

भारत सरकार
Government of India
उत्तर क्षेत्रीय विद्युत समिति
Northern Regional Power Committee
18-ए, शहीद जीत सिंह मार्ग, कटवारिया सराय नई दिल्ली - 110016
18-A, Shaheed Jeet Singh Marg, Katwaria Sarai, New Delhi-110016

उ. क्षे. वि. स./अधीक्षण अभियंता (प्रचालन)/insulators/2010

दिनांक 07.12.2010

To

1. CMD, POWERGRID, Gurgaon
2. Chairman, BBMB, Chandigarh, Fax No 0172- 2549186, 2652820
3. CMD, DTL, New Delhi Fax No 011 23234640
4. CMD, PSTCL, Ablowal, Patiala
5. MD, HVPNL, Panchkula Fax No 0172-2560640
6. CMD, RRPVNL, Jaipur Fax No 0141- 2740168
7. MD, UPPTCL, Lucknow Fax No 0522- 2287880/ED UPPTCL, Lucknow
8. Director (Electrical Engineering-PS), Railway Board, Rail Bhavan New Delhi-110001, Fax 011- 23387045,
9. CED, North Central Railway, Allahabad, 0532-2223211, 2230204
10. CEO, Powerlinks Transmission Limited, New Delhi, Fax-011-45459555
11. GM (O&M), POWERGRID, NR-I
12. GM (O&M), POWERGRID, NR-II

Subject: Minutes of the meeting on replacement of Porcelain insulators with Polymer/Antifog insulator and cleaning of Porcelain insulator in Northern Region

Sir,

A meeting was held with the constituents of Northern Region on 22-11-2010 on the above subject.

Minutes of the aforesaid meeting are enclosed. Copy of the same is also available on website of NRPC (www.nrpc.gov.in).

Yours faithfully

Encl: As above

(Ajay Talegaonkar)

SE (Operations)

Copy to: GM, NRLDC, New Delhi

**Minutes of the meeting taken by Member Secretary, NRPC on
22nd November, 2010 regarding replacement of porcelain
insulators with polymer/antifog insulators on transmission
lines in NR.**

List of participants is enclosed at Annex-I.

1. MS, NRPC, welcomed the participants in the special meeting to review the progress of replacement of porcelain insulators with polymer/antifog insulators and cleaning of porcelain insulators in the Northern Region. He recalled the recommendations of the enquiry committee for grid incidents that porcelain insulators should be replaced with polymer insulators in high pollution area and by antifog insulators in area having medium level of pollution. In case of area with moderate pollution, it was recommended that porcelain insulators should be cleaned before onset of winter.

2. MS, NRPC stated that winter is approaching and grid becomes vulnerable to incidents in this period. That's why replacement/cleaning work need to be expedited as it will be difficult to get shutdown once demand picks up. All cleaning of first phase needs to be completed by first week December as critical time from weather point of view is 15th December onwards. He requested that cleaning of insulators in NCR area should be carried out on priority basis. He cautioned utilities that they will have to be careful even up to March as in 2008 fog related incidents took place in the month of March.

3. MS, NRPC advised the utilities to make action plan for completion of work in the time bound manner. He requested the utilities to submit the weekly status on every Thursday to NRPC secretariat on replacement and cleaning of insulator.

4. Summary of Progress made by various utilities as updated in the meeting is enclosed as **Annex-II**. The utility-wise status as updated during the meeting is as under:

5. Railways

5.1 Northern Central Railways

Representative of North Central Railways stated that they will complete the cleaning of insulator by 1st December, 2010. North Central Railways will again take up the cleaning in January. CEE (North Central Railways) stated that performance of Polymer insulator is very good in railways. He stated that in certain areas Railway is also using silicon coated porcelain insulator and performance of these insulators are as good as Polymer insulators.

Elaborating on the cleaning practice of Railways, he stated that pollution affected insulators are brought down and are replaced by cleaned insulators. He informed that to clean the insulators, they are dipped for 7-8 hours in mild detergent solution with DM water.

Status of insulator replacement and cleaning on transmission lines owned by North-Central Railways as on 03.12.2010 is enclosed at **Annex-III A**.

5.2 Northern Railways

5.2.1 Representative of Northern Railways stated that there are only two transmission lines to be cleaned in their zone. Cleaning of Diwana-Tarori S/C line is 20% complete and Diwana-Shahbad Markanda D/C line is 19% complete. Northern Railways is facing problem in cleaning as they are having single source of supply at some location. Still they will try to complete it by 15th December, 2010.

5.2.2 Status of insulator replacement and cleaning on transmission lines owned by Northern Railways as on 01.12.2010 is enclosed at **Annex-III B**.

5.2.3 MS, NRPC appreciated the efforts of Railways and asked the representatives to complete expeditiously the cleaning works so that 2nd round of cleaning could also be taken up.

6. Punjab

6.1 Representative of Punjab State Transmission Co. Ltd. (PSTCL) stated that they had identified 35 lines for stage-II where Porcelain insulators are to be replaced with Polymer/Antifog. He intimated that work on all 20 lines identified in stage-I is 100% complete and around 1/3rd work on stage-II is complete. PSTCL is giving priority to replacing insulator of highly polluted areas of

Ludhiana, Bhatinda and Ropar Area. All matters related to material procurement has been sorted out.

6.2 Regarding cleaning work, representative of PSTCL stated that cleaning will be completed by 10th December, 2010.

Details of progress made by PSTCL in replacement and cleaning of Porcelain insulators is enclosed at **Annexure-IVA, IVB** respectively.

7. Haryana

7.1 Representative of HVPNL stated that they had identified 17 additional lines, for replacement of insulators in Stage-II. He intimated that work on all 25 lines identified in stage-I is 50% complete and 10% work on stage-II is complete. MS, NRPC requested HVPNL to submit details of status of procurement, expected delivery of material and target date of completion to NRPC secretariat. He advised HVPNL to expedite the work and take critical lines first. Progress of work in Haryana under stage-I and list of lines identified for stage-II as furnished in the meeting are attached as **Annex-VA, VB**.

7.2 Representative of HVPNL stated that cleaning shall be completed by 17th December, 2010.

8. POWERGRID

8.1 Representative of POWERGRID stated that under stage-I, they had identified 54 lines in phase-1, out of which 80 % work is complete and rest of the work is going on at full swing.

8.2 Regarding new lines POWERGRID stated that 36 numbers had been indentified for replacement under stage-II. These include 22 numbers from NR-I and 9 lines of NR-II which were partially completed during the stage-I. The total cost involved is about Rs 144 crores. Representative of POWERGRID (NR-I) stated that polymer insulators for replacement of porcelain insulators on HVDC Rihand-Dadri line are available. In so far as AC lines are concerned about 4000 insulators are expected to arrive in few days.

8.3 Representative of POWERGRID stated that cleaning shall be completed by first week of December, 2010.

8.4 The progress of replacement and cleaning of insulators in respect of POWERGRID is enclosed as **Annexure-VIA, VIB, VIC**.

8.5 Regarding performance of silicon coated insulator and their comparison with Polymer insulators, representative of POWERGRID intimated that they have invited an international expert for consultation and they will share outcome of this consultation with utilities.

8.6 MS, NRPC asked POWERGRID to compare the cost benefit analysis of Silicon coated vs Polymer insulator.

8.7 MS, NRPC requested POWERGRID to complete replacement works at critical locations/lines on priority basis. POWERGRID agreed to submit list of such prioritized work to NRPC secretariat.

9. POWERLINKS

Representative of POWERLINKS stated that cleaning on 40 km stretch is planned between 9th and 12th December 2010. Status of replacement is enclosed as **Annexure-VII**

10. DTL and RVPNL

10.1 No representative from DTL attended the meeting. Progress of work in Delhi as available with NRPC Secretariat is attached as **Annex-VIII**.

