

Central Electricity Authority
System Planning & Project Appraisal Division
Sewa Bhawan, R.K. Puram, New Delhi – 110066

No. 51/4/SP&PA-2011/1547-1558

Date: 18th Oct 2011

To

1.The Member Secretary, Southern Regional Power Committee, 29, Race Course Cross Road, Bangalore 560 009. FAX : 080-22259343	2.The Director (Projects), Power Grid Corp. of India Ltd. “Saudamini”, Plot No.2, Sector-29, Gurgaon 122 001, Haryana. FAX : 95124-2571932
3.The Director (Grid Operation), Transmission Corp. of Andhra Pradesh Ltd., Vidyut Soudha, Hyderabad – 500 082. FAX : 040-66665137/ 66665133	4.The Director (Transmission), Karnataka State Power Transmission Corp.Ltd., Cauvery Bhawan, Bangalore 560 009. FAX : 080 -22228367
5.The Member (Transmission), Kerala State Electricity Board, Vidyuthi Bhawanam, Pattom, P.B. No. 1028, Thiruvananthapuram - 695 004. FAX : 0471-2444738	6. Member (Distribution), Tamil Nadu electricity Board (TNEB), 6 th Floor, Eastern Wing, 800 Anna Salai, Chennai - 600002. FAX : 044-28516362
7.The Director (Power), Corporate Office, Block – I, Neyveli Lignite Corp. Ltd., Neyveli , Tamil Nadu – 607 801. FAX : 04142-252650/ 252570	8.The Superintending Engineer –I, First Floor, Electricity Department, Gingy Salai, Puducherry – 605 001. FAX : 0413-2334277/2331556
9. Director (Projects), National Thermal Power Corp. Ltd. (NTPC), NTPC Bhawan, Core-7, Scope Complex, Lodhi Road, New Delhi-110003. FAX-011-24360912	10. Director (Operations), NPCIL, 12 th Floor, Vikram Sarabhai Bhawan, Anushakti Nagar, Mumbai – 400 094. FAX : 022- 25991258

Sub: 33rd meeting of the Standing Committee on Power System Planning of Southern Region
- **Additional agenda-II**

Sir,

The **33rd meeting** of the Standing Committee on Power System Planning of Southern Region is now scheduled to be held **on 20th October, 2011 (Thursday) at 10:30 AM at Conference Hall of Northern Region Power Committee, Katwaria Sarai, New Delhi.**

Additional agenda –II for the meeting is enclosed. It is also available at CEA’s website.
(www.cea.nic.in) .

Please make it convenient to attend the meeting.

Yours faithfully,

(Manjari Chaturvedi)

Deputy Director (SP&PA)

(Telephone: 011 26198092, Fax No. 011 26102045)

Copy to:

Sh. SK Soonee, CEO, POSOCO,
B-9, Qutub Institutional Area,
Katwaria Sarai, New Delhi-110016

Sh. P.R. Raghuram, GM, SRLDC,
29, Race Course Cross Road,
Bangalore 560 009.
FAX : 080-22268725

Additional Agenda-II

**Additional Agenda-II for 33rd Meeting of
Standing Committee on Power System Planning in Southern Region (SCPSPSR)**

**AA.1.0 Requirement of Spare Converter Transformers for HVDC back to back station
at Vizag (Gazuwaka)**

AA.1.1 POWERGRID vide their letter C/ENG/SEF/S/00/PLG dated 30-09-2011 has proposed for following requirement of spare converter transformers at Vizag (Gazuwaka) and Chandrapur HVDC back to back stations:

- (i) At Chandrapur : 3 nos, Single phase converter transformers
- (ii) At Gazuwaka: 2 nos, Single phase converter transformers

AA.1.2 POWERGRID letter in this regard is given at Annex-I. Member may discuss.

