

## **Additional Agenda for 141<sup>st</sup> OCC Meeting:**

### **Multiple tripping around Talcher during Pole shutdown on 09-01-2018**

Pole 2 of Talcher HVDC was taken into planned shutdown at 07:36 hrs on 09/01/18. Before shutdown 600 MW generations back down SPS for JITPL, GMR and Sterlite in case of bipole tripping was bypassed and SPS 1000 was taken in to service at Talcher. At 07:51 hrs following tripping took place:

1. 400 KV Talcher-Rourkella D/C- Tripped from Talcher end only
2. A/R of 400 KV Rengali-Indravati---- Successful
3. A/R of Talcher-Meramundali ----Successful
4. Talcher HVDC pole 1

After tripping of above elements, high loading observed in 400 KV Talcher-Meramundali ( approx. 700 MW) and 400 KV Talcher-Angul (Approx 530 MW). Further any N-1 contingency of any of the above two line would have caused blackout of south odisha system along with total generation loss of TSTPP. That in turn could have other serious security threat on the overall National Grid. Immidite action taken by system operators like manual backing down action together with tripping of TSTPP unit IV 08:05 Hrs due to furnace pressure high, bring the system out of the emergency state.

Difficulty faced in restoration:

1. Non receipt of relay indication of Rourkela substation from RTAMC ER2
2. Wrong information from NTPC Talcher( i.e tripping of line due to DT receipt , whereas originally DT was not received) and delayed Reporting of successful A/R of Talcher-Meramundali by NTPC Talcher.

Due to above reasons restoration was delayed which lead to running the system with very narrow reliability margin for longer duration of time.

After analyzing the event, following discrepancy observed in the relay indication provided by POWERGRID and Talcher NTPC:

1. Why Rourkella send Carrier in zone 2 even though their Permissive over reach scheme is now replaced with permissive under reach scheme.
2. Why Talcher end relay tripped in Zone 1 during A/R in other line.
3. Now as per information received A/R took place in both 400 KV Talcher-Meramundali and 400 KV Rengali-Indravati around that time. But in PMU at 07:51 Hrs only one Fault is seen. Is it a mere coincidence or any relation is there needs to be studied
4. Also if both the A/R is simultaneous then for which fault Rourkella Zone-2 pickup happened need to be studied. Zone 2 setting of 400 KV Talcher-Rourkella D/C at Rourkella need to be checked.

**Powergrid Odisha Project and NTPC, Talcher may kindly deliberate the incidence in detail.**