10.2 No representative from RVPNL attended the meeting. Their work of Stage-I is complete and no lines identified for Stage-II. Information of RVPNL is enclosed at **Annexure-IX**.

11. UPPTCL and BBMB

11.1 No representative from BBMB and UPPTCL attended the meeting. However, they submitted progress of work prior to the meeting which is attached as **Annex-X** and **Annex-XI** respectively.

Meeting ended with vote of thanks to the Chair.

Annex-I

List of Participants of the Meeting on Polymer Insulator

In chair- Shri A K Aggarwal, MS, NRPC

POWERGRID

Name of officer Shri.	Designa- tion	Organization	Mobile No.	Email id
R.B.Singh	AGM(O.S.)	POWERGIRD	9650894942	rbsingh@powergridindia.com
Mithlesh Kumar	AGM(O&M)	POWERGIRD NR-I	9873637111	Mithlesh- 1955@powergridindia.co m
K.C.Chadha	DGM	-do-	9419211842	Kuldipchadha52@gmail.c om
S.Rasool	CM	PGCIL	9873549223	saquibrasool@rediffmail. com

Railways

Rajeev Mehta	CEE	NCR	9794835300	
Neeraj	SEE/TrD	NR	9717630330	
R.K.Gaur	SEE/TrD	NR	9717637311	

NRLDC

D.K.Jain	DGM(SO-I)	NRLDC	9910344127	Dkj2009@yahoo.c o.in
Ajay Bhatnagar	Manager	NRLDC	9910952459	Ajaysb10@gmail.c om

PSTCL

G.S.Kohli	AEE	PSTCL	9646118294	gurbir_kohli@yaho o.com
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HVPN

Sanjay Arora	PR	HVPN	9356273746	pchvph1@gmail.co m
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NRPC

Ajay Talegaonkar	SE(O)	NRPC		nrebops@yahoo.co m
Naresh Kumar	AEE(O)	NRPC	9968808624	naresh1822@rediff mail.com

Annexure - II

Status as on 22.11.2010				
Summary of Replacement of Porcelain Insulators by Polymer / Antifog Insulators				
Utility	Stage-I (Lines identified after grid incidence on 8th March 2008)		Stage-II (Lines identified after grid incidence on 2nd January 2010)	
	Lines Identified (Nos)	Progress of Replacement of Insulator String (%)	Lines Identified (Nos)	Progress of Replacement of Insulator String (%)
HVPNL	25	50	17	10
POWERGRID	54	80	39	Nil
BBMB	35	74	4	-
DTL	20	40	*	-
UPPTCL	38	18	*	-
PSTCL	20	100	35	31
POWERLINK	1	100	-	-
RVPNL	2	100	-	-

* Lines are yet to be identified in Stage-II

Status of Northern Central Railways as on 03.12.2010

Legend: Tension tower (TT), Suspension Tower (ST),
Tension String (TS), Suspension String (SS)

1.0 Progress of cleaning of Insulator**1.1 25 kV TR line:**

SN	Section	No. of TT	No. of ST	No. of TS	No. of SS	Progress of Cleaning
1.	Chunar PuVVNL- Chunar FP	2 TW plus 2 gantry- 12, 9-t Insulators.				NIL
2.	Jigna PuVVNL- Jigna FP	2 TW & 1 ST plus 2 gantry- 14, 9-t Insulator				NIL
3.	Rewa Road PuVVNL- Naini FP	4 TW & 22 ST plus 6 gantry- 114, 9-t Insulator				NIL
4.	Sirathu PuVVNL- Sirathu FP	2 gantry- 4, 9-t Insulator				NIL
5.	Malwan PuVVNL- Malwan FP	2 gantry- 4, 9-t Insulator				NIL

1.2 66kV TR line:

SN	Section	No. of TT	No. of ST	No. of TS	No. of SS	Progress of Cleaning
1.	Ballabgarh TSS – Hodal TSS	30 + 2 gantry	125	369	819	All insulators have been cleaned.

1.3 132kV TR line:

SN	Section	No. of TT	No. of ST	No. of TS	No. of SS	Progress of Cleaning
1.	Naurangabad GSS – Mathura TSS	10	13	64	76	All insulators have been cleaned.
2.	Sikadara GSS – Bhandai TSS	22	62	216	244	All insulators have been cleaned.
3.	Narayanpur PuVVNL to jeonathpur TSS	12	10	88	44	Agency for cleaning of 450 stings fixed. Work in Progress. PDC 15.12.2010. 168(C)
4.	Patharia PuVVNL to Mirzapur TSS	7	2	64	12	
5.	Naini Complex PuVVNL to Bhirpur TSS	21	42	160	177	
6.	Manauri PuVVNL to Manauri TSS	10	2	96	20	NIL
7.	Radhanagar PuVVNL to Rasulabad TSS	18	51	152	212	204(C)
8.	Sarsaul-Panki	47	77	703	537	Agency for cleaning of 140 stings fixed. Work in Progress: 140(C)+353(D).
9.	Panki-Phaphoond	50	186	718	723	Cleaning being done departmentally. Progress: 996(D). PDC 15.12.10
10.	Phaphond-Mitawali	130	397	1914	3050	
11.	Mitawali-Dadri	146	428	2025	2946	Agency for Cleaning of 2421 suspension strings between Dadri-Sahibabad fixed & LOA issued on 12.10.10. Progress:1045(C)+738 (D) PDC 15.12.2010.
12.	Dadri-Sahibabad	27	50	343	229	

1.4 220kV TR line:

SN	Section	No. of TT	No. of ST	No. of TS	No. of SS	Progress of Cleaning
1.	NTPC Switch Yard-Dadri GSS	30	27	492	234 + 24 at DER/GSS	LOA issued on 12.10.10 for cleaning of 258 suspension string between DER/NTPC to DER/GSS. Cleaning of Tension strings will start from 1.12.10 & will be completed up to 31.12.10.
2.	Auraiya-Phaphoond GSS	24	12	372	120	

2.0 Progress of replacement of insulators:

2.1 66kV TR line

SN	Section	No. of TT	No. of ST	No. of TS	No. of SS	Progress of Replacement
1.	Ballabgarh TSS – Hodal TSS	NIL	NIL	NIL	NIL	There is no flash/broken insulator.

2.2 132kV TR line:

SN	Section	No. of TT	No. of ST	No. of TS	No. of SS involved	Progress of Replacement
1.	Naurangabad GSS – Mathura TSS	NIL	05	NIL	05	06 flashed & 5 broken disc replaced. Work completed
2.	Sikadara Agra GSS – Bhandai TSS	Nil	17	NIL	17	33 flashed & 8 broken disc replaced. Work completed
3.	Dadri-Sahibabad Ckt-I	27	50	159	117	Long Rod Polymer composite insulator (LRPCI) – 117 suspension and 33 in tension string.
4.	Dadri-Sahibabad Ckt-II	27	50	159	117	NIL
5.	Dadri-Dankaur Ckt-I	27	46	204	156	(LRPCI) – 156 suspension and 119 in tension string.
6.	Dadri-Dankaur Ckt-II	27	46	204	174	(LRPCI) – 174 suspension and 114 in tension Long Rod string.
7.	Dankaur-Khurja Ckt.I	18	76	126	243	(LRPCI) -180 suspension string.
8.	Dankaur-Khurja Ckt.II	18	76	126	249	NIL
9.	Aligarh Jn-Mandrak Ckt.I	12	50	87	171	(LRPCI) 57 suspension string.
10	Panki-Shikohabad					3000 porcelain type suspension insulator strings have been replaced in 2008-09

- 684 suspension and 266 tension type (total 950) BHEL make long rod composite polymer insulators as per PGCIL specification have been provided in 132kV TR line between Mitawali-Sahibabad.

