



Government of India
Ministry of Power
Central Electricity Authority
Power System Planning & Appraisal-I Division
Sewa Bhawan, R. K. Puram, New Delhi-110066 [ISO: 9001:2008]
Website: www.cea.nic.in



No. 1/9/2015/PSP&PA-I/

Date: 30-10-2015

-As per list enclosed-

Sub: 36th meeting of the Standing Committee on Power System Planning of Northern Region
-Corrigendum to Minutes of the meeting

Sir,

The Minutes of 36th meeting of the Standing Committee on Power System Planning of Northern Region were issued vide our letter No. 1/9/2015/SP&PA/4-22 dated 20th August 2015.

Subsequently observations/comments have been received from PGCIL, HVPNL and RRVNL. Corrigendum to the minutes is enclosed at **Annex-I**. It is also available at CEA's website (www.cea.nic.in).

Encl: As above

Yours faithfully,

Chandra
(Chandra Prakash)
Director

(Telephone: 011 26732326)

30/10/2015

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4. Director (Projects) NTPC, NTPC Bhawan, Core 7,Scope complex-6, Institutional Area, Lodhi Road. New Delhi (Fax-01 1-24361018)	5. Director(Projects) PTCUL,Urja Bhawan, Campus,Kanawali Road Dehradun-248001. Uttrakhand Fax-0135-276431	6. Member (Power) BBMB, Sectot-19 B Madhya Marg, Chandigarh-1 60019 (Fax-01 72-2549857)
7. Director(T&RE) NHPC Office Complex, Sector-33,NHPC, Faridabad-121003 (Fax-0129-2256055)	8. Director(Operation) Delhi Transco Ltd. Shakti Sadan,Kotla Marg, New Delhi-110002 (Fax-01123234640)	9. Chief Engineer(Transmission) NPCIL,9-S-30,Vikram Sarabhai Bhawan,Anushakti Nagar ,Mumbai-400094 Fax-022-25993570
10. Director (Projects) POWERGRID Saudamini Plot no. 2, Sector - 29. Gurgaon-122 001 (Fax-0124-2571809)	11. Director(Technical), Punjab State Transmission Co- operation Ltd.(PSTCL)Head Office The Mall Patiala -147001 Fax-0175-2304017	12 Chief Engineer(Operation) Ministry Of Power,UT Secretariat ,Sector-9 D Chandigarh -161009 Fax-0172-2637880
13. Director(Technical) RRVPNL, Vidut Bhawan,Jaipur- 302005. Fax:-0141-2740794	14. Director(Technical) HVPNL Shakti Bhawqn Sector-6 Panchkula- 134109 Fax-0172-256060640	15 Managing Director, HPPTCL,Barowalias,Khalini Shimla-171002 Fax-0177-2623415
16 Diretor(Technical) HPSEB Ltd. Vidut Bhawan, Shimla -171004 Fax-0177-2813554	17 Director(Technical) THDC Ltd.Pragatipuram, Bypass Road ,Rishikesh- 249201 Uttarakhand. Fax: 0135-2431519)	18. Development Commissioner (Power), Power Department, Grid Substation Complex, Janipur, Jammu, Fax: 191- 2534284
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**Corrigendum to Minutes of 36th Meeting of
Standing Committee on Power System Planning in Northern Region (SCPSPNR)
held on 13th July 2015 at NRPC, Katwaria Sarai, New Delhi**

The Minutes of 36th meeting of the Standing Committee on Power System Planning of Northern Region were issued vide our letter No. 1/9/2015/SP&PA/4-22 dated 20th August 2015. Following corrigendum is issued based on the observations/Comments received from PGCIL, RRVPNL and HVPNL.

