

Power System Operation Corporation Limited

(A wholly owned subsidiary of POWERGRID)

Western Regional Load Despatch Centre, Mumbai

Preliminary Report

(Forced outage of transmission elements in Maharashtra on 04th June 2014)

05.06.2014

1. Event description

On 04-06-2014 at 17:32 hrs, 400 kV Parli (PG)- Pune (PG)- I & II (line owned by Western Region Transmission Maharashtra Pvt Limited, A Reliance Energy Group) tripped reportedly on 3-ph fault & Y-ph to B-ph faults respectively. After patrolling, the line was declared under breakdown on account of collapse of 10 no. of towers in Ashti village (70 km from Ahmednagar) .

Subsequently 400 kV Parli (MSETCL)-Lonikhand2 ckt-I (line owned by MSETCL) tripped at 18:13 hrs (reportedly on B-phase fault) and 400 kV Parli (PG)-Dhariwal S/C (POWERGRID) tripped at 22:10 hrs due to B-ph CT blast at Dhariwal TPS (IPP) end. During early morning hours of 05.06.2014 at 03:36 hrs, 400 kV Karad-Jaigarh ckt-1 tripped due to blasting of lightening arrestor (LA) at Jaigad end.

400 kV Parli (MSETCL)-Lonikhand2 ckt-I was declared faulty at 18:47hrs when the line did not hold on trial charging. SLDC-Kalwa, MSETCL informed that near Karma village (in Sholapur district) one tower had collapsed and cross arm of another tower was damaged.

2. Impact of the above forced outage

Consequent to the above forced outage the following transmission lines in Maharashtra system are critically loaded and system is 'N-1' non-compliant.

- 400 kV Parli (PG) - Sholapur -I & II : 500 - 600MW/ckt
- 400 kV Parli-Lonikhand2-ckt II : 600-700MW
- 400 kV Akola-Aurangabad D/C: 450 – 500 MW/ckt
- 400 kV Akola-Bhusawal S/C: 500-550 MW/ckt

3. Contingency measures taken

- a) Flow on 765 kV Solapur-Raichur (WR-SR link) was controlled by regulating power flow on HVDC Talcher-Kolar in coordination with NLDC/SRLDC
- b) Flow on HVDC Chandrapur-Padghe Bipole was maintained at 1500MW.
- c) Generation at Koyna (Hy), SSP (Hy), Kawas (Gas), Gandhar (Gas) was maximized to the extent possible
- d) Maharashtra was advised to maximize own generation in South Maharashtra and regulate generation located in East of Parli, i.e. Tirora, Khaperkheda, Chandrapur, Dhariwal (Mah), GMR-EMCO, and Parli to control the line loading. Load was also regulated within Maharashtra system.
- e) Planned Outage of transmission elements in parallel corridor towards and within Maharashtra system were deferred



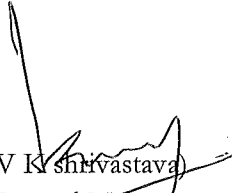
- f) The STOA of Maharashtra from W3/ER were curtailed to ensure that the total drawl schedule of Maharashtra is within 5500 MW
- g) Allocation of Un-requisitioned power from Mouda TPS to WR constituents was discouraged in certain time blocks to prevent increase of injection at 400 kV Wardha.
- h) Strict vigil being maintained to ensure security of the grid and Time block schedule of Maharashtra will not be allowed to cross 5500 MW .

4. Restoration of affected transmission elements

Western Region Transmission Maharashtra Pvt Limited has informed that executives had reached at site and resources were being mobilized to start tower restoration work related with 400 kV Parli - Pune D/C at the earliest. The expected restoration time would be intimated shortly by them.

SLDC-Kalwa, MSETCL informed that efforts are being made to restore 400 kV Parli-Lonikhand2-ckt 1 and 400 kV Karad-Jaigad at the earliest.

Representative of Dhariwal informed that the 400 kV Dhariweal-Parli S/C would be restored within a day after replacement of B-ph CT at Dhariwal end.


(V K Shrivastava)
Additional General Manager

Distribution:

- a) SLDC-Maharashtra, Gujarat, Madhya Pradesh Chattisgarh, Goa, UT-DD, UT-DNH
- b) Chairman/MD- All Regional Entities of Western Region
- c) POWERGRID- WRTS-1 (Nagpur), WRTS-2 (Vadodara), WRTS-3 (Raipur)
- d) Member Secretary, WRPC, Mumbai
- e) Executive Director-NLDC, SRLDC
- f) General Manager-NRLDC, ERLDC, NERLDC
- g) Member (GO&D), CEA, New Delhi
- h) Director (OM), MoP, New Delhi