पावर ग्रिड कारपोरेशन ऑफ इंडिया लिमिटेड
(भारत सरकार का उद्यम)
POWER GRID CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)



पावरग्रिड

केन्द्रीय कार्यालय : "सौदामिनी" प्लॉट सं-2, सेक्टर-29, गुडगाँव-122 001, हरियाणा
फोन : 0124-2571700-719 फैक्स : 0124-2571760, 0124-2571761 तार : 'नेट'।
Corporate Office : "Saudamini" Plot No-2, Sector-29, Gurgaon - 122 001 Hary
Tel.: 0124-2571700 - 719 Fax : 0124-2571760, 0124-2571761 Gram : 'NATG'

संदर्भ संख्या / Ref. No.

केन्द्रीय कार्यालय / CORPORATE CENTRE

C/ENG/SEF/S/00/PLG

30 September 2011

Chief Engineer (SP & PA)
Central Electricity Authority
Sewa Bhawan, RK Puram
New Delhi- 110 066.

Sub: Additional Agenda to be included in the forthcoming Standing Committee Meeting.

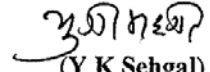
Dear Sir,

This is further to our letter of even reference dated 08 Sept 2011, forwarding therewith agenda for the 33rd meeting of Standing Committee. In this regard, please find enclosed additional agenda regarding spare convertor transformers at the HVDC back-to-back stations at Chandrapur and Gazuwaka.

It is kindly requested to circulate enclosed additional agenda for discussions during the meeting of Standing Committee meeting

Thanking you,

Yours faithfully,


(Y K Sehgal)
ED (SEF & CE)

REQUIREMENT OF SPARE CONVERTER TRANSFORMERS FOR HVDC BACK-TO-BACK STATIONS

Poles of HVDC Back-to-Back Stations at Chandrapur (2x500MW) and VIZAG (2x500MW) have been in operation as under:

Chandrapur

Pole-I : 01.10.97
Pole-II : 01.03.98

VIZAG

Pole-I : 01.09.99
Pole-II : 01.03.05

These HVDC Back-to-Back links were earlier planned for exchange of Power during contingencies. However, in the past these links have been utilized for continuous exchange of Power between the two connected Regions and therefore, the reliability and security of both the grids depend upon the reliable operations of these links.

The Back-to-Back Stations are being operated at times as Power evacuation corridor. e.g. HVDC Back-to Back Station at Chandrapur has been consistently being operated at Utilisation factor more than 93% during 2011 (except during June and July, 2011) and has exceeded 99% during Feb & March 2011.

Further frequent change in Power Order depending upon Grid Condition/ System requirement, the Converter Transformers are subjected to frequent operation of on load tapchangers and transformers are subjected to enormous stress which ultimately has long term effect on its life.

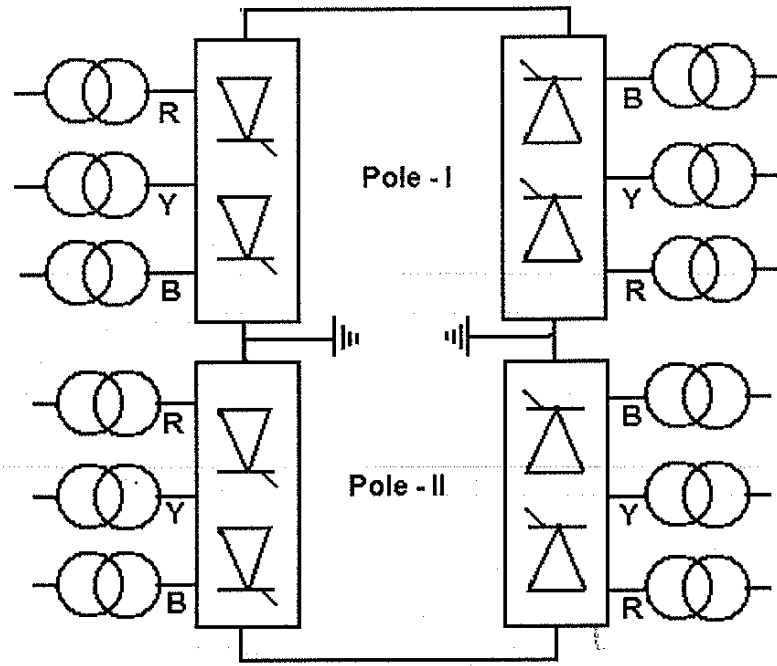
Each Pole of a Back-to-Back station is equipped with six (6) nos. single phase Converter Transformer. Each of the Back-to-Back stations at Chandrapur and Vizag are having population of 12 nos. Converter Transformer. Against which we have provision for only one (1) Spare Converter Transformer unit at both Chandrapur and Vizag. These units are off-shore manufactured item. As such multiple unit failure at a station may lead to long outage of a pole leading to reduction of evacuation capacity by 500MW which will entail a huge financial loss to both the connected Regions. The estimated cost of one (1) such unit is Rs.12 Crores and revenue loss to beneficiary in a day at 70% capacity utilization is around Rs. 3 Crores.