Corrigendum # 1

POWERGRID vide their letter No C/CTU/N/PLG dated 8-9-2015 had mentioned that the Annexure to the minutes for scope of NRSS XXXVII. Based on the POWERGRID's observations, **Annexure II** in the minutes of 36th meeting of the Standing Committee on Power System Planning of Northern Region is thus revised and is as under:

Annexure-II

Phase I: By PTCUL under Uttarakhand Intra-State system

- (i) Creation of 220/33kV Jauljivi(PTCUL) substation by LILO of one circuit of 220kV Dhauliganga-Pithoragarh (PG) line at 220kV Jauljivi (PTCUL) substation

Phase II: Part by POWERGRID under ISTS as "NRSS XXXVII"

- (i) Creation of 400/220kV, 7X105MVA GIS Substation in Jauljivi area under ISTS by LILO of both ckts. of 400kV Dhauliganga -Bareilly (presently charged at 220kV) at 400/220kV Jauljivi (PG) [Incoming line from Dhauliganga shall be charged at 220kV & outgoing to Bareilly shall be charged at 400kV]

The 400/220 kV Jauljivi substation to have the following provision:

400 kV side

- a. 7*105 MVA Single Phase ICTs along with ICT bays
- b. 2 nos. of line bays
- c. 2X63MVAr switchable line reactors in Bareilly-Jauljivi 400kV D/C at Jauljivi end for providing voltage control under various operating conditions. These 63MVAr line reactors shall be taken up as single phase units, if required.
- d. Space provision for 2 future bays

220 kV side

- a. 2 nos. of ICT bays

- b. 8 nos. of line bays(Pithoragarh-2, Almora-2, Jauljivi-2 & Dhauliganga-2)
 - c. One no. of 220kV sectionaliser
 - d. Shifting of 25 MVA line reactor already available in 220kV Dhauliganga –Bareilly line at Dhauliganga end, to 400/220kV Jauljivi S/s as a bus reactor at 220kV.
 - e. Disconnection of 220 kV LILO of Dhauliganga - Bareilly at Pithoragarh and connection of Pithoragarh line to Jauljivi 400/220 kV S/s at 220kV.
- (ii) Diversion of Dhauliganga-Bareilly 400kV D/C line (operated at 220kV) at Bareilly end from Bareilly(UP) to Bareilly(PG) alongwith 2 nos. of 400 kV bays at Bareilly

Phase II: Part by PTCUL under Uttarakhand intraState system

- (i) 220kV GIS substation at Almora & associated 220kV Almora–Jauljivi (PG) D/C line
- (ii) Existing LILO line of Dhauliganga- Pithoragarh (PG) at 220/33kV Jauljivi (PTCUL) Substation would be disconnected & 220/33kV Jauljivi (PTCUL) would be connected to Jauljivi (ISTS) 400/220kV substation through 220kV D/C line.

Corrigendum # 2

POWERGRID vide their letter No C/CTU/N/PLG dated 8-9-2015 proposed that the complete scope of the scheme “Creation of 400/220kV substations in NCT of Delhi during 12th Plan period” may be included as an Annexure to the minutes. PGCIL has also mentioned that LILO of one circuit of Bawana –Mandola 400kV D/C line at Rajghat on M/c tower with Twin/HTLS conductor was inadvertently recorded in the minutes of the 34th Standing Committee Meeting whereas the actual scheme involves LILO of both the circuits of Bawana –Mandola 400kV D/C line at Rajghat. PGCIL has also pointed out that the number of 220 kV bays at Rajghat and Tughlakabad would be 24 instead of 23 and 20 instead of 23 at Dwarka-I , as recorded in the minutes of the 34th Standing Committee Meeting. Accordingly, the complete scope of the scheme “Creation of 400/220kV substations in NCT of Delhi during 12th Plan period” is as under and is appended as Annexure III to the minutes.

Annexure III

“Creation of 400/220kV Substations in NCT of Delhi during 12th Plan Period (Part-A)”

- (i) LILO of both circuits of Bawana –Mandola 400kV D/C line at Rajghat on M/c tower with Twin/HTLS conductor
- (ii) LILO of one circuit of Bamnauli - Jattikalan 400kV D/C line at Dwarka-I with Twin/HTLS conductor
- (iii) Establishment of 4x500MVA, 400/220 kV GIS Substation at Rajghat
 - 400 kV
 - a. Line bays : 4 nos. (with provision for future expansion)
 - b. 500 MVA, 400/220 kV ICTs : 4 nos.
 - c. 125 MVAR Bus Reactor : 1 no.
 - d. Transformer bay : 4 nos.
 - e. Reactor Bay : 1 no.
 - 220 kV
 - a. Line bays : 12 Nos.
 - b. Transformer bay : 8 Nos. (4 nos. for 400/220kV ICTs &

4 nos. for 220/33kV ICTs)

