

	500 kV (HV)	400 kV	220 kV	132 kV	Total
UPPCL		2825.25	1008.17	0.00	3833.42
DVB		48.00	239.65		287.65
PDD J&K			529.00		529.00
HPSEB			90.19	0.00	90.19
PSEB			3.60		3.60
HVPNL			87.00		87.00
BBMB		574.00	278.00		852.00
RSEB		287.98	959.27	0.00	1247.25
POWERGRID					
NR - I	1630.00	4804.72	2781.17		9215.89
NR - II		2756.00	1049.00		3805.00
Total	1630.00	11295.95	7025.05	0.00	19950.99

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

1. The details of the Important Elements in Northern Region (ownership wise) is as follows

A.	List of important transmission lines	Page 3 to 15
B.	List of important 400/220 kV and 400/132 kV ICTs	Page 16 to 18
C.	List of 400 kV switchable reactors	Page 19 to 20
D.	List of important generating units	Page 21 to 24

2. The list of other ISTS transmission lines in Northern Region not included in the " Important Elements of Northern Regional Grid" is detailed subsequent to D above (page 25 to 30).

3. The following points are specifically indicated in respect of lists indicated from A to D above

- i) The line(s) in the above context means a grid element from bus-bar to bus-bar and includes all equipments such as associated circuit breaker(s), line reactor(s), isolator(s), CVT(s), CT(s) etc.
- ii) Any 400 kV bus shutdown at substations needs the approval of NRLDC.
- iii) Outage or the intention to take under outage, of any major component/ sub-system, which would reduce security/ redundancy level of the above elements, shall be precisely intimated to NRLDC along with the likely time and status regarding revival.
- iv) In respect of two main and transfer bus switching scheme at 400 kV substations, NRLDC shall be informed whenever the 400 kV transfer breaker(s) at any substation is utilized for switching any line/ICT.
- v) In respect of 400 kV substation/ power station switchyards having breaker and a half switching scheme, outages within the substation (say main or tie circuit breaker) not affecting power flow on any line/ ICT can be availed by the constituents under intimation to NRLDC. However, while availing such shutdowns or carrying out switching operations it must be ensured by the substation that at least two dias are complete even after such outages from the view point of network reliability. Any outage not fulfilling the above condition needs the approval of NRLDC.

4. The criteria adopted in drawing up the lists indicated at point 1 above is as follows :

- i) HVDC Rihand-Dadri bipole, HVDC B/B stations & all 800 kV/ 400 kV lines in the Region.
- ii) All 220 kV lines belonging to the Central Transmission Utility (CTU).
- iii) All 220 kV lines emanating from Inter State Generating Station (ISGS).
- iv) Important 220 kV & 132 kV lines from the territory of one state to another state.
- v) Lines affecting system security or forming part of islanding scheme.
- vi) Lines feeding loads of a strategic/sensitive nature.
- vii) All ISGS and BBMB power stations (excluding Ganguwal & Kotla)
- viii) All units of 100 MW and above capacity.

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

A. LIST OF IMPORTANT TRANSMISSION LINES

Sl. No.	Name of Line/ICT	Ckt. Configuration (Towers)	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
	800 kV UPPCL							
1	Anpara-Unnao	S/C	409.00	UPPCL	UPPCL	UPPCL	POWERGRID	Charged at 400 kV
	400 kV UPPCL							
1	Obra-Panki	S/C	386.60	UPPCL	UPPCL	UPPCL	POWERGRID	
2	Obra-Sultanpur	S/C	230.40	UPPCL	UPPCL	UPPCL	POWERGRID	
3	Obra-Anpara	S/C	40.00	UPPCL	UPPCL	UPPCL	POWERGRID	
4	Anpara-A-Sarnath	S/C	140.00	UPPCL	UPPCL	UPPCL		
5	Anpara-B-Sarnath I	D/C	159.00	UPPCL	UPPCL	UPPCL		
6	Anpara-B-Sarnath II	D/C	159.00	UPPCL	UPPCL	UPPCL		
7	Sarnath-Azamgarh	S/C	95.00	UPPCL	UPPCL	UPPCL		
8	Sarnath-Mau	S/C	106.00	UPPCL	UPPCL	UPPCL		
9	Azamgarh-Sultanpur	S/C	125.50	UPPCL	UPPCL	UPPCL		
10	Sultanpur-Lucknow	S/C	145.10	UPPCL	UPPCL	UPPCL	POWERGRID	
11	Panki-Muradnagar	S/C	395.20	UPPCL	UPPCL	UPPCL	POWERGRID	
12	Moradabad-Rishikesh	S/C	159.80	UPPCL	UPPCL	UPPCL	POWERGRID	
13	Muradnagar-Rishikesh	S/C	182.75	UPPCL	UPPCL	UPPCL	POWERGRID	
14	Mau-Azamgarh	S/C	48.40	UPPCL	UPPCL	UPPCL		
15	Azamgarh-Gorakhpur	S/C	90.00	UPPCL	UPPCL	UPPCL		
16	Unnao-Agra	S/C	274.80	UPPCL	UPPCL	UPPCL	POWERGRID	
17	Unnao-Lucknow	S/C	39.16	UPPCL	UPPCL	UPPCL	POWERGRID	
18	Unnao-Panki	S/C	48.54	UPPCL	UPPCL	UPPCL	POWERGRID	

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

A. LIST OF IMPORTANT TRANSMISSION LINES

Sl. No.	Name of Line/ICT	Ckt. Configuration (Towers)	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
	220 kV UPPCL							
1	Sahupuri-Dehri (U.P. portion only)	S/C	36.66	UPPCL	UPPCL	BSEB	ERLDC	
2	Unchahar-Fatehpur I	D/C	56.50	UPPCL	NTPC	UPPCL		
3	Unchahar-Fatehpur II	D/C	56.50	UPPCL	NTPC	UPPCL		
4	Unchahar-Lucknow	S/C	115.00	UPPCL	NTPC	UPPCL		
5	Unchahar-Chinhath	S/C	120.00	UPPCL	NTPC	UPPCL		
6	Agra (220 kV)-Agra (400 kV) - Harduaganj	S/C	97.70	UPPCL	UPPCL	UPPCL		
7	NAPP-Harduaganj	S/C	34.00	UPPCL	NPC	UPPCL		
8	NAPP-Moradabad	S/C	84.94	UPPCL	NPC	UPPCL		
9	NAPP-Khurja I	D/C	60.05	UPPCL	NPC	UPPCL		
10	NAPP-Khurja II	D/C	60.05	UPPCL	NPC	UPPCL		
11	NAPP-Simboli	S/C	83.00	UPPCL	NPC	UPPCL		
12	Khurja-Harduaganj I	D/C	42.50	UPPCL	UPPCL	UPPCL		
13	Khurja-Harduaganj II	D/C	42.50	UPPCL	UPPCL	UPPCL		
14	Moradabad-C.B.Ganj	S/C	86.54	UPPCL	UPPCL	UPPCL		
15	Sahibabad-Gazipur-Noida-BTPS	S/C	25.23	UPPCL	UPPCL	NTPC	DVB	
16	Sahibabad-Patparganj	S/C	7.00	UPPCL	UPPCL	DVB		
	132 kV UPPCL							
1	Morwa-Bina	S/C		MPEB/UPPCL	MPEB	UPPCL	WRLDC	
2	Morwa-Anpara	S/C		MPEB/UPPCL	MPEB	UPPCL	WRLDC	