In view of such high capacity utilization due to Inter Regional Power demand and need of higher reliability of HVDC System, loss of any unit will have serious evacuation constraint leading to severe economic loss to the beneficiaries.

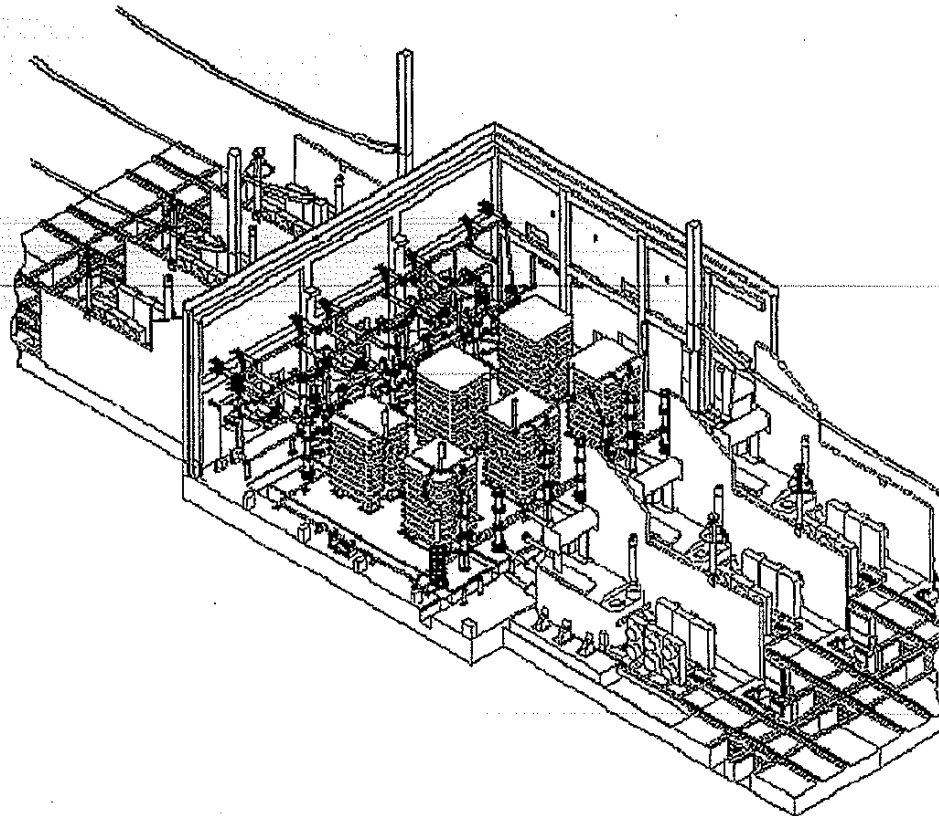
As such, it is proposed that beneficiaries may approve one (1) Converter Transformer for each Pole at each Regional Bus as has been envisaged for HVDC Bi-Pole links as a practice.

As such Constituents may approve Provision of additional Converter Transformer for HVDC Back-to-Back Stations as under:

Chandrapur	:	3 nos.
Vizag	:	2 (1+1) nos.



Typical electrical connection diagram of HVDC Back to Back system (02 poles)



Typical 3-dimensional layout of HVDC Back to Back station (01 Pole)