2.3 **220kV TR line:**

SN	Section	No. of TT	No. of ST	No. of TS	No. of SS	Progress of Replacement
1.	NTPC Dadri – Dadri GSS	30	27	492	234 + 24 at DER/ GSS	Not required.
2.	Auraiya Switch Yard- Phaphoond GSS	24	12	372	120	Non Pollution area, therefore not planned for replacement.

3.0 **Progress of Provision of Additional Disc Insulator:**

3.1 **66kV TR line:**

SN	Section	No. of TT	No. of ST	No. of TS	No. of SS	Progress of provision of additional Disc Insulator
1.	Ballabhgarh TSS – Hodal TSS	30	117	369	819	Not yet Planned.
		At present 5 in suspension and 6 disc insulator in tension strings have been provided and no additional disc insulator is required to be provided in TR line.				

3.2 **132kV TR line:**

SN	Section	No. of TT	No. of ST	No. of TS	No. of SS	Progress of provision of additional Disc Insulator
1.	Naurangabad GSS – Mathura TSS	10	13	64	76	At present 9 in suspension and 10 disc insulators in tension provided in TR line. Additional disc insulator not required in TR line.
2.	Sikadara GSS – Bhandai TSS	23	61	216	257	
3.	Sarsaul-Panki – Mitawali –Dadri – Sahibabad					NIL

3.3 **220kV TR line:**

SN	Section	No. of TT	No. of ST	No. of TS	No. of SS	Progress of provision of additional Disc Insulator
1.	Dadri/GSS – Dadri/ NTPC	30	27	492	234 +24 at Dadri GSS	Additional disc provided on Ckt-I, 105 strings (in 27 towers)

Status of Replacement of Porcelain Insulators with POLYMER Insulators North Railways as on 01.12.2010 Annexure-IIIB

Name of the Organisation: NR/TRD/DLI Division												
Sl. No	Name of Line, Voltage (Write each circuit separately)	Line Details			Insulator to be Replaced by Polymers			Progress		Schedule for completion of balance		Remarks
		Length (Km)	Total Tower Locations (No)	Total Insulator Strings (No)	Length (Km)	Tower Locations (No)	Insulator Strings (No)	Tower Locations (No)	% of Tower Location	Start Date	End Date	
		NIL										

Status of Replacement of Porcelain Insulators with ANTIFOG Insulators												
Name of the Organisation: NR/TRD/DLI Division												
Sl. No	Name of Line, Voltage (Write each circuit separately)	Line Details			Insulator to be Replaced by Antifog			Progress		Schedule for completion of balance		Remarks
		Length (Km)	Total Tower Locations (No)	Total Insulator Strings (No)	Length (Km)	Tower Locations (No)	Insulator Strings (No)	Tower Locations (No)	% of Tower Location	Start Date	End Date	
		NIL										

Status of Hotline Cleaning of Porcelain Insulators												
Name of the Organisation: NR/TRD/DLI Division												
Sl. No	Name of Line, Voltage (Write each circuit separately)	Line Details			Insulator to be Cleaned			Progress		Schedule for		Remarks
		Length (Km)	Total Tower Locations (No)	Total Insulator Strings (No)	Length (Km)	Tower Locations (No)	Insulator Strings (No)	Tower Locations (No)	% of Tower Location	Start Date	End Date	
		NIL										

Status of Manual Cleaning of Porcelain Insulators												
Name of the Organisation: NR/TRD/DLI Division												
Sl. No	Name of Line, Voltage (Write each circuit separately)	Line Details			Insulator to be Cleaned			Progress		Schedule for		Remarks
		Length (Km)	Total Tower Locations (No)	Total Insulator Strings (No)	Length (Km)	Tower Locations (No)	Insulator Strings (No)	Tower Locations (No)	% of Tower Location	Start Date	End Date	
1	132 KV DWNA-TRR Ckt.-I.	61	1-213	1002	20	1-74	459	1-54	73%	12.11.10	15.12.10	
2	132 KV DWNA-SHDM Ckt.-II.	115	1-213 & 1-177	1533	20	1-74	465	1-50	68%	12.11.10	15.12.10	

Sr.No.	Name of Line	No. of string
1	220 KV Sultanpur-Patti D/C line	12
2	132 KV Tarn Taran-Patti	3
3	132 KV Verpal – Tarn Taran	9
4	132 KV Sultanpur- Patti	3
5	220 KV Sarna-Wadala Granthian D/C Ckt-I &	48
6	-do- Ckt.III & IV	12
7	132 KV MPH-II to III	12
8	220 KV Verpal – Wadala Granthian Ckt-I &II	24
9	220 KV Butari-Railway Track	18
10	132 KV Dhilwan-Butari	167
11	132 KV Nakodar-Jadla	18
12	220 KV BBMB Jalandhar-Jamsher Ckt-I	45
13	-do- Ckt-II	81
14	220 KV Mahilpur-Jamsher Ckt-I	90
15	220 KV Jamsher- Goraya	141
16	220 KV Ropar-Goraya	20
17	132 KV Urban Estate Jalandhar-Nakodar	134
18	132 KV Goraya - Nurmehar	173
19	132 KV Moga-Jamalpur I & II	15
20	220 KV Lalton-Dhandari Ckt-I	30
21	-do- Ckt-II	30
22	220 KV RTP-Kohara	9
23	220 KV Kohara-Sahnewal	51
24	220 KV Sahnewal-Lalton-I	21
25	-do- -II	21
26	220 KV Lalton – Jagraon	30
27	220 KV Jamalpur-Ganguwal Ckt-I	216
28	220 KV Jamalpur-Ganguwal Ckt-II	54
29	220 KV Jamalpur-Dhandari –I	15
30	220 KV Jamalpur-Dhandari - II	15
31	132 KV Jamalpur-Phillaur	19
32	220 KV Ganguwal-Gobindgarh-I	2
33	220 KV Ganguwal-Gobindgarh-II	2
34	220 KV RTP-Gobindgarh-I Ckt-I	36
35	220 KV RTP-Gobindgarh-II Ckt-II	36

Status of Replacement of porcelain insulators with polymer/antifog insulators

Name of the organization: HVPN

Status as on: 10.11.10

Priority No.	Name of line	Line Length		Length where insulators to be replaced					
		Kms/Towers	Total Insulator	Kms/Towers	Total Insulator	Insulator Strings	Percentage of Insulators	Start Date	End Date
	Phase-I								
1	220KV Sewah-PTPS Ckt-I	12	198	12	198	198	100	Completed	
2	220KV Sewah-PTPS Ckt-II	12	198	12	198	198	100	Completed	
3	220KV Sewah-PTPS Ckt-III	12.5	213	12.5	213	213	100	Completed	
4	220KV Sewah-PTPS Ckt-IV	12.5	213	12.5	213	213	100	Completed	
5	220KV PTPS-Sonepat Ckt-I	51.5	634	51.5	634	600	95		
	220KV PTPS-Sonepat Ckt-II	51.5	634	51.5	634	600	95		
6	220KV Nuna-Majra-B/garh(400KV) Ckt-I	2.9	42	2.9	42	42	100	Completed	
	220KV Nuna-Majra-B/garh(400KV) Ckt-II	2.9	42	2.9	42	42	100	Completed	
7	220KV Rohtak-B/garh Ckt-I	46	576	46	576	576	100	Completed	
	220KV Rohtak-B/garh Ckt-II	46	576	46	576	576	100	Completed	