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

A. LIST OF IMPORTANT TRANSMISSION LINES

Sl. No.	Name of Line/ICT	Ckt. Configuration (Towers)	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
3	Karamnasa-Sahupuri - I	D/C		BSEB/UPPCL	BSEB	UPPCL	ERLDC	
4	Karamnasa-Sahupuri - II	D/C		BSEB/UPPCL	BSEB	UPPCL	ERLDC	
5	Sonenagar-Pipri(Rihand HEP)-I	D/C		BSEB/UPPCL	BSEB	UPPCL	ERLDC	
6	Sonenagar-Pipri(Rihand HEP)-II	D/C		BSEB/UPPCL	BSEB	UPPCL	ERLDC	
7	Pipri-Singrauli	S/C		UPPCL	UPPCL	NTPC		
	400 kV DVB							
1	Mandola-Bawana I	D/C	24.00	DVB	POWERGRID	DVB		
2	Mandola-Bawana II	D/C	24.00	DVB	POWERGRID	DVB		
	220 kV DVB							
1	BTPS-Mehrauli I	D/C	16.60	DVB	NTPC	DVB		
2	BTPS-Mehrauli II	D/C	16.60	DVB	NTPC	DVB		
3	BTPS-Okhla I	D/C	9.75	DVB	NTPC	DVB		
4	BTPS-Okhla II	D/C	9.75	DVB	NTPC	DVB		
5	BTPS-IP Extn I	D/C	24.10	DVB	NTPC	DVB		
6	BTPS-IP Extn II	D/C	24.10	DVB	NTPC	DVB		
7	Mandola-Narela I	D/C	18.99	DVB	POWERGRID	DVB		
8	Mandola-Narela II	D/C	18.99	DVB	POWERGRID	DVB		
9	Mandola-Patparganj I	D/C	25.02	DVB	POWERGRID	DVB		
10	Mandola-Patparganj II	D/C	25.02	DVB	POWERGRID	DVB		
11	Mandola-Gopalpur I	D/C	24.19	DVB	POWERGRID	DVB		
12	Mandola-Gopalpur II	D/C	24.19	DVB	POWERGRID	DVB		

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

A. LIST OF IMPORTANT TRANSMISSION LINES

Sl. No.	Name of Line/ICT	Ckt. Configuration (Towers)	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
13	Kashmiri Gate T-off on Mandola-Patparganj-II	S/C	2.35	DVB	DVB	DVB	POWERGRID	
	220 kV PDD J&K							
1	Kishenpur-Pampore I	D/C	174.00	PDD J&K	POWERGRID	PDD J&K	NHPC	
2	Kishenpur-Pampore II	D/C	174.00	PDD J&K	POWERGRID	PDD J&K	NHPC	
3	Sarna-Udhampur	S/C	125.00	PDD J&K	PDD J&K	PDD J&K		
4	Wagoora-Ziankote I	D/C	28.00	PDD J&K	POWERGRID	PDD J&K		
5	Wagoora-Ziankote II	D/C	28.00	PDD J&K	POWERGRID	PDD J&K		
	220 kV HPSEB							
1	Khodri-Majri (Giri)	S/C	35.16	HPSEB	UPPCL	HPSEB		
2	Kunihar-Panchkula I (upto Barotiwala)	D/C	26.02	HPSEB	HPSEB	HVPNL		
3	Kunihar-Panchkula II (upto Barotiwala)	D/C	26.02	HPSEB	HPSEB	HVPNL		
4	Dehar-Kangoo	S/C	3.00	HPSEB	BBMB	HPSEB		
	132 kV HPSEB							
1	132kV Kulhal-Giri	S/C		HPSEB	UPPCL	HPSEB		
	220 kV PSEB							

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

A. LIST OF IMPORTANT TRANSMISSION LINES

Sl. No.	Name of Line/ICT	Ckt. Configuration (Towers)	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
1	Link line between 400 kV & 220 kV Malerkotla I	D/C	0.30	POWERGRID	POWERGRID	PSEB		
2	Link line between 400 kV & 220 kV Malerkotla II	D/C	0.30	PSEB	POWERGRID	PSEB		
3	Link line between 400 kV Moga to 220 kV Moga I	D/C	1.50	PSEB	POWERGRID	PSEB		
4	Link line between 400 kV Moga to 220 kV Moga II	D/C	1.50	PSEB	POWERGRID	PSEB		
	220 kV HVPNL							
1	Kunihar-Panchkula I (HVPNL portion)	D/C	41.00	HVPNL	HPSEB	HVPNL		
2	Kunihar-Panchkula II (HVPNL portion)	D/C	41.00	HVPNL	HPSEB	HVPNL		
3	Hisar(HVPNL)-Hisar (BBMB)	S/C	5.00	HVPNL	HVPNL	BBMB		
	400 kV BBMB							
1	Dehar-Panipat	S/C	262.00	BBMB	BBMB	BBMB		
2	Dehar-Bhiwani	S/C	312.00	BBMB	BBMB	BBMB		
	220 kV BBMB							
1	Panipat-Narela I	D/C	64.00	BBMB	BBMB	DVB	HVPNL	
2	Panipat-Narela II	D/C	64.00	BBMB	BBMB	DVB	HVPNL	