- c. Bus coupler bays : 2 Nos.
- d. Bus Sectionalizer bays : 2 Nos.
- (iv) Establishment of 4x500MVA, 400/220 kV GIS Substation at Dwarka-I
400 kV
 - a. Line bays : 2 Nos. (with provision for future expansion)
 - b. 500 MVA, 400/220 kV ICTs: 4 Nos.
 - c. 125 MVAR Bus Reactor : 1 No.
 - d. Transformer bay : 4 No.
 - e. Reactor Bay : 1 No.220 kV
 - a. Line bays : 12 Nos.
 - b. Transformer bay : 4 Nos.
 - c. Bus coupler bays : 2 Nos.
 - d. Bus Sectionalizer bay : 2 Nos.

“Creation of 400/220kV Substations in NCT of Delhi during 12th Plan Period (Part-B1)”

- (i) LILO of both circuits of Bamnauli – Samaypur 400kV D/C line at Tughlakabad with Twin HTLS conductor
- (ii) Establishment of 4x500MVA, 400/220 kV GIS Substation at Tughlakabad
400 kV
 - a. Line bays : 4 nos. (with provision for future expansion)
 - b. 500 MVA, 400/220 kV ICTs : 4 nos.
 - c. 125 MVAR Bus Reactor : 1 no.
 - d. Transformer bay : 4 nos.
 - e. Reactor Bay : 1 no.220 kV
 - e. Line bays : 12 Nos.
 - f. Transformer bay : 8 Nos. (4 nos. for 400/220kV ICTs & 4 nos. for 220/33kV ICTs)
 - g. Bus coupler bays : 2 Nos.
 - h. Bus Sectionalizer bays : 2 Nos.

Corrigendum # 3

RRVNL vide their letter no. RVPN/SE(P&P)/PSS/D 1446 dated 14.09.2015 has intimated a modification regarding “Development of ISTS system for evacuation of power from new Solar parks and Solar power projects in Rajasthan” discussed at S.no 17 in the Minutes of Meeting. Accordingly, at S.no. 17.3, 765 kV D/C Pugal-Bhadla (PG-765 kV GSS) line (initially charged at 400 kV) has to be replaced by 765 kV D/C Pugal-Bikaner (PG-765 kV GSS) (initially charged at 400 kV) in the minutes of 36th meeting of the Standing Committee on Power System Planning of Northern Region.

Further, as per PGCIL’s observation vide their mail dated 09.10.2015, In para 17.10 (i), “The ISTS scheme mentioned at S.No 17.5 for evacuation of 13,700 MW in the identified complex is in-principally agreed by the committee”, should be modified and read as “The ISTS scheme mentioned at S.No 17.3 for evacuation of 13,700 MW in the identified complex is in-principally agreed by the committee.”

Corrigendum # 4

HVPNL vide their letter no. Ch/32/HSS-152 dated 09.09.2015 has made observation that As per item No 1.1.2 in the minutes of 36th meeting of the Standing Committee on Power System Planning of Northern Region, “Implementation of 220/66kV substation in Chandigarh along with Chandigarh–Panchkula (PG) 220kV D/C line”, the following may be included at the end of the paragraph in the said item of the minutes.
“Provision for space for two numbers 220kV bays at 400 kV substation Naggal (Panchkula) to be provided for Haryana”

Corrigendum # 5

As per PGCIL’s observation vide their mail dated 09.10.2015, At S.no 16 in the minutes of 36th meeting of the Standing Committee on Power System Planning of Northern Region, in the scheme Modification of Suratgarh Substation Location in Green Energy Corridor, the following may be added as Sl.no 16.5

16.5 Due to change of S/s location, line lengths of various sections have changed. Therefore, revised reactive compensation is proposed as under:

- Line Reactors

S. No.	Transmission Line	From end (each ckt) MVar	To end (each ckt) MVar
(i)	Ajmer(New) – Bikaner(New) 765 kV D/C line -272km	1x240 (switchable) (each ckt.)	1x330 (switchable) (each ckt.)
(ii)	Bikaner(New) – Moga(PG) 765 kV D/C line-350km	1x330 (switchable) (each ckt.)	1x330 (switchable) (each ckt.)

- Bus Reactors

S. No.	Bus	Reactor (MVAR)
(i)	Bikaner(New)	1X330 (765kV bus) 1x125 (400kV bus)

The Standing Committee agreed with the above proposal.