8	220KV Rohtak-PTPS Ckt-I	63	726	63	726	NIL	0		
	220KV Rohtak-PTPS Ckt-II	63	726	63	726	NIL	0		
9	220KV Pali-Samaypur Ckt-I	10.5	342	10.5	342	63	18		
	220KV Pali-Samaypur Ckt-II	10.5	342	10.5	342	63	18		
10	220KV Pali-Palla Ckt-I	13.9	414	13.9	414	72	17		
	220KV Pali-Palla Ckt-II	13.9	414	13.9	414	74	18		
11	220KV Samaypur-Palwal Ckt-I	18.91	288	18.91	288	288	100	Completed	
	220KV Samaypur-Palwal Ckt-II	18.91	288	18.91	288	252	88		
12	220KV Badshahpur-Rewari D/C line	70.3	1410	70.3	1410	100	7		
13	220KV D/C Sec-52-A-Pali line	23/89	690	23/89	690	NIL	0		
14	220KV Badshahpur-Samaypur D/C	24/86	642	24/86	642	309	48		
15	220KV Badshahpur-Pali D/C	24/86	726	24/86	726	345	48		
16	220KV S/C Badshahpur-IMT Manesar	11.772	240	11.772	240	24	10		
17	220KV D/C Daultabad-IMT Manesar	17.996	594	17.996	594	594	100	Completed	
18	220KV D/C Nuna-Majra-Daultabad	29.898	666	29.898	666	666	100	Completed	
	Total		11834		11834	6108			

	Phase-II								
19	220KV PTPS-KARNAL	48		48		17			
20	220KV PTPS-Bastara	27	882	27	882	822			
21	220KV Bastara-Safidon	23		23					
22	220KV DC RTP- Nilokheri D/Ckt	51.99	2820	51.99	2820	2820		Completed	
23	220KV Nilokheri-Karnal line	19		19					
24	220KV Bastara-Kaul line	56.143	1044	56.143	1044	1044		Completed	
25	220KV Jhajji-PGCIL-Mohana D/Ckt	1.5		1.5				Completed	
26	220KV PTPS-Safidon Ckt-1	29							
27	220KV PTPS-Safidon Ckt-2	29							
28	220KV PTPS-Safidon Ckt-3	23							
29	220KV PTPS-Jind Ckt-1	62							
30	220KV PTPS-Jind Ckt-2	62.215							
31	220KV Cheeka-Durala Ckt-1	50							
32	220KV Cheeka-Durala Ckt-2	50							
33	220KV Durala-Shahbad Ckt	36							
34	220KV Durala-Pehowa Ckt								

	Total		4746		4746	4703			
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Annexure-VB

Shutdowns availed for cleaning of disc insulators during the month of November-10 for HVPNL						
Date	Name of Divisior	Name of S/Stn	e of Line/Equip	Time		Reason
				From	To	
02.11.10	XEN TS Faridabad	220KV Palli	220KV Palli-Samaypur Ckt-	10:00	13:00	Disc Cleaning & Gen Mtc
02.11.10	XEN TS Kaithal	220KV Kaithal	220KV Narwana -	10:00	16:00	For cleaning disc and other mtc
03.11.10	XEN TS Ambala	220KV Tepla	220KV Tepla-Shahbad Ckt-2	9:00	17:00	Disc Cleaning & Gen Mtc
03.11.10	XEN TS Narwana	220KV Narwana	220KV Narwana-	10:00	12:00	Disc Cleaning & Gen Mtc
03.11.10	XEN TS Hisar	220KV IA Hisar	220KV IA Hisar-PGCIL Mayyer	10:00	16:00	Disc Cleaning & Gen Mtc
04.11.10	XEN S/Yard -II PTPS PNP	220kv S/Yard-II PTPS	220KV PTPS-Jind Ckt- 1 & 2	16:30	17:00	For cleaning LAS
06.11.10	XEN S/Yard -II	220KV PTPS	220KV PTPS-Safidon Ckt-3	10:30	11:00	Cleaning of Disc
06.11.10	XEN S/Yard -II	220KV PTPS	220KV PTPS-Bastara S/Ckt	11:00	11:30	Cleaning of Disc
08.11.10	XEN TS Narwana	220KV Safidon	220KV PTPS-Safidon Ckt-1	8:30	17:30	Change the disc
9.11.10	XEN TS Narwana	220KV Jind	220KV Jind-PTPS Ckt-2	9:30	11:30	Disc Cleaning & Gen Mtc
09.11.10	XEN TS Narwana	220KV Narwana	220KV Narwana-Hisar	10:00	12:00	Disc Cleaning & Gen Mtc
09.11.10	XEN TS Narwana	220KV Safidon	220KV Safidon-PTPS Ckt-3	9:30	16:30	Cleaning the disc & check the condition of
9.11.10	XEN TS Kaithal	220KV Kaithal	220KV Kaithal-Nissing Ckt-2	10:00	16:00	Disc cleaning & general mtc

09.11.10	SSE 400KV BBMB Sewah	400KV Sewah	220KV PTPS- Sewah Ckt-1	8:00	17:00	Disc Cleaning & Gen Mtc
09.11.10	SSE 400KV BBMB Sewah	400KV Sewah	220KV PTPS- Sewah Ckt-4	8:00	17:00	Disc Cleaning & Gen Mtc
09.11.10	Xen TS Panipat	132 KV Diwana	132KV PTPS- Diwana Ckt-1	11:55	14:15	Disc Cleaning from Tower no.-51 to 44.
10.11.10	XEN TS Kaithal	220KV Kaithal	220KV Kaithal- NRW Ckt-1	10:00	16:00	Disc cleaning & general mtc
10.11.10	XEN TS Hisar	220KV IA Hisar	220KV IA Hisar- PGCIL Mayyer	10:00	16:00	Disc Cleaning & Gen Mtc
10.11.10	XEN TS Narwana	220KV Jind	220KV Jind- Safidon Ckt-1	9:30	11:30	Disc Cleaning & Gen Mtc
10.11.10	Xen TS Panipat	132 KV Diwana	132KV PTPS- Diwana Ckt-2	14:05	16:20	Disc Cleaning from Tower no.-51 to 44.
11.11.10	XEN TS Kaithal	220KV Kaithal	220KV Kaithal- Nissing Ckt-2	10:00	16:00	Disc cleaning & general mtc
11.11.10	XEN TS Narwana	220KV Safidon	220KV Safidon- Narwana Ckt-1	9:30	12:30	Disc Cleaning & Gen Mtc
11.11.10	Xen TS Panipat	132 KV Diwana	132KV PTPS- Diwana Ckt-1	14:10	16:55	Disc Cleaning from Tower no.- 44 to 35.
12.11.10	Xen TS Panipat	132 KV Diwana	132KV PTPS- Diwana Ckt-2	11:35	15:55	Disc Cleaning from Tower no.- 44 to 36.