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

A. LIST OF IMPORTANT TRANSMISSION LINES

Sl. No.	Name of Line/ICT	Ckt. Configuration (Towers)	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
3	Panipat-Narela III	S/C	58.00	BBMB	BBMB	DVB	HVPNL	
4	Narela-Rohtak Road I	D/C	21.00	BBMB	DVB	BBMB	HVPNL	
5	Narela-Rohtak Road II	D/C	21.00	BBMB	DVB	BBMB	HVPNL	
6	Ballabgarh-Badarpur I	D/C	25.00	BBMB	BBMB	NTPC	DVB	
7	Ballabgarh-Badarpur II	D/C	25.00	BBMB	BBMB	NTPC	DVB	
	400 kV RRVNL							
1	Suratgarh-Ratangarh I *	S/C	143.74	RRVNL	RRVNL	RRVNL		Charged at 220 kV
2	Suratgarh-Ratangarh II *	S/C	144.25	RRVNL	RRVNL	RRVNL		Charged at 220 kV
	220 kV RRVNL							
1	BTPS-Alwar	S/C	136.00	RRVNL	NTPC	RRVNL		
2	LILO of Anta-H'pura I & II at Dausa I	D/C	7.42	RRVNL	NTPC	RRVNL		
3	LILO of Anta-H'pura I & II at Dausa II	D/C	7.42	RRVNL	NTPC	RRVNL		
4	LILO of Anta-H'pura I & II at Dausa III	D/C	7.42	RRVNL	NTPC	RRVNL		
5	LILO of Anta-H'pura I & II at Dausa IV	D/C	7.42	RRVNL	NTPC	RRVNL		

* Would be part of this list only after it is commissioned at 400 kV

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

A. LIST OF IMPORTANT TRANSMISSION LINES

Sl. No.	Name of Line/ICT	Ckt. Configuration (Towers)	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
6	Anta-Kota (S)	S/C	68.00	RRVPNL	NTPC	RRVPNL		
7	Udaipur-RAPP (A)	S/C	198.00	RRVPNL	RRVPNL	NPC		
8	RAPP (B)-Kota (S) -II	D/C	44.00	RRVPNL	NPC	RRVPNL		
9	RAPP (A)-Kota (S) I	S/C	44.00	RRVPNL	NPC	RRVPNL		
10	RAPP (A)-Kota (S) III	D/C	44.00	RRVPNL	NPC	RRVPNL		
11	Kota(S)- Ujjain (Rajasthan portion only)	S/C	56.00	RRVPNL	RRVPNL	MPEB	WRLDC	
12	Morak - Ujjain (Rajasthan portion only)	S/C	28.52	RRVPNL	RRVPNL	MPEB	WRLDC	
13	Hissar-Khetri	S/C	115.00	RRVPNL	BBMB	RRVPNL		
14	Dadri-Khetri-I	S/C	70.91	RRVPNL	BBMB	RRVPNL		
15	Dadri-Khetri-II	S/C	77.18	RRVPNL	BBMB	RRVPNL		
16	Agra-Bharatpur	S/C	48.00	RRVPNL	UPPCLL	RRVPNL		
	132 kV RRVPNL							
1	132kV Gandhi Sagar-Rana Pratap Sagar HEP	S/C			MPEB	RRVPNL	WRLDC	
2	132kV Sheopur-Sawaimadhopur	S/C			MPEB	RRVPNL	WRLDC	
3	132kV Gandhi Sagar-RAPS-A	S/C			MPEB	NPC	WRLDC	
	POWERGRID							
	+ 500 kV HVDC							
1	Rihand-Dadri Pole-I	bi-pole	815.00	POWERGRID	POWERGRID	POWERGRID	NTPC, UPPCL	

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

A. LIST OF IMPORTANT TRANSMISSION LINES

Sl. No.	Name of Line/ICT	Ckt. Configuration (Towers)	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
2	Rihand-Dadri Pole-II	bi-pole	815.00	POWERGRID	POWERGRID	POWERGRID	NTPC, UPPCL	
	HVDC Back to Back Station							
1	Vindhyachal Block - I		0.00	POWERGRID	POWERGRID	POWERGRID	WRLDC	
2	Vindhyachal Block - II		0.00	POWERGRID	POWERGRID	POWERGRID	WRLDC	
	400 kV in NR-1							
1	Singrauli-Anpara	S/C	25.057	POWERGRID	NTPC	UPPCL		
2	Singrauli-Kanpur-I	S/C	447.00	POWERGRID	NTPC	POWERGRID	UPPCL	
3	Singrauli-Kanpur-II	S/C	424.15	POWERGRID	NTPC	POWERGRID	UPPCL	
4	Singrauli-Lucknow	S/C	408.60	POWERGRID	NTPC	UPPCL		
5	Singrauli-Rihand-I	S/C	42.026	POWERGRID	NTPC	NTPC		
6	Singrauli-Rihand-II	S/C	43.95	POWERGRID	NTPC	NTPC		
7	Singrauli-Vindhyachal	S/C	3.34	POWERGRID	NTPC	POWERGRID	WRLDC	
8	Vindhyachal-Kanpur	S/C	398.00	POWERGRID	POWERGRID	POWERGRID	UPPCL	
9	Kanpur-Ballabgarh	S/C	385.60	POWERGRID	POWERGRID	POWERGRID		
10	Kanpur-Agra	S/C	240.00	POWERGRID	POWERGRID	POWERGRID		
11	Kanpur-Panki-I	S/C	5.62	POWERGRID	POWERGRID	UPPCL		
12	Kanpur-Panki-II	S/C	5.70	POWERGRID	POWERGRID	UPPCL		
13	Lucknow-Moradabad	S/C	331.18	POWERGRID	UPPCL	UPPCL		
14	Moradabad-Muradnagar	S/C	133.00	POWERGRID	UPPCL	UPPCL		
15	Dadri-Muradnagar	S/C	33.10	POWERGRID	NTPC	UPPCL		
16	Dadri-Panipat	S/C	112.32	POWERGRID	NTPC	BBMB	HVPNL	

