

पावर सिस्टम ऑपरेशन कारपोरेशन लिमिटेड

(पावरग्रिड की पूर्ण स्वामित्व प्राप्त सहायक कंपनी)

POWER SYSTEM OPERATION CORPORATION LIMITED

(A wholly owned subsidiary company of POWERGRID)

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संदर्भ संख्या/Ref No
NLDC/feedback/

Dated: 18th October 2013

To,
The Member (PS),
Central Electricity Authority,
Sewa Bhawan, R. K. Puram,
New Delhi-110 066

The Chief Operating Officer,
Central Transmission Utility (CTU),
Power Grid Corporation of India Limited,
Gurgaon

Sub: Long line length of the 400 kV Meramundali-Jeypore section due to continuous reconfiguration of the line through Loop In Loop Out (LILO) at intermediate points. feedback as per section 4j of NLDC Rules, 2005

Sir,

The 400 kV Rengali-Indravati-Jeypore and 400 kV Meramundali-Jeypore lines are vital infeeds to South Odisha as well as Gazuwaka HVDC back to back station through which power is exported to Southern Region. These lines are fairly long lines with 40% compensation each provided at Rengali and Jeypore respectively of the original line lengths of 356 kms. and 456 kms. respectively. There is a 220 kV D/C line from Meramundali to Jeypore via Bhanjanagar, Therubali and Jeyanagar. In view of the long line lengths involved, the voltage regulation at Jeypore and Gazuwaka is extremely poor considering the low fault level. This in turn places a constraint on power transfer from Eastern Region to Southern Region.

Even as this weakness persisted in the system, the 400 kV Meramundali-Jeypore line was Looped-In and Looped Out (LILO) at 400 kV Bolangir (PG) substation in 2012 making the section from Meramundali to Jeypore nearly 500 kms. long (212 kms. Meramundali-Bolangir + 288 kms. Bolangir-Jeypore section) without any anchoring at Bolangir as the 220 kV outlets from the substation are yet to be commissioned. This was followed by LILO of the 400 kV Meramundali-Bolangir section at 400 kV Anugul substation without any anchoring at Anugul leading to the overall line length increase by 9 kms.; so the original 400 kV Meramundali-Jeypore line of 456 kms. became 509 kms. long with three line sections, effectively reducing the reliability. It is also the longest 400 kV line in the country.

In line with the approval issued by the Central Transmission Utility (CTU) for LILO of the 400 kV Anugul-Bolangir section at M/s JITPL, a shutdown was approved by ERLDC on 4th Oct 2013 for twelve (12) hours. However the line was not returned and after much persuasion from ERLDC, the line was charged on 6th Oct 2013 but tripped (both 400 kV Anugul-JITPL as well as 400 kV JITPL-Bolangir) on fault due to apparent problems in the LILO section. It was finally restored on 7th Oct 2013 after bypassing the LILO portion. The outage of this section had resulted in constraints in power transfer over Gazuwaka HVDC back to back station during the agitation in Seemandhra region of Andhra Pradesh from 5th to 10th Oct 2013.

contd/-

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स्वहित एवं राष्ट्रहित में ऊर्जा बचाएं
Save Energy for Benefit of Self and Nation

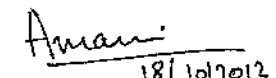
During the recent Phailin cyclone that hit Odisha on 12th Oct 2013 evening, it had become extremely difficult to keep this section in service due to high voltage. Meanwhile even as the impact of the cyclone was being assessed, there was a request received at ERLDC/NLDC for approving a shutdown on the 400 kV Anugul-Bolangir section to enable M/s JITPL to rectify the LILO portion. Of greater concern is that this LILO would cause the overall length of the 400 kV line from Meramundali to Jeypore to go up from 509 kms. to 619 kms. without any anchoring at Anugul, JITPL and Bolangir and having four (4) line sections thereby reducing the reliability further. Due to the line length involved, this section carries less quantum of power and leading to a situation that the Fixed Series Capacitors (FSC) at Jeypore have effectively got bypassed since 5th June 2013 due to low power flow.

POSOCO would like to place on record its concern over the above issue particularly in the backdrop of contingencies such as highlighted above. It is pertinent to note that the provisions in the earlier CEA Transmission Planning Criteria (TPC) for factoring in line length, shunt and series compensation to determine line loadability had been dispensed with in the new TPC issued by CEA in January 2013 which is focusing more on the thermal loadability of lines. Thermal loadability presumes that the line lengths will be short; however the experience of 400 kV Meramundali-Jeypore section proves otherwise. M/s JITPL would be transacting power through Short Term Open Access (STOA), which has inherent uncertainties; therefore effectively the anchoring support due to generation at JITPL cannot be relied.

The above issue was also raised by us in the Standing Committee meetings held in August 2013. Considering the above situation, POSOCO is constrained to defer the shutdown of the 400 kV Anugul-Bolangir section for LILO at JITPL, with a request to review the scheme by CTU and CEA.

Thanking you,

Yours faithfully,


(A. Mani) 18/10/2013

General Manager

Copy to:

- 1) Chief Engineer (SP & PA), Sewa Bhawan, New Delhi-110 066
- 2) Chief Engineer (Grid Management), Sewa Bhawan, New Delhi-110 066
- 3) Executive Director, SRLDC, POSOCO, Bengaluru.
- 4) General Manager, WRLDC, POSOCO, Mumbai
- 5) General Manager, ERLDC, POSOCO, Kolkata
- 6) General Manager, NRLDC, POSOCO, New Delhi
- 7) General Manager, NERLDC, POSOCO, Shillong