13.11.10	XEN TS Karnal	220KV Nissing	220KV PTPS-Nissing Ckt-1	10:00	17:00	Disc cleaning & general mtc
13.11.10	XEN TS Kurukshetra	220KV Pehowa	220KV Pehowa-Kaithal Ckt-1	9:00	14:00	Disc Cleaning & Gen Mtc
13.11.10	Xen TS Panipat	132 KV Diwana	132KV PTPS-Diwana Ckt-1	13:10	16:40	Disc Cleaning from Tower no.- 35 to 28.
15.11.10	XEN TS Karnal	220KV Nissing	220KV Nissing-Salimpur Ckt-2	10:00	17:00	Disc Cleaning & Gen Mtc
15.11.10	XEN TS Kurukshetra	220KV Pehowa	220KV Pehowa-Shahbad Ckt-1	9:00	14:00	Disc Cleaning & Gen Mtc
16.11.10	XEN TS Kaithal	220KV Kaithal	220KV Kaithal-Nissing Ckt-2	10:00	16:00	Disc cleaning & general mtc
16.11.10	XEN TS Hisar	220KV IA Hisar	220KV IA Hisar-PGCIL Hisar	10:00	16:00	Disc Cleaning & Gen Mtc
16.11.10	XEN TS Sirsa	220KV Sirsa	220KV Matana-Sirsa line	10:00	15:00	To wash the disc
16.11.10	XEN TS Faridabad	220KV Palli	220KV Palli-Gurgaon Sec-	10:00	15:00	Disc Cleaning & Gen Mtc
16.11.10	XEN TS Madanpur	220KV Madanpur	220KV Madanpur-	9:30	17:00	Cleaning of Disc
16.11.10	XEN TS Narwana	220KV Narwana	220KV Hisar-Narwana line	10:00	12:00	Cleaning of Disc
16.11.10	XEN TS Rohtak	220KV Nunamajra	220KV Nunamajra-	9:00	12:00	Cleaning of Disc
17.11.10	XEN TS Rohtak	220KV Nunamajra	220KV PGCIL-Nunamajra Ckt-	9:00	12:00	Disc Cleaning & Gen Mtc
18.11.10	XEN TS Panipat	220KV PTPS	220KV PTPS-Sewah Ckt-1	10:00	17:00	Disc cleaning & general mtc
18.11.10	XEN TS Karnal	220KV Nissing	220KV PTPS-Nissing Ckt-2	10:00	17:00	Disc cleaning & general mtc

18.11.10	XEN TS Madanpur	220KV Madanpur	220KV Madanpur-	9:30	17:00	Cleaning of Disc
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POWERGRID

Annexure-VIA

STATUS OF MANUAL CLEANING OF TRANSMISSION LINES AND OTHER AMP WORKS for POWERGRIDAS ON 26.11.2010

								Remarks
S.N	NAME OF LINE	PLANNED S/D date	S/D AVAILED DATE	GROUP	LOCATION ENVISAGED	Loc. CLEANED	Location	100 % COMPLETE
1	400 KV LUCKNOW BAREILLY-II	10.11.2010	11.11.2010	LKO	16	16	224-239	100 % COMPLETE
2	400 KV LUCKNOW BAREILLY-I	10.11.2010	12.11.2010	LKO	16	16	224-239	88 % COMPLETE (Balance locations are already cleaned due to rains)
3	220 KV D/C FGPP-PALLA-I	12.11.2010	13.11.2010	Blgh	16	14	11, 16-18, 21-23, 25, 26, 28, 47-50.	
							PILOT STRING CLEANED LOC- 05, 14,	86 % COMPLETE (Balance locations are already cleaned due to rains)
4	220 KV D/C FGPP-PALLA-II	13.11.2010	14.11.2010	Blgh	22	19	17, 18, 21-23, 25, 26, 28, 36, 39, 41-43, 45-50.	
							PILOT STRING CLEANED LOC- 27	54 % COMPLETE (Balance not done due to rains)
5	400 KV S/C SINGRAULI-KANPUR	14.11.2011	14.11.2010	KANPUR	46	25	1105, 1106, 1108, 1110-1112, 1114-1129, 1131-	100 % COMPLETE
6	220 KV D/C FGPP-SAMAYPUR-II	11.11.2012	15.11.2010	Blgh	31	31	7, 8, 10, 11, 12-21, 23-30, 34-38, 42, 43, 51 &	
							PILOT STRING CLEANED LOC-	100 % COMPLETE
7	220 KV KANPUR-PANKI-II	16.11.2013	20.11.2010 (HALF DAY)	KANPUR	10	10	62-64, 66-70, 72 & 73.	100 % COMPLETE
8	220 KV KANPUR- NOBASTA	16.11.2014	20.11.2010 (HALF DAY)	KANPUR	10	10	62-64, 66-70, 72 & 73.	Not done due to rains. (Being rescheduled after HVDC S/D)
9	400 KV D/C Allahabad-Mainpuri	15.11.10						
10	400 KV Allahabad-Kanpur-I	03 Dec						

11	400 KV Allahabad-Kanpur-II	04 Dec						
12	400 KV Singrauli-Allahabad -I	05-06 Dec						
13	400 KV Singrauli-Allahabad -II	07- 08 Dec						
14	220 KV D/C Agra-Auraiya-I	7-8 Dec						
15	220 KV D/C Agra-Auraiya-II	9-10 Dec						
16	400 KV D/C Agra-Auraiya-I	2-03 Dec						
17	400 KV D/C Agra-Auraiya-II	4-5 Dec						
18	400 KV S/C Agra-Ballabgarh	11-12 Dec						
19	400 KV Agra-Kanpur	13-15 Dec						
20	220 KV Tanakpur- Bareilly	11-13 Dec.						
21	220 KV Sitarganj-Bareilly	14-16 Dec.						
22	400 KV D/C Agra-Agra	6-Dec						
23	400 KV D/C Agra-Bassi-II	16 Dec.						
24	400 KV D/C Agra-Bassi-III	17 Dec.						
25	400 KV S/C Agra-Bassi-I	08-Dec.						
26	400 KV Bassi-Bhiwadi-I	07-Dec.						

27	400 KV Bassi-Bhiwadi-II	08-Dec.						
28	400 KV Dadri-Maharani Bagh	14-15 Dec						
29	400 KV Bassi-Heerapua-I	09-Dec.						
30	400 KV Bassi-Heerapua-II	10-Dec.						
31	220 KV D/C Bassi-Heerapura	11-Dec.						In progress will be completed by 30th Nov.
32	HVDC Rihand Dadri Pole-I	23rd Nov to 29th Nov	S/D is being availed wef 23rd Nov. (On 26/11	Dadri,Mainpuri,Kanpur,Allahabad ,Shaktinagar	1340	504	All non Polymer locations	Will be completed by 08th Dec
33	HVDC Rihand Dadri Pole-II	01st Dec to 07th Dec						

Status of erection of polymer insulators as on 26th Nov 2010

POWERGRID NR-I

Sl. No	Name of line	Total Locations (No)	Total Polymer Strings Required (No)	Location Replaced(No)	Polymer Insulator strings replaced	Balance strings (To be replaced)	% Complete	Remarks
In Phase- I								
1	400 KV Meerut-Mandola-I	166	1284	166	1284	0	100%	
2	400 KV Meerut-Mandola-II	166	1284	166	1284	0		
3	400 KV Dadri Mandola-I	124	1338	124	1338	0		
4	400 KV Dadri Mandola-II	124	1338	124	1338	0		
5	400 KV Dadri-Panipat-I	301	1515	301	1515	0		
6	400 KV Dadri-Panipat-II	328	1731	328	1731	1248		
7	400 KV Dadri-M'Kotla	282	1374	282	1374	0		
8	400 KV Dadri-G. NOIDA	37	429	37	429	0		
9	400 KV G.NOIDA-Ballabgarh	107.5	1270	107.5	1270	0		
10	400 KV Dadri - Maharaniabagh	67.5	730	67.5	730	0		
11	400 KV Maharaniabagh-Ballabgarh	109	1122	109	1122	0		
12	400 KV Mainpuri-Ballabgarh-I	648	2376	427	1623	753	Earlier envisaged work completed. Additional replacement (in full line) being carried out as per the instruction of OS-CC.	
13	400 KV S/C Hissar-Bhiwadi (up to LILO point)	360	2556	305	1920	636	85% complete	55 Tension locations left to be completed after receipt of 160 KN Insulators (Planned wef 12th to 17th Dec
14	400 KV Mainpuri-Ballabgarh-II	362	1473	354	1449	24	98 % complete	Balance will be done during Opprtunity S/D
15	400 KV S/C Kanpur-Ballabgarh	628	2943	628	2943	0	100% comple	