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

A. LIST OF IMPORTANT TRANSMISSION LINES

Sl. No.	Name of Line/ICT	Ckt. Configuration (Towers)	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
17	Dadri-Ballabhgarh I	D/C	53.40	POWERGRID	NTPC	POWERGRID	HVPNL,DVB	
18	Dadri-Ballabhgarh II	D/C	53.40	POWERGRID	NTPC	POWERGRID	HVPNL,DVB	
19	Dadri-Mandola I	D/C	46.30	POWERGRID	NTPC	POWERGRID	DVB	
20	Dadri-Mandola II	D/C	46.30	POWERGRID	NTPC	POWERGRID	DVB	
21	Dadri-Malerkotla	S/C	310.00	POWERGRID	NTPC	POWERGRID	PSEB	
22	Ballabhgarh-Bassi	S/C	226.00	POWERGRID	POWERGRID	POWERGRID		
23	Ballabhgarh-Agra	S/C	181.14	POWERGRID	POWERGRID	POWERGRID		
24	Bassi-Heerapura-I	S/C	47.76	POWERGRID	POWERGRID	RRVPNL		
25	Bassi-Heerapura-II	S/C	48.99	POWERGRID	POWERGRID	RRVPNL		
26	Auraiya-Agra I	D/C	165.84	POWERGRID	NTPC	POWERGRID		
27	Auraiya-Agra II	D/C	165.84	POWERGRID	NTPC	POWERGRID		
28	Agra-Bassi	S/C	211.43	POWERGRID	POWERGRID	POWERGRID		
29	Bassi-Hissar	S/C	276.77	POWERGRID	POWERGRID	POWERGRID		
	220 kV in NR-1							
1	Anta-Bhilwara- I	D/C	186.67	POWERGRID	NTPC	RRVPNL		
2	Anta-Bhilwara- II	D/C	186.67	POWERGRID	NTPC	RRVPNL		
3	Anta Dausa- I	D/C	215.70	POWERGRID	NTPC	RRVPNL		
4	Anta Dausa- II	D/C	215.70	POWERGRID	NTPC	RRVPNL		
5	Dausa-Heerapura- I	D/C	76.86	POWERGRID	RRVPNL	RRVPNL		
6	Dausa-Heerapura- II	D/C	76.86	POWERGRID	RRVPNL	RRVPNL		
7	Auraiya-Sikandara I	D/C	182.18	POWERGRID	NTPC	UPPCL		
8	Auraiya-Sikandara II	D/C	182.18	POWERGRID	NTPC	UPPCL		

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

A. LIST OF IMPORTANT TRANSMISSION LINES

Sl. No.	Name of Line/ICT	Ckt. Configuration (Towers)	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
9	Tanakpur-Bareilly (CB ganj) I	D/C	106.00	POWERGRID	NHPC	UPPCL		
10	Tanakpur-Bareilly (CB ganj) II	D/C	106.00	POWERGRID	NHPC	UPPCL		
11	RAPP-B-Chittorgarh D/C I	D/C	128.83	POWERGRID	NPC	RRVPNL		
12	RAPP-B-Chittorgarh D/C II	D/C	128.83	POWERGRID	NPC	RRVPNL		
13	RAPP-A - RAPP-B	D/C	1.45	POWERGRID	NPC	NPC	RRVPNL	
14	Unchahar-Kanpur I	D/C	143.55	POWERGRID	NTPC	POWERGRID	UPPCL	
15	Unchahar-Kanpur II	D/C	143.55	POWERGRID	NTPC	POWERGRID	UPPCL	
16	Unchahar-Kanpur III	D/C	144.53	POWERGRID	NTPC	POWERGRID	UPPCL	
17	Unchahar-Kanpur IV	D/C	144.53	POWERGRID	NTPC	POWERGRID	UPPCL	
18	FaridabadGPS-Samaypur I	D/C	17.69	POWERGRID	NTPC	BBMB	HVPNL	
19	FaridabadGPS-Samaypur II	D/C	17.69	POWERGRID	NTPC	BBMB	HVPNL	
20	RAPS.B-Udaipur	S/C	230.30	POWERGRID	NPC	RRVPNL		
21	FaridabadGPS-Palla I	D/C	15.70	POWERGRID	NTPC	HVPNL		
22	FaridabadGPS-Palla I	D/C	15.70	POWERGRID	NTPC	HVPNL		
23	RAPS.B-Anta I	D/C	114.00	POWERGRID	NPC	NTPC	RRVPNL	
	800 kV in NR-2							
1	Kishenpur-Moga I	S/C	275.00	POWERGRID	POWERGRID	POWERGRID		Chared at 400 kV
	400 kV in NR-2							
1	Uri-Wagoora I	D/C	93.00	POWERGRID	NHPC	POWERGRID	PDD J&K	
2	Uri-Wagoora II	D/C	93.00	POWERGRID	NHPC	POWERGRID	PDD J&K	

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

A. LIST OF IMPORTANT TRANSMISSION LINES

Sl. No.	Name of Line/ICT	Ckt. Configuration (Towers)	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
3	Kishenpur-Chamera	S/C	101.00	POWERGRID	POWERGRID	NHPC	PDD J&K,PSEB	
4	Dulhasti-Kishenpur	S/C	120.00	POWERGRID	NHPC	POWERGRID		
5	Chamera-Moga I	D/C	236.00	POWERGRID	NHPC	POWERGRID	PSEB	
6	Chamera-Moga II	D/C	236.00	POWERGRID	NHPC	POWERGRID	PSEB	
7	Moga-Hissar I	D/C	209.00	POWERGRID	POWERGRID	POWERGRID	PSEB,HVPNL	
8	Moga-Hissar II	D/C	209.00	POWERGRID	POWERGRID	POWERGRID	PSEB,HVPNL	
9	Hissar-Bhiwani	S/C	33.00	POWERGRID	POWERGRID	BBMB	HVPNL	
10	Bhiwani-Bawana	S/C	99.00	POWERGRID	BBMB	DVB	HVPNL	
11	Hissar-Bawana	S/C	133.00	POWERGRID	POWERGRID	DVB	HVPNL	
12	Hissar-Nalagarh I	D/C	250.00	POWERGRID	POWERGRID	POWERGRID	HVPNL	
13	Hissar-Nalagarh II	D/C	250.00	POWERGRID	POWERGRID	POWERGRID	HVPNL	
14	Abdullapur-Bawana I	D/C	167.00	POWERGRID	POWERGRID	DVB	HVPNL	
15	Abdullapur-Bawana II	D/C	167.00	POWERGRID	POWERGRID	DVB	HVPNL	
16	NJPC-Abdullapur I	D/C	180.00	POWERGRID	NJPC	POWERGRID		
17	NJPC-Abdullapur II	D/C	180.00	POWERGRID	NJPC	POWERGRID		
	220 kV in NR-2							
1	Wagoora-Pampore I	D/C	11.00	POWERGRID	POWERGRID	PDD J&K	NHPC	
2	Wagoora-Pampore II	D/C	11.00	POWERGRID	POWERGRID	PDD J&K	NHPC	
3	Salal-Kishenpur I	D/C	59.00	POWERGRID	NHPC	POWERGRID		
4	Salal-Kishenpur II	D/C	59.00	POWERGRID	NHPC	POWERGRID		
5	Salal-Kishenpur III	D/C	60.00	POWERGRID	NHPC	POWERGRID		
6	Salal-Kishenpur IV	D/C	60.00	POWERGRID	NHPC	POWERGRID		

