) System Protection Scheme (SPS) associated with generating Unit-1 (363.3MW) of OTPC at Palatana has been implemented:

SPS I (implemented w.e.f 14.09.13):

In case of tripping of Module I of Palatana, OTPC, load will be disconnected by tripping of the following elements:

132 kV Silchar- Srikona D/C

132 kV Silchar- Panchgram

132 kV Badarpur- Panchgram

132 kV Silchar-Dullavcherra-Dharmanagar

SPS II (implemented w.e.f 23.02.15):

In case of tripping of 400 kV Palatana- Silchar D/C lines (with Module I generation of Palatana, OTPC), load will be disconnected by tripping of the following elements:

132 kV Silchar - Srikona D/C

132 kV Silchar - Panchgram

132 kV Badarpur - Panchgram

132 kV Silchar - Dullavcherra - Dharmanagar

And Generation of Palatana, OTPC will be reduced to around 20 MW excluding their auxiliary consumption.

SPS III (implemented w.e.f 23.02.15):

In case of tripping of 400 kV Silchar - Byrnihat & 400 kV Silchar - Azara lines (with Module I generation of Palatana, OTPC), Generation of Palatana, OTPC will be reduced to around 200 MW.

SPS IV (implemented w.e.f 14.09.13):

In case of tripping of 400 kV Silchar – Byrnihat & 400 kV Silchar- Azra lines (without generation of Palatana, OTPC), load will disconnected by tripping of the following elements:

132 kV Silchar - Srikona D/C

132 kV Silchar - Panchgram

132 kV Badarpur - Panchgram

132 kV Silchar – Dullavcherra - Dharmanagar

After commissioning of Palatana Module II (363.3 MW), SPS I, SPS II & SPS III associated with Palatana, OTPC are to be redesigned:-

SPS I (implemented w.e.f 14.09.13):

In case of tripping of Module I & II of Palatana, OTPC, load disconnection is to be enhanced.

SPS II (implemented w.e.f 23.02.15):

In case of tripping of 400 kV Palatana - Silchar D/C lines (with Module I & II generation of Palatana, OTPC), load disconnection is to be enhanced and Generation of Module I & II of Palatana, OTPC will be reduced to around 20 MW excluding their auxiliary consumption.

SPS III (implemented w.e.f 23.02.15):

In case of tripping of 400 kV Silchar - Byrnihat & 400 kV Silchar - Azara lines (with Module I & II generation of Palatana, OTPC), Generation of Module I & II of Palatana, OTPC will be reduced to around 200 MW.

Committee may like to discuss.

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