16	± 500 KV HVDC Rh-Dadri P-I	885	2304	635	1692	612	74% complete	In progress wef 24th November
17	± 500 KV HVDC Rh-Dadri P-II	885	2304	645	1662	642	72% complete	
In Phase- II								
18	400 KV S/C Ballabgarh-Bhiwadi	132	508	132	508	0	100%	
19	400 KV S/C Agra-Ballabgarh	485	2596	283	1348	1248	Earlier envisaged work completed. Additional replacement (in full line) will be carried out as per the instruction of OS-CC. (will be taken up wef 12th Dec 2010 to 21st Dec.	
20	400 KV Dadri-Muradnagar	90	548	87.5	500	48	91% complete	Balance will be done during Opprtunity S/D
21	400 KV S/C Bhiwadi-Bassi -I	350	1347	350	1347	0	100%	
22	400 KV M'nagar-Muradabad	356.5	1771	356.5	1771	0		
23	400 KV S/C Meerut-Muzaffarnagar	107	556	107	556	0		
24	220 KV FGPP-Palla I	54	225	38	171	54	76% complete	(70 KN Insulators not available (Shall be taken up in next phase)
25	220 KV FGPP-Palla II	54	238	32	163	75	64% complete	
26	220 KV FGPP-Samaypur I	64	300	64	300	0	100%	
27	220 KV FGPP-Samaypur II	64	292	33	199	93	66% complete	(70 KN Insulators not available (Shall be taken up in next phase)
In Phase-III								
28	400 KV S/C Bhiwadi -Bassi-II (LILO of Old Bassi-Hissar)	55	420	55	420	0	100%	
29	400 KV Agra-Bhiwadi-I	198	702	0	0	702	NIL	Part work will be carried out between 22nd Dec to 29th Dec

30	400 KV Agra-Bhiwadi-II	205	786	0	0	786	NIL	between 22nd Dec to 29th Dec
31	LILO of 400 KV Bly-Mandola at Meerut	22	102	0	0	102	NIL	
32	LILO of 400 KV Ballabgarh-Bhiwadi at G'Gaon	109	1716	59.5	582	1134	27% complete	20th Dec to 29th Dec
33	400 KV Bly.-Lko(UPPCL)	11	42	6	18	24	42.85% complete	Will be done during Jan 1th to Feb 15th
34	400 KV Bly-Mbd-I	11	42	11	42	0	100 % complete	
35	400 KV Bly-Mbd-II	108	756	0	0	756	NIL	
36	± 500 KV HVDC Ballia-Bhiwadi Pole-I	400	1040	148	362	678	35 % Complete	Jan 1st to Jan 20th
37	± 500 KV HVDC Ballia-Bhiwadi Pole-II	400	1040	148	362	678	35 % Complete	
Other than Phase								
1	400 KV S/C Allahabad-Kanpur-I	13	39	13	39	0	100%	
2	400 KV S/C Allahabad-Kanpur-II	13	39	13	39	0		
	TOTAL FOR AC LINES:	6311.5	35788	5167	29353	7683	Total completed work under stage-I = 78%	
	TOTAL FOR DC LINES	2570	6688	1576	4078	2610		
	TOTAL FOR AC & DC LINES	8882	42476	6743	33431	10293		

Status of Replacement of porcelain insulators with polymer/antifog insulators As on 29.11.2010									
S.No.	Name of line	Line Length		Length where insulators to be replaced					
		Kms	Total Insulator Strings (No.s)	Kms	Total Insulator Strings to be replaced	Insulator Strings replaced (No.s)		Status	
	Phase-I&II (Complete Replacement)							Completed	Balance
1	400 KV Bawana- Bahadurgarh Line	48.94	500	48.94	500	500	100%	Work completed	0
2	400 KV Bahadurgarh- Bhiwani line	84.37	839	84.37	839	839	100%	Work completed	0
3	400 KV Hisar- Bhiwani Line	35.33	387	35.33	387	387	100%	Work completed	0
4	400 KV Hisar- Bawana line	131.85	1295	131.85	1295	1295	100%	Work completed	0
5	220 KV Hisar- Hisar Link Line Ckt- I	13.77	193	13.77	193	193	100%	Work completed	0
6	220 KV Hisar- Hisar Link Line Ckt- II	13.77	187	13.77	187	187	100%	Work completed	0
7	400 KV Hisar- Fatehabad Line	83.60	828	84.00	828	828	100%	Work completed	0
8	400 KV Dadri- Malerkotla Line	193.48	1922	193.48	1922	1922	100%	Work completed	0
9	400 KV Hisar-Moga Line	209.17	1971	209.17	1981	1981	100%	Work completed	0
10	400 KV Hisar- Patiala Line	128.17	1710	128.17	1710	1656	100%	Work completed	0
11	400 KV Abdullapur- Bawana Line Ckt-I	167.00	1553	167.00	1553	816	53%	Work In progress	737
12	400 KV Abdullapur- Bawana Line Ckt-II	167.00	1553	167.00	1553	941	61%		612
	Total	1276.43	12937	1276.83	12947	11545			1348
	Phase-II (Partial Replacement)								
13	400 KV Hisar- Kaithal Line	113.12	1032	113.12	352	352	100%		0
14	400 KV Jalandhar- Ludhiana Line	84.77	939	84.77	294	0	0%		294
15	400 KV Ludhiana- Malerkotla Line	35.74	387	35.74	345	0	0%		345
16	400 KV Moga- Fatehabad Line	183.99	1755	183.99	735	615	84%		120
	Total	417.61	4113	417.61	1726	967			759
	Phase-III (To be replaced Complete)								
17	400 KV Moga - Bhiwadi Line Ckt- I	350.00	3369	350.00	3369	0	0%	Erection LOA placed, 1st Lot polymer insulator reached Delhi	3369
18	400 KV Moga - Bhiwadi Line Ckt- II	350.00	3369	350.00	3369	0	0%		3369
	Total	700.00	6738	700.00	6738	0			6738
	Phase-IV (Balance Portion)								
19	400 KV Nalagarh - Kaithal line	199.85	2052	199.85	150	0	0%		150
20	400 KV Nalagarh- Patiala Line	93.39	1083	93.39	150	0	0%		150
21	400 KV Nathpa Jhakri- Abdullapur Line Ckt- I	180.00	2421	0.00	0	0	0%	Procurement of Insulator is process at CC. However for critical portion Insulators are replaced from avilable lot.	0
22	400 KV Nathpa Jhakri- Abdullapur Line Ckt-II	180.00	2421	0.00	0	0	0%		0
23	400 KV Patiala- Malerkotla	62.48	637	62.48	114	0	0%		114
24	400 KV Jalandhar- Amritsar	59.71	642	59.71	42	3	4.80%		39
25	220 KV Jalandhar-Hamirpur-I	124.00	1361	35.30	24	24	100%		0
26	220 KV Jalandhar-Hamirpur-II	124.00	1361	35.30	16	16	100%		0
27	400 KV Kaithal-Meerut- -I	164.00	1617	164.00	0	0	0%		0
28	400 KV Kaithal-Meerut- -II	164.00	1617	164.00	0	0	0%		0
	Total	1351.43	15212	814.03	496	43			453
	Total	3745.47	39000	3208.47	21907	12595		0	9298

POWERLINKS Annexure-VII

Status as on : 19.11.2010

[illegible][illegible]

Status of Hotline Cleaning of Porcelain Insulators

Name of the Organisation: Powerlinks Transmission Limited

[illegible]

Status of Manual Cleaning of Porcelain Insulators

Name of the Organisation: Powerlinks Transmission Limited

[illegible]

Annexure - VIII**Delhi Transco Limited****Status of Polymer work****As on dated: 20-10-2010**