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

A. LIST OF IMPORTANT TRANSMISSION LINES

Sl. No.	Name of Line/ICT	Ckt. Configuration (Towers)	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
7	Kishenpur-Udhampur I	D/C	23.00	POWERGRID	POWERGRID	PDD J&K		
8	Kishenpur-Udhampur II	D/C	23.00	POWERGRID	POWERGRID	PDD J&K		
9	Kishenpur-Sarna I	D/C	103.00	POWERGRID	POWERGRID	PSEB	PDD J&K	
10	Kishenpur-Sarna II	D/C	103.00	POWERGRID	POWERGRID	PSEB	PDD J&K	
11	Salal-Jammu I	S/C	56.00	POWERGRID	NHPC	PDD J&K		
12	Salal-Jammu II	S/C	63.00	POWERGRID	NHPC	PDD J&K		
13	Jammu-Heeranagar	S/C	46.00	POWERGRID	PDD J&K	PDD J&K		
14	Heeranagar-Sarna	S/C	45.00	POWERGRID	PDD J&K	PSEB		
15	Sarna-Dasuya I	D/C	53.00	POWERGRID	PSEB	PSEB		
16	Sarna-Dasuya II	D/C	53.00	POWERGRID	PSEB	PSEB		
17	Bairasiul-Jessore	S/C	57.00	POWERGRID	NHPC	HPSEB	BBMB	
18	Jessore-Pong	S/C	40.00	POWERGRID	HPSEB	BBMB	NHPC	
19	Bairasiul-Pong	S/C	97.00	POWERGRID	NHPC	BBMB		
20	Hissar(PG)-Hissar(HVPNL) I	D/C	13.50	POWERGRID	POWERGRID	HVPNL		
21	Hissar(PG)-Hissar(HVPNL) II	D/C	13.50	POWERGRID	POWERGRID	HVPNL		
	220 kV Others							
1	Auraiya - Malanpur I	D/C		MPEB	NTPC	MPEB	WRLDC	
2	Auraiya - Malanpur II	D/C		MPEB	NTPC	MPEB	WRLDC	
3	Auraiya - UPPC (GAIL) Pata I	D/C		GAIL	NTPC	GAIL		
4	Auraiya - UPPC (GAIL) Pata II	D/C		GAIL	NTPC	GAIL		
	132 kV Others							

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

A. LIST OF IMPORTANT TRANSMISSION LINES

Sl. No.	Name of Line/ICT	Ckt. Configuration (Towers)	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
1	Singrauli -Rihand -Vindhyachal	S/C		POWERGRID	NTPC	NTPC	WRLDC	

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

B. LIST OF IMPORTANT 400/220 kV & 400/132 kV ICTs

Sl.No	Sub-Station	ICT no.	MVA Capacity	Configuration	Make	Other Agencies Affected
POWERGRID – NR 1						
1	Kanpur	ICT -I	315	3 phase unit	BHEL	UPPCL
		ICT -II	315	3 phase unit	BHEL	UPPCL
2	Ballabgarh	ICT -I	315	3 phase unit	BHEL	HVPNL, DVB
		ICT -II	315	3 phase unit	BHEL	HVPNL, DVB
		ICT -III	315	3 phase unit	BHEL	HVPNL, DVB
3	Mandola	ICT -I	315	3 phase unit	BHEL	DVB
		ICT -II	315	3 phase unit	CGL	DVB
		ICT -III	315	3 phase unit	CGL	DVB
		ICT -IV	315	3 phase unit	CGL	DVB
POWERGRID – NR 2						
1	Kishenpur	ICT -I	315	1 phase unit	BHEL	
		ICT -II	315	1 phase unit	BHEL	
2	Moga	ICT -I	250	3 phase unit	BHEL	PSEB
		ICT -II	250	3 phase unit	BHEL	PSEB
		ICT -III	250	3 phase unit	BHEL	PSEB
3	Hissar	ICT -I	315	3 phase unit	BHEL	HVPNL
		ICT -II	315	3 phase unit	BHEL	HVPNL
4	Malerkotla	ICT -I	315	3 phase unit	BHEL	PSEB
		ICT -II	315	3 phase unit	CGL	PSEB
5	Abdullapur	ICT -I	315	3 phase unit	BHEL	HVPNL
		ICT -II	315	3 phase unit	BHEL	HVPNL
6	Nalagarh	ICT -I	315	3 phase unit	BHEL	Chandigarh/PSEB
		ICT -II	315	3 phase unit	BHEL	Chandigarh/PSEB
7	Wagoora	ICT -I	315	1 phase unit	BHEL	PDD J&K
		ICT -II	315	1 phase unit	BHEL	PDD J&K

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

B. LIST OF IMPORTANT 400/220 kV & 400/132 kV ICTs

Sl.No	Sub-Station	ICT no.	MVA Capacity	Configuration	Make	Other Agencies Affected
NTPC						
1	Singrauli STPS	ICT -I(400/132 kV)	100	3 phase unit	BHEL	POWERGRID
		ICT -II(400/132 kV)	100	3 phase unit	BHEL	POWERGRID
2	Rihand STPS	ICT -1(400/132 kV)	200	3 phase unit	BHEL	POWERGRID
		ICT -2(400/132 kV)	200	3 phase unit	BHEL	POWERGRID
3	Dadri (Thermal)	ICT -I	500	1 phase unit	CGL	DVB, HVPNL
		ICT -II	500	1 phase unit	CGL	DVB, HVPNL
4	Dadri (Gas)	ICT -III	500	1 phase unit	BHEL	All CONSTITUENTS
		ICT -IV	500	1 phase unit	BHEL	All CONSTITUENTS
5	Auraiya	ICT -I	315	3 phase unit	BHEL	
		ICT -II	315	3 phase unit	TELK	
BBMB						
1	Dehar	ICT -I	250	1 phase unit	TELK	
2	Bhiwani	ICT -I	500	1 phase unit	TELK	HVPNL
3	Panipat	ICT -I	450	1 phase unit	TELK	HVPNL
		ICT -II *	450	1 phase unit	TELK	HVPNL
UPPCL						
1	Anpara	ICT -I(400/132 kV)	100	3 phase unit	BHEL	
		ICT -II(400/132 kV)	100	3 phase unit	CGL	
		ICT -III(400/132 kV)	100	3 phase unit	CGL	
2	Obra	ICT -I	240	3 phase unit	GEC, ALSTHOM	
		ICT -II	240	3 phase unit	GEC, ALSTHOM	
3	Panki	ICT -I	240	3 phase unit	BHEL	
		ICT -II	240	3 phase unit	BHEL	
4	Sarnath	ICT -I	240	3 phase unit	BHEL	
		ICT -II	240	3 phase unit	TELK	

