

केन्द्रीय विद्युत प्राधिकरण
Central Electricity Authority
प्रणाली आयोजना एवं परियोजना मूल्यांकन प्रभाग
SP&PA Division

No. 1/9/08-SP&PA/ 1060

Dated: 12.11.08

- As per list enclosed-

Sub:- Corrigendum to the Minutes of the Meeting of 26th Standing Committee for transmission system planning of NR held in Chamba on 13.10.08.

Minutes of 26th meeting was circulated vide letters dated 27.10.2008 and based on comments received from NTPC, DTL and M/s PKTCL the following corrigendum is proposed in the Minutes of the Meeting of 26th Standing Committee for transmission system planning of NR held in Chamba on 13.10.08 to reflect the discussions/decision on the issues relating to Power evacuation arrangement from Dadri II TPS (2x490 MW) and its connectivity with Loni Road S/S, suggestions of DTL regarding Protection Philosophy of 400 & 220KV Lines and Standardization of Accessories for Transformers and M/s PKTCL issue on Parbati –Koldam transmission system

I Transmission system associated with Dadri II TPS (2x490 MW)

para 10.2 item 10 of the minutes of the meeting may be read as


..... line 12... committee. NTPC stated that unit #1 and #2 at Dadri was expected by September 2009 and February 2010 respectively and requested whether entire generation of Dadri power station, including that of additional 980 MW of stage II can be evacuated with the present transmission lines from existing Dadri 400 kV bus during the intervening period till commissioning of Loni Road S/S of DTL.

The matter was discussed and it was observed that by Dadri time frame, there would not be any problem in evacuation of Dadri II power without splitting of the Dadri bus. However, PGCIL would need to carry out the study for the impact of Dadri II generation on the fault level at Dadri under 2009-10 timeframe. PGCIL in consultation with CEA would chalk out necessary arrangement so that till the planned transmission system of Dadri II was in place, the fault level at Dadri bus is contained within limit. Further it was also agreed that, during split bus operation with Dadri – Loni Road 400 kV D/C line in place, one of the circuit of Dadri – Loni Road 400 kV line could be connected to each split bus section of Dadri 400 kV bus

to enhance the redundancy and reliability of evacuation system from Dadri III.

II To be appended as para 6.4 of the Minutes of the Meeting of 26th Standing Committee for transmission system planning of NR

DTL intimated certain aspect relating to Protection Philosophy of 400 & 220KV Lines and Standardization of Accessories for Transformers. Letter dated 6/11/08 on this issue from DTL is enclosed for information.


(Goutam Roy) 14/11/08
Director (SP&PA)

S. R. SETHI
DIRECTOR (OPERATIONS)



Tel. : 011-23232715
 Fax : 011-23232721
 E-mail : dir.opr@delhitransco.gov.in
 Website : www.delhitransco.gov.in
DELHI TRANSCO LIMITED
 Shakti Sadan, Kotla Marg,
 New Delhi-110002

D.O. No.: Dir.(O)/ 114/546

Nov 6th, 2008

Dear **sh. Ramakrishna,**

Sub: Minutes of 26th Meeting of Standing Committee on System Planning

Ref.: Letter No. 1/9/06-SP&PA Dt. 27-10-2008

Minutes of Meeting of the above referred meeting have been gone through and following points are required to be incorporated as were discussed in the Meeting:-

1) Protection Philosophy of 400 & 220KV Lines:

It was apprised to the Committee that at present both Main I & II protections are based upon "Distance Measurement Philosophy". Since the Line lengths are quite short specially in Delhi and also in the NCR Region, problems of 'Under-reach' and 'Over-reach' has been experienced in various tripping which are taking place in the Region.

ii) It was brought out that most of the leading manufacturers of the Protective Relays have now come out with "Current Circulation Differential Relays" using Fiber Optic as the means of communication for current comparison.

iii) It will be quite advantageous to use two separate Philosophy(s) one based upon Current Circulation which will be a Unit scheme while the other scheme already provided i.e. 'Distance Measurement basis' would continue as backup.

iv) Optical Fiber has been provided by Power Grid in all its network and DTL is also planning to provide Fiber Optic in sections which have not been covered so far, as such it will be possible to use Inter Tripping Signals through Fiber Optic instead of PLCC equipment for Distance Protection also.

v) As has been brought out in various Forum that there are limited manufacturers of PLCC equipment and obsolesce is quite fast apart from the above, spurious signal generation due to opening of Isolators have also been encountered causing inter tripping of healthy sections.

2) Since cost of Earth Wire with Fiber Optic is nominally higher than the conventional wire it will be far advantageous to use only Fiber embedded Earth Wire for all future lines.

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 Dr. I
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: 2 :

Some of the States such as Uttrakhand is also planning to replace the existing Earth Wire on the existing lines with Fiber embedded Earth-wire to also explore Business opportunity of leasing Fiber Optic to Service Provider. Power Grid is also carrying out similar business by leasing Fiber Optic to other end users including Service Providers and Govt. Agencies etc.

3) Standardisation of Accessories for Transformers:

Rating of 220KV and 400KV class Transformers are almost standardized all over the Country i.e. 100, 160 MVA for 220KV class Transformers, 315 MVA for 400 KV Class Transformers. It was considered that standardization of the Bushings for these Transformers would provide inter changeability within the Organisation as well as the manufacturing cost. It is also given to understand that the design of 400KV Bushing for 315 MVA is already a standard product. CEA may like to examine the issue.

4) 500 MVA Transformers are now being proposed for 400/220KV Sub-Stations having single-phase Transformers of 166.7 MVA. It was brought out that 500 MW Generating Units are coupled to 600 MVA Transformers. It would be worthwhile to consider standardization of the next size of Transformers to 600 MVA instead of introducing another rating of 500 MVA.

With regards,

Yours sincerely,


(S.R. SETHI)

DIRECTOR (OPRS.)

Sh. V. Ramakrishna,
Member (Power System)
Central Electricity Authority,
Sewa Bhawan, R.K. Puram
New Delhi