1. BWN-MDL D/C			
	Complete	Balance	Total
A) Tower	10	58	68
B) String	454	1455	1909
2 BWN-BML D/C			
	Complete	Balance	Total
A) Tower	38	65	103
B) String	718	1328	2046
2 BML-BLB D/C			
	Complete	Balance	Total
A) Tower	113	36	149
B) String	2965	465	3430
Total			
	Complete	Balance	Total
A) Tower	161	159	320
B) String	4137	3248	7385

Remarks:

1. Tower scheduled during existing shut-down b/w 18.10.2010 to 28.10.2010 on 400kV Bawana-Bamnauli line-40 Nos.

2. Hot line washing on critical towers-30 Nos.

3. Shut-down for replacement of polymer insulators shall also be taken in November 2010 for balance work.

PROGRESS REPORT OF UPPTCL

Status of Replaced/Under Replacement of Porcelain Insulators with POLYMER Insulators

Name of the Organization:														
Sl.No.	Name of Line, Voltage	Line Details			Insulator to be Replaced by Polymers					Progress		Schedule for completion of		Remarks
		Length(Km.)	Total Tower Location No.	Total Insulator Strings No.	Length (Km.)	Tower Location No.	Insulator Strings Changed(No.)	Insulator Strings to be Changed(No.)	Total(Nos.)	Tower Location No.	% of Tower Location (%) % of Insulator Strings (%)	Start Date	End Date	
1	400 KV Unnao-Panki						60	60	120		50			Total 1928 nos. Insulator Strings changed, now LOI for the procurement of 9418 nos. Insulator Strings issued, these balance Insulator Strings are to be replaced during Dec/Jan 2011
2	400 KV Muradnagar-Muzaffarnagar						126	540	666		19			
3	400 KV Muradnagar-Panki						558	150	708		79			
4	400 KV Unnao-Agra						186	900	1086		17			
5	400 KV Agra-Unnao						0	270	270		0			
6	400 KV Unnao-Bareilly						0	2000	2000		0			
7	400 KV Anpara-Azamgarh-Mau,Anpara-Varanasi						0	700	700		0			
8	220 KV Muradnagar-Shamli						234	0	234		100			
9	220 KV Interconnecting No.(2) Muradnagar						24	0	24		100			
10	220 KV Modipuram-Mataur 1st Ckt						33	51	84		39			
11	220 KV NAPP-Khurja						69	126	195		35			
12	220 KV Muradnagar-Khurja						120	0	120		100			
13	220 KV Muradnagar-Secandarabad						102	0	102		100			
14	220 KV Shahibabad-Muradnagar						215	0	215		100			
15	220 KV Gr.Noida-Noida 2nd Ckt						201	312	513		39			
16	220 KV Modipuram-Mataur 2nd Ckt						0	9	9		0			
17	220 KV Baraut-Muradnagar						0	135	135		0			
18	220 KV Baraut-Shamli						0	162	162		0			
19	220 KV DC Shatabdinagar-Mataur						0	162	162		0			
20	220 KV Shahibabad-Modipuram						0	174	174		0			
21	220KV Parichcha-Bharthana						0	420	420		0			
22	220KV Parichcha-Orai						0	420	420		0			
23	220 KV Panki-Naubasta-Fatehpur						0	300	300		0			
24	220 KV Panki-Chibramau-Mainpuri						0	180	180		0			
25	220 KV Mainpuri-Safai-Bharthana-Parichha						0	180	180		0			
26	220 KV Shatabdinagar-Simbholi						0	132	132		0			
27	220 KV Khurja-Jhahangirabad SC line						0	72	72		0			
28	220 KV Obra-Allahabad						0	400	400		0			
29	220 KV LILO Khurja Muradnagar line at 220 KV Sikandrabad						0	60	60		0			
30	132 KV Panki-Naubasta						0	120	120		0			
31	132 KV Naubasta-Ghatampur						0	60	60		0			
32	132 KV Banda-Karvi						0	240	240		0			
33	132 KV Banda-Mahoba						0	240	240		0			
34	132 KV Karvi-Sirathu						0	240	240		0			
35	132 KV Parichha-Hasari						0	240	240		0			
36	132 KV Noida-Bhangal						0	120	120		0			
37	132 KV Noida-Surajpur						0	111	111		0			
38	132KV Gr.Noida-Surajpur						0	132	132		0			
Total							1928	9418	11346		17			

Note: Due to certain unavoidable constraints no officer is able to attend the meeting scheduled for 22.11.2010 in person. This progress report is being forwarded for your kind perusal

Annexure-XIB

	CONVENTIONAL INSULATORS REPLACED WITH THE ANTIFOG INSULATORS ON THE LINES IDENTIFIED BEFORE JANUARY-2010 (STAGE-1)												
Name of the organization: Bhakra Beas Management Board										Status as			
Sr. No.	Name of line, voltage,S/C or D/C	Line Detail			Insulators to be replaced by Antifog			Progress		Schedule for replacement of balance		Remarks	
		Length (Kms)	Total Tower locations (Nos.)	Total Insulator Strings (Nos)	Length (Kms)	Tower locations (Nos.)	Total Insulator Strings (Nos)	Tower locations (Nos.)	% of Tower Locations (%)				
										Start Date	End Date		
	220KV Dhulkot-Panipat ckt-I	130	433	1669	..	29	117	29	100%	The insulators identified in Stage-1 i.e. before January-2010 have been replaced 100%.	
	220KV Dhulkot-Panipat ckt-II	130	433	1669	..	29	117	29	100%	..	...
	220KV S/C Panipat- Ch. Dadri Line	115	342	1173	..	21	81	21	100%	..	..
	220KV S/C Kurukshetra-Panipat Line	77.08	233	786	..	28	105	28	100%				
	220KV BUSES at 400KV S/S Panipat	...	...	240		...	240	...	100%		
	220KV Bhakra-Jamalpur ckt -I	86.4	1-276	1034	11	32	204	32	100%				
	220KV Bhakra-Jamalpur ckt - II	86.4	1-276	1034	11	32	204	32	100%				
	220KV Jamalpur-Jalandhar ckt-I	64	1-214	960	9	27	87	27	100%	..	...
	220KV Jamalpur-Jalandhar ckt- II	64	1-214	960	9	27	87	27	100%	..	..
	220KV Pong-Jalandhar ckt- I	97.5	1-328	1204	4	12	36	12	100%				
	220KV Pong-Jalandhar ckt- II	97.5	1-328	1204	4	12	36	12	100%				
	220KV Jamalpur-Sangrur ckt- I	78	1-268	970	15	40	313	40	100%				

	220KV Jamalpur-Sangrur ckt- II	78	1-268	970	15	40	313	40	100%		
	220KV Hisar-Sangrur-I	139	477	1431	139	62	186	62	100%		
	220KV Hisar-Sangrur-II	139	477	1431	139	62	186	62	100%		
	220KV Bhiwani-Hisar-I	57.95	199	654	30	102	345	102	100%		
	220KV Bhiwani-Hisar-II	57.95	199	654	30	102	345	102	100%		
	220KV Bhiwani-Ch. Dadri-I	36.45	124	420	7.6	26	81	26	100%		
	220KV Bhiwani-Ch. Dadri-II	36.45	124	420	7.6	26	81	26	100%		
	220KV Bhiwani-Ch. Dadri-III	34.7	127	444	9.5	35	114	35	100%		
	220KV Bhiwani-Ch. Dadri-IV	34.7	127	444	9.5	35	114	35	100%		