* Owned by POWERGRID

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

B. LIST OF IMPORTANT 400/220 kV & 400/132 kV ICTs

Sl.No	Sub-Station	ICT no.	MVA Capacity	Configuration	Make	Other Agencies Affected
5	Mau	ICT -I(400/132 kV)	200	3 phase unit	ABB	
6	Azamgarh	ICT -I	240	3 phase unit	BHEL	
		ICT -II	240	3 phase unit	BHEL	
7	Sultanpur	ICT -I	240	3 phase unit	BHEL	
		ICT -II	240	3 phase unit	HITACHI	
8	Lucknow	ICT -I	240	3 phase unit	GEC, ALSTHOM	
		ICT -II	240	3 phase unit	HITACHI	
9	Moradabad	ICT -I	240	3 phase unit	mitsubishi	
		ICT -II	240	3 phase unit	BHEL	
10	Muradnagar	ICT -I	240	3 phase unit	BHEL	
		ICT -II	315	3 phase unit	BHEL	
		ICT -III	240	3 phase unit	BHEL	
11	Rishikesh	ICT -I	240	3 phase unit	mitsubishi	
12	Agra	ICT -I	315	3 phase unit	BHEL	
13	Unnao	ICT -I	315	3 phase unit	BHEL	
		ICT -II	315	3 phase unit	BHEL	
RRV PNL						
1	Heerapura	ICT -I	250	3 phase unit	TELK	
		ICT -II	250	3 phase unit	TELK	
		ICT -III	250	3 phase unit	TELK	
		ICT -IV	315	3 phase unit	TELK	
DVB						
1	Bawana	ICT -I	315	3 phase unit	BHEL	
		ICT -II	315	3 phase unit	BHEL	
		ICT -III	315	3 phase unit	BHEL	Owned by POWERGRID

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

C. LIST OF 400 kV SWITCHABLE REACTORS

Sl.No	Sub-Station	Capacity	Configuration	Make	Remarks/ Other Agencies Affected
POWERGRID - NR - 1					
1	Kanpur	80 MVAR	3 phase unit	ACEC	UPPCL
		$\pm$ 140 MVAR (SVC -I)	3 phase unit	ABB	UPPCL
		$\pm$ 140 MVAR (SVC -II)	3 phase unit	ABB	UPPCL
2	Agra	50 MVAR	1 phase unit	CGL	3x(1 phase of 16.67 MVAR)
3	Bassi	50 MVAR	3 phase unit	FUJI	RSEB
4	Ballabgarh	80 MVAR	3 phase unit	BHEL	HVPNL, DVB
5	Mandola	50 MVAR	3 phase unit	BHEL	DVB
6	Vindhyachal (Back to Back S/S)	93 MVAR	3 phase unit	ASEA	UPPCL, NTPC
POWERGRID - NR - 2					
1	Kishenpur	63 MVAR	3 phase unit	BHEL	PDD J&K
2	Moga	50 MVAR	3 phase unit	BHEL	PSEB
3	Hissar (Switchable on Moga -Hissar -I)	50 MVAR	3 phase unit	BHEL	HVPNL
4	Malerkotla	50 MVAR	3 phase unit	BHEL	PSEB
5	Abdullapur	50 MVAR	3 phase unit	BHEL	HVPNL
6	Nalagarh	50 MVAR	3 phase unit	BHEL	HPSEB
BBMB					
1	Bhiwani	50 MVAR	3 phase unit	TELK	HVPNL
UPPCL					
1	Panki	50 MVAR	3 phase unit	CGL	

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

C. LIST OF 400 kV SWITCHABLE REACTORS

Sl.No	Sub-Station	Capacity	Configuration	Make	Remarks/ Other Agencies Affected
2	Sarnath	50 MVAR	3 phase unit	CGL	
3	Azamgarh	50 MVAR	3 phase unit	CGL	
4	Lucknow	50 MVAR	3 phase unit	ACEC	Owned by POWERGRID & UPPCL in ratio of 2/3 & 1/3 respectively. Maintained by UPPCL.
5	Moradabad	50 MVAR	3 phase unit	ACEC	
6	Muradnagar	50 MVAR	1 phase unit (3x 1 phase of 16.67 MVAR)	CGL	Owned by POWERGRID & UPPCL in ratio of 2/3 & 1/3 respectively. Maintained by UPPCL.
7	Rishikesh	50 MVAR	3 phase unit	CGL	

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

D. LIST OF IMPORTANT GENERATING UNITS

Sl. No.	STATION	UNIT No.	INSTALLED CAPACITY (MW)	EFFECTIVE CAPACITY (MW)
1	CENTRAL SECTOR			
A	NTPC			
(a)	Badarpur TPS	1	100.00	95.00
		2	100.00	95.00
		3	100.00	95.00
		4	210.00	210.00
		5	210.00	210.00
(b)	Singrauli STPS	1	200.00	200.00
		2	200.00	200.00
		3	200.00	200.00
		4	200.00	200.00
		5	200.00	200.00
		6	500.00	500.00
		7	500.00	500.00
(c)	Rihand STPS	1	500.00	500.00
		2	500.00	500.00
(d)	Dadri NCTPS	1	210.00	210.00
		2	210.00	210.00
		3	210.00	210.00
		4	210.00	210.00
(e)	Unchahar TPS	1	210.00	210.00
		2	210.00	210.00
		3	210.00	210.00
		4	210.00	210.00
(f)	Tanda TPS	1	110.00	110.00
		2	110.00	110.00
		3	110.00	110.00
		4	110.00	110.00
(g)	Anta GPS	GT #1	88.71	88.71
		GT #2	88.71	88.71
		GT #3	88.71	88.71
		ST	153.20	153.20
(h)	Auraiya GPS	GT #1	111.19	111.19
		GT #2	111.19	111.19
		GT #3	111.19	111.19
		GT #4	111.19	111.19
		ST #1	109.30	109.30
		ST #2	109.30	109.30
(i)	Dadri GPS	GT #1	130.19	130.19
		GT #2	130.19	130.19
		GT #3	130.19	130.19
		GT #4	130.19	130.19
		ST #1	154.51	154.51
		ST #2	154.51	154.51
(j)	Faridabad GPS	GT #1	143.00	143.00
		GT #2	143.00	143.00
		ST	146.00	146.00

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

D. LIST OF IMPORTANT GENERATING UNITS

Sl. No.	STATION	UNIT No.	INSTALLED CAPACITY (MW)	EFFECTIVE CAPACITY (MW)
B NHPC				
(a)	Bairasiul HPS	1	60.00	60.00
		2	60.00	60.00
		3	60.00	60.00
(b)	Salal HPS	1	115.00	115.00
		2	115.00	115.00
		3	115.00	115.00
		4	115.00	115.00
		5	115.00	115.00
		6	115.00	115.00
(c)	Tanakpur HPS	1	40.00	31.40
		2	40.00	31.40
		3	40.00	31.40
(d)	Chamera HPS	1	180.00	180.00
		2	180.00	180.00
		3	180.00	180.00
(e)	Uri HPS	1	120.00	120.00
		2	120.00	120.00
		3	120.00	120.00
		4	120.00	120.00
C NPC				
(a)	RAPS -A	1	220.00	100.00
		2	220.00	200.00
(b)	RAPS -B	1	220.00	220.00
		2	220.00	220.00
(c)	NAPS	1	235.00	220.00
		2	235.00	220.00
2 BBMB				
(a)	Bhakra Complex			
	(i) Bhakra (L) HPS	1	108.00	108.00
		2	108.00	108.00
		3	108.00	108.00
		4	108.00	108.00
		5	108.00	108.00
	(ii) Bhakra (R) HPS	1	157.00	157.00
		2	132.00	132.00
		3	157.00	157.00
		4	157.00	157.00
		5	132.00	132.00
(b)	Dehar HPS	1	165.00	165.00
		2	165.00	165.00
		3	165.00	165.00
		4	165.00	165.00
		5	165.00	165.00
		6	165.00	165.00
		1	60.00	60.00

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

D. LIST OF IMPORTANT GENERATING UNITS

Sl. No.	STATION	UNIT No.	INSTALLED CAPACITY (MW)	EFFECTIVE CAPACITY (MW)
(e)	Pong HPS	2	60.00	60.00
(c)	Pong HPS	3	66.00	66.00
		4	60.00	60.00
		5	60.00	60.00
		6	60.00	60.00
3 HARYANA				
(a)	Panipat	1	110.00	110.00
		2	110.00	110.00
		3	110.00	110.00
		4	110.00	110.00
		5	210.00	210.00
4 PSEB				
(a)	Guru Nanak Dev TPS (Bhatinda)	1	110.00	110.00
		2	110.00	110.00
		3	110.00	110.00
		4	110.00	110.00
(b)	Guru Gobind Singh TPS (Ropar)	1	210.00	210.00
		2	210.00	210.00
		3	210.00	210.00
		4	210.00	210.00
		5	210.00	210.00
		6	210.00	210.00
(c)	Lehra Mohabbat TPS	1	210.00	210.00
		2	210.00	210.00
5 RAJASTHAN				
(a)	Kota TPS	1	110.00	110.00
		2	110.00	110.00
		3	110.00	110.00
		4	210.00	210.00
		5	210.00	210.00
(b)	Suratgarh TPS	1	250.00	250.00
		2	250.00	250.00
6 UP				
(a)	Obra Extn. - I	6	100.00	94.00
		7	100.00	94.00
		8	100.00	94.00
(b)	Obra Extn. - II	9	200.00	200.00
		10	200.00	200.00
		11	200.00	200.00
		12	200.00	200.00
		13	200.00	200.00
(c)	Panki Extn.	3	110.00	105.00
		4	110.00	105.00
(d)	Harduaganj - C	10	110.00	105.00

IMPORTANT ELEMENTS OF THE NORTHERN REGIONAL GRID

D. LIST OF IMPORTANT GENERATING UNITS

Sl. No.	STATION	UNIT No.	INSTALLED CAPACITY (MW)	EFFECTIVE CAPACITY (MW)
(e)	Paricha	1	110.00	110.00
		2	110.00	110.00
(f)	Anpara - A	1	210.00	210.00
		2	210.00	210.00
		3	210.00	210.00
(g)	Anpara - B	1	500.00	500.00
		2	500.00	500.00

LIST OF OTHER ISTS ELEMENTS IN NORTHERN REGION NOT INCLUDED IN THE LIST OF "IMPORTANT ELEMENTS OF REGIONAL GRID"

Sl. No.	Name of Line/ICT	Ckt. Configuration	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
1	220 kV Ganguwal-Dhulkote I	D/C	110.00	BBMB	BBMB	BBMB	HVPNL	
2	220 kV Ganguwal-Dhulkote II	D/C	110.00	BBMB	BBMB	BBMB	HVPNL	
3	Dehar-Ganguwal I	D/C	56.00	BBMB	BBMB	BBMB		
4	Dehar-Ganguwal II	D/C	56.00	BBMB	BBMB	BBMB		
5	220 kV Dhulkote-Panipat I	D/C	130.00	BBMB	BBMB	BBMB	HVPNL	
6	220 kV Dhulkote-Panipat II	D/C	130.00	BBMB	BBMB	BBMB	HVPNL	
7	220 kV Pong-Jalandhar I	D/C	98.00	BBMB	BBMB	BBMB		
8	220 kV Pong-Jalandhar II	D/C	98.00	BBMB	BBMB	BBMB		
9	220 kV Pong-Dasuya I	S/C	42.00	PSEB	BBMB	PSEB		
10	221 kV Pong-Dasuya II	S/C	43.00	PSEB	BBMB	PSEB		
11	220 kV Dasuya-Jalandhar I	S/C	56.00	PSEB	PSEB	PSEB		

LIST OF OTHER ISTS ELEMENTS IN NORTHERN REGION NOT INCLUDED IN THE LIST OF "IMPORTANT ELEMENTS OF REGIONAL GRID"

Sl. No.	Name of Line/ICT	Ckt. Configuration	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
12	221 kV Dasuya-Jalandhar II	S/C	57.00	PSEB	PSEB	PSEB		
13	220 kV Ganguwal-Jagadhari	S/C	158.00	BBMB	BBMB	BBMB	HVPNL	
14	220 kV Jagadhari-Kurukshetra	S/C	48.00	BBMB	BBMB	BBMB	HVPNL	
15	220 kV Kurukshetra-Panipat	S/C	73.00	BBMB	BBMB	BBMB	HVPNL	
16	220 kV Jalandhar-Jamalpur I	D/C	63.00	BBMB	BBMB	BBMB		
17	220 kV Jalandhar-Jamalpur II	D/C	63.00	BBMB	BBMB	BBMB		
18	220 kV Bhakra (R)-Jamalpur I	D/C	86.00	BBMB	BBMB	BBMB	PSEB	
19	220 kV Bhakra (R)-Jamalpur II	D/C	86.00	BBMB	BBMB	BBMB	PSEB	
20	220 kV Bhiwani-Dadri I	D/C	36.00	BBMB	BBMB	BBMB	HVPNL	
21	220 kV Bhiwani-Dadri II	D/C	36.00	BBMB	BBMB	BBMB	HVPNL	
22	220 kV Bhiwani-Dadri III	D/C	37.00	BBMB	BBMB	BBMB	HVPNL	