Annexure-XIC

Status of Manual cleaning of insulators												
Name of the organization: Bhakra Beas Management Board										Status as 15.11.10		
Sr. No.	Name of line, voltage, S/C or D/C	Line Detail			Insulators to be cleaned			Progress		Schedule for completion		Remarks
		Length (Kms)	Total Tower locations (Nos.)	Total Insulator Strings (Nos)	Length (Kms)	Tower locations (Nos.)	Total Insulator Strings (Nos)	Tower locations (Nos.)	% of Tower Locations (%)			
										Start Date	End	
	400KV S/C Dehar-Panipat Line	261.8	772	4314	261.8	772	4314	703	91.06%			
	400KV S/C Dehar-Bhiwani Line	312.15	943	4791	312.15	943	4791	339	35.95%			
	220KV R/Road-Narela ckt-I	22	81	426	22	81	426	81	100.00%			
	220KV R/Road-Narela ckt-II	22	81	426	22	81	426	81	100.00%			
	220KV Panipat-Narela ckt-I	56.8	197	811	107	197	811	65	32.99%	..	...
	220KV Panipat-Narela ckt-II	56.8	197	811	107	197	811	52	26.40%			
	220KV Panipat-Narela ckt-III	58	171	588	58	171	588	71	41.52%			
	220KV Panipat-Dhulkot ckt-I	130	433	1669	130	433	1669	413	95.38%	...	...
	220KV Panipat-Dhulkot ckt-II	130	433	1669	130	433	1669	230	53.12%	...	...
	220KV S/C Panipat-Dadri Line	115	342	1173	115	342	1173	236	69.01%			
	220KV S/C Kurukshetra-	77.08	233	786	77.08	233	786	205	87.98%			
	220KV Bhakra-Jamalpur ckt-I	86.4	1-276	2068	86.4	1-276	2068	178	64.49%			
	220KV Bhakra-Jamalpur ckt-II	86.4	1-276	2068	86.4	1-276	2068	120	43.48%			
	220KV Jamalpur-Sangrur ckt- I	78	1-268	1940	78	268	1940	253	94.40%			
	220KV Jamalpur-Sangrur ckt- II	78	1-268	1940	78	268	1940	106	39.55%			
	220KV Pong-Jalandhar ckt-I	97.5	1-328	1204	97.5	1-328	1168	328	100.00%			
	220KV Pong-Jalandhar ckt-II	97.5	1-328	1204	97.5	1-328	1168	328	100.00%			
	220KV Pong-Jalandhar ckt-IV	40	1-120	462	40	1-120	462	120	100.00%			
	220KV Pong-Jalandhar ckt-IV	56	121-289	597	56	121-289	597	169	100.00%	..	..
	220KV Jalandhar-Jamalpur ckt-I	64	1-214	960	64	1-214	873	214	100.00%		..	

Sr. No.	Name of line, voltage,S/C or D/C	Line Detail			Insulators to be cleaned			Progress		Schedule for completion		Remarks
		Length (Kms)	Total Tower locations (Nos.)	Total Insulator Strings (Nos)	Length (Kms)	Tower locations (Nos.)	Total Insulator Strings (Nos)	Tower locations (Nos.)	% of Tower Locations (%)			
										Start Date	End	
	220KV Jalandhar-Jamalpur ckt-II	64	1-214	960	64	1-214	873	214	100.00%	..	..
	220KV Ganguwal-Dhulkot ckt-I	112	1-370	1554	112	1-370	1554	317	85.67%			
	220KV Ganguwal-Dhulkot ckt-II	112	1-370	1554	112	1-370	1554	370	100.00%			
	132KV Ganguwal-Kotla ckt-I	10.86	1-45	195	10.86	1-45	195			..	..
	132KV Ganguwal-Kotla ckt-II	10.86	1-45	195	10.86	1-45	195			..	..
	220KV Ganguwal-Jagadhari S/C	158.65	488	1786	158.65	488	1786	488	100.00%			
	220KV Jagadhari-Kurukshetra	48.3	149	504	48.3	149	504	149	100.00%			
	220KV Ballabgarh-BTPS-I	24.73	90	321	24.73	90	321	22	24.44%			
	220KV Ballabgarh-BTPS-II	24.73	90	321	24.73	90	321	22	24.44%			
	220KV Samaypur-Ch. Dadri S/C	118	400	1323	118	400	1323					
	220KV Ballabgarh-Ch. Dadri S/C	119.7	407	1378	119.7	407	1378					
	220KV Hisar-Sangrur-I	139	477	1431	139	477	1431					
	220KV Hisar-Sangrur-II	139	477	1431	139	477	1431					
	220KV Bhiwani-Hisar-I	57.95	199	654	38.7	145	456					
	220KV Bhiwani-Hisar-II	57.95	199	654	38.7	145	456	144	99.31%			
	220KV Bhiwani-Ch. Dadri-I	36.45	124	420	28.9	98	339	78	79.59%			
	220KV Bhiwani-Ch. Dadri-II	36.45	124	420	28.9	98	339	69	70.41%			
	220KV Bhiwani-Ch. Dadri-III	34.7	127	444	25.2	92	330	89	96.74%			
	220KV Bhiwani-Ch. Dadri-IV	34.7	127	444	25.2	92	330	89	96.74%			
	220KV Ballabgarh-Samaypur-I	4.23	20	84	4.23	20	84					
	220KV Ballabgarh-Samaypur-II	4.23	20	84	4.23	20	84					
	220KV Ballabgarh-Samaypur-III	5.5	23	87	5.5	23	87	23	100.00%			
	220KV Barnala-Lehra Mohabbat	23.29	84	289	18	53	195	53	100.00%			

Sr. No.	Name of line, voltage,S/C or D/C	Line Detail			Insulators to be cleaned			Progress		Schedule for completion		Remarks
		Length (Kms)	Total Tower locations (Nos.)	Total Insulator Strings (Nos)	Length (Kms)	Tower locations (Nos.)	Total Insulator Strings (Nos)	Tower locations (Nos.)	% of Tower Locations (%)			
										Start Date	End	

Note: Work completed 61% for location wise and 100% work will be completed before 30th November.

THE CONVENTIONAL INSULATORS REQUIRED TO BE REPLACED WITH ANTIFOG INSULATORS ON THE LINES IDENTIFIED AFTER JANUARY-2010 (STAGE-2)

Name of the organization: Bhakra Beas Management Board									Status as on:			Remarks	
S.No.	Name of line, voltage,S/C or D/C	Line Length						Status of Replacement			%age-wise work completed in Location		
		Kms	No. of locations	Total Insulator Strings (Nos)	Length (Kms)	No. of locations	Total Insulator Strings required (Nos)	No. of locations	Insulator Strings replaced (Nos)	Schedule for replacement of balance			
										Start Date	End Date		
1	220KV Dhulkot-Panipat ckt-I	130	433	1669	..	142	608						Specifications under preparation. Insulators will be procured and installed before next foggy season.
2	220KV Dhulkot-Panipat ckt-II	130	433	1669	..	142	608						
3	220KV S/C Panipat-Ch. Dadri Line	115	342	1173	..	40	126						
4	220KV S/C Kurukshetra-Panipat Line	77.08	233	786	..	104	351						
5	220KV BUSES at 400KV S/S Panipat						45						

STATUS OF HOTLINE CLEANING OF PORCELAIN INSULATORS

Name of the organization: Bhakra Beas Management Board										Status as on :-	
S.No.	Name of line, voltage, S/C or D/C	Line length			Insulators to be cleaned by Antifog			Progress		Schedule for Completion of	
		Length (Km)	Total tower locations (No)	Total Insulator Strings (No)	Length (Km)	Tower locations (No)	Insulator Strings (No)	Tower locations (No)	% of tower locations (%)	Start Date	End Date
	Switch yard at 400 kV Sub station BBMB Panipat										
i	400 kV Yard			216			216			22.11.2010	15.12.2010
ii	200 kV Yard			432			432			22.11.2010	15.12.2010

Annexure-XIE

14.11.2010
Remarks
WO No. 30 dated 9.11.10 issued for carring out the hot line washing. The work will be completed before foggy season.