LIST OF OTHER ISTS ELEMENTS IN NORTHERN REGION NOT INCLUDED IN THE LIST OF "IMPORTANT ELEMENTS OF REGIONAL GRID"

Sl. No.	Name of Line/ICT	Ckt. Configuration	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
23	220 kV Bhiwani-Dadri IV	D/C	38.00	BBMB	BBMB	BBMB	HVPNL	
24	220 kV Panipat-Dadri	S/C	115.00	BBMB	BBMB	BBMB	HVPNL	
25	220 kV Sangrur-Barnala	S/C	39.00	BBMB	BBMB	BBMB		
26	220 kV Barnala-L' mohabat	S/C	35.00	BBMB	BBMB	PSEB		
27	220 kV L' mohabat-Bhatinda	S/C	32.00	BBMB	PSEB	PSEB		
28	220 kV Ganguwal-Bhakra (L) I	D/C	24.00	BBMB	BBMB	BBMB		
29	220 kV Ganguwal-Bhakra (L) II	D/C	24.00	BBMB	BBMB	BBMB		
30	220 kV Ganguwal-Bhakra (L) -III	S/C	24.00	BBMB	BBMB	BBMB		
31	220 kV Ganguwal-Bhakra (R) I	D/C	25.00	BBMB	BBMB	BBMB		
32	220 kV Ganguwal-Bhakra (R) II	D/C	25.00	BBMB	BBMB	BBMB		
33	220 kV Bhakra (R)-Jamsher	S/C	98.38	PSEB	BBMB	PSEB		

LIST OF OTHER ISTS ELEMENTS IN NORTHERN REGION NOT INCLUDED IN THE LIST OF "IMPORTANT ELEMENTS OF REGIONAL GRID"

Sl. No.	Name of Line/ICT	Ckt. Configuration	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
34	220 kV Bhakra (R)-Mahilpur	S/C	51.00	PSEB	BBMB	PSEB		
35	66kV Mohali(PSEB)-Chandigarh UTSec-39 - I	D/C		UT Chandigarh	PSEB	Chandigarh		
36	66kV Mohali(PSEB)-Chandigarh UTSec-39 - II	D/C		UT Chandigarh	PSEB	Chandigarh		
37	66kV Mohali(PSEB)-Chandigarh UTSec-52 - I	D/C		UT Chandigarh	PSEB	Chandigarh		
38	66kV Mohali(PSEB)-Chandigarh UTSec-52 - II	D/C		UT Chandigarh	PSEB	Chandigarh		
39	66kV Pinjore(HVPN)-Ch'garh UTSec-28(BBMB)-I	D/C		BBMB	HVPNL	Chandigarh		
40	66kV Pinjore(HVPN)-Ch'garh UTSec-28(BBMB)-II	D/C		BBMB	HVPNL	Chandigarh		
41	66kV Dhulkote(BBMB)-Ch'garh UT Sec-28(BBMB)-I	D/C		BBMB	BBMB	Chandigarh		
42	66kV Dhulkote(BBMB)-Ch'garh UT Sec-28(BBMB)-II	D/C		BBMB	BBMB	Chandigarh		
43	33kV Kundli-Narela	S/C		HVPNL	HVPNL	DVB		
44	132kV Narela -Sonipat	S/C		HVPNL	BBMB	HVPNL		

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Sl. No.	Name of Line/ICT	Ckt. Configuration	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
45	132kV Narela -Bahadurgarh	S/C		HVPNL	BBMB	HVPNL		
46	66kV Rohtak Road-Gurgaon - I	D/C		HVPNL	BBMB	HVPNL		
47	66kV Rohtak Road-Gurgaon - II	D/C		HVPNL	BBMB	HVPNL		
48	33 kV Rohtak Road-Gurgaon	S/C		HVPNL	BBMB	HVPNL		
49	66kV Pinjore-Parwanoo	S/C		HPSEB/HVPNL	HVPNL	HPSEB		
50	132kV Chohal-Hamirpur	S/C		PSEB	PSEB	HPSEB		
51	132kV Giri-Abdullapur	S/C		HPSEB/HVPNL	HPSEB	BBMB		
52	66kV Bhakra-L-Rakkar	S/C		BBMB	BBMB	HPSEB		
53	33kV Ganguwal-Bilaspur - I	S/C		HPSEB	BBMB	HPSEB		
54	33kV Ganguwal-Bilaspur - II	S/C		HPSEB	BBMB	HPSEB		
55	11kV Ganguwal-Nainadevi	S/C		HPSEB	BBMB	HPSEB		

LIST OF OTHER ISTS ELEMENTS IN NORTHERN REGION NOT INCLUDED IN THE LIST OF "IMPORTANT ELEMENTS OF REGIONAL GRID"

Sl. No.	Name of Line/ICT	Ckt. Configuration	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
56	132kV Ropar-Pinjore - I	D/C		HVPNL	PSEB	HVPNL		
57	132kV Ropar-Pinjore - II	D/C		HVPNL	PSEB	HVPNL		
58	33kV Rohtak Road-Bahadurgarh	S/C		HVPNL	BBMB	HVPNL		
59	66kV Pathankote-Kathua	S/C		PSEB	PSEB	PDD J&K		
60	66kV Sarna-Kathua	S/C		PDD J&K	PSEB	PDD J&K		
61	11kV Pathankote-Basoli	S/C		PSEB/PDD	PSEB	HPSEB		
62	33kV Chamera-Sewah	S/C		HPSEB/PDD	NHPC	PDD		
63	66kV Muktsar-Sri Ganga Nagar	S/C		PSEB	PSEB	RRVNL		
64	66kV Pong-Talwara	S/C		PSEB	BBMB	PSEB		
65	66kV Bhakra-L-NFF -I	S/C		BBMB	BBMB	NFF		
66	66kV Bhakra-L-NFF -II	S/C		BBMB	BBMB	NFF		

LIST OF OTHER ISTS ELEMENTS IN NORTHERN REGION NOT INCLUDED IN THE LIST OF "IMPORTANT ELEMENTS OF REGIONAL GRID"

Sl. No.	Name of Line/ICT	Ckt. Configuration	Line Length (in km)	O&M by	Agency at		Other Agencies Affected	Remarks
					End - 1	End - 2		
67	66kV Bhakra-L-PACL	S/C		BBMB	BBMB	PACL		
68	132kV Hissar-Rajgarh	S/C		RRVPNL	BBMB	RRVPNL		
69	132kV Hissar-AmarapuraThedi	S/C		RRVPNL	BBMB	RRVPNL		