

# **STATUS OF TRANSMISSION SCHEMES IN NORTHERN REGION**

	<b>Name of the Scheme</b>	<b>Elements</b>	<b>Target now</b>	<b>Status</b>
1.	Transmission system for Koldam HEP	<ul style="list-style-type: none"> <li>➤ Koldam – Nalagarh 400 kV D/c (Quad)</li> <li>➤ Koldam - Ludhiana 400 kV D/c</li> </ul>	December, 2012	Koldam-Ludhiana 400 kV D/c under JV (December, 2012).
2.	Transmission system for Parbati-II HEP (800MW)	<ul style="list-style-type: none"> <li>➤ Parbati-II – Koldam 400 kV (Quad) Two S/c</li> <li>➤ Realignment works at Koldam</li> </ul>	December, 2012	Under Implementation. Gen. project delayed. (ant. by Mar'13)
3.	Transmission system for Koteshwar (400 MW)	<ul style="list-style-type: none"> <li>➤ Koteshwar – Pooling Point 400 D/c</li> <li>➤ LILO of Tehri-Meerut lines at pooling point</li> <li>➤ Creation of GIS pooling station</li> <li>➤ 50% series compensation of Tehri-Meerut 2x S/c</li> </ul>	January, 2011	Under Implementation. Generation project delayed (April'11). Work slowed down to the extent possible to match with Gen. Proj.
4.	Transmission system for Parbati-III	<ul style="list-style-type: none"> <li>➤ LILO of both the circuits of Parbati-II - Koldam at Parbati Pooling Point</li> <li>➤ LILO of one circuit of Parbati-II - Pooling Point at Parbati-III.</li> <li>➤ Parbati Pooling point - Amritsar 400 kV D/c.</li> <li>➤ Establishment of 400kV Parbati pooling stn (GIS) with 80 MVAR Bus Reactor.</li> </ul>	June, 2011	Under Implementation. Generation expected by Dec'11.
5.	Transmission system for Barh (1980 MW)	<ul style="list-style-type: none"> <li>➤ LILO of both ckts of Kahalgaon-Patna 400kV D/c at Barh TPS</li> <li>➤ Barh- Balia 400kV D/c</li> </ul>	Commissioned	All elements comm. except one pole which is

	Name of the Scheme	Elements	Target now	Status
		<ul style="list-style-type: none"> <li>➤ Balia – Bhiwadi <math>\pm</math> 500kV HVDC bi pole</li> <li>➤ Seoni-Bina 765kV S/c at 400kV operation</li> </ul>		exp. by Oct, 2011.
6.	Establishment of Pooling station near Chamera-II	<ul style="list-style-type: none"> <li>➤ Chamera-II – Pooling point 400kV S/c.</li> <li>➤ Establishment of 220/400 kV 2x 315 MVA pooling station near by Chamera-II.</li> </ul>	Jan. 2011	Under Implementation.
7.	Transmission system for Chamera-III	<ul style="list-style-type: none"> <li>➤ Chamera-III – Pooling Station 220 kV D/c</li> <li>➤ Pooling Station – Jullandhar 400 kV D/c</li> </ul>	Feb, 2011	Under Implementation. (Matching with generation which is exp. In Aug. 2011)
8.	Transmission system for Uri-II	<ul style="list-style-type: none"> <li>➤ Uri-II – Uri – I 400kV S/c</li> <li>➤ Uri-II – Wagoora 400kV S/c</li> </ul>	May, 2011	Under Implementation. Generation- October'11.
9.	Transmission system for Kishen Ganga	<ul style="list-style-type: none"> <li>➤ Kishenganga – Alistang 220 kV 2* D/c</li> <li>➤ Alistang – New Wampoh 220 kV D/c</li> <li>➤ Kishenganga- Amargarh 220kV D/c</li> </ul>	2016	Matching with gen. project
10	Transmission System Associated with Rampur	<ul style="list-style-type: none"> <li>➤ Patiala – Ludhiana 400 kV D/c</li> <li>➤ LILO of Nathpa Jhakri – Nalagarh 400 kV D/c (Triple) line at Rampur</li> <li>➤ LILO of Patiala –Hissar 400kV line (Triple) at Kaithal</li> </ul>	November, 2011	Under Implementation.
11	Northern Region System Strengthening Scheme- VI	<ul style="list-style-type: none"> <li>➤ Establishment of 400/220 kV, 2x315 MVA substation at Gurgaon (GIS)</li> <li>➤ LILO of Ballabgarh – Bhiwadi 400 kV S/c line at Gurgaon</li> </ul>	Commissioned except ICT II exp by Sep. 2011	All other elements comm..
12	Northern Region System	<ul style="list-style-type: none"> <li>➤ 3rd 400/220 kV 315 MVA ICT at</li> </ul>	Jan'11	Ludhiana ICT

	<b>Name of the Scheme</b>	<b>Elements</b>	<b>Target now</b>	<b>Status</b>
	Strengthening Scheme-VII (2008-09)	Ludhiana ➤ 4th 400/220 kV 315 MVA ICT at Wagoora		comm. Wagoora ICT delayed
13	System strengthening in Northern Region for Sasan & Mundra UMPP's	<ul style="list-style-type: none"> <li>➤ Agra-Sikar 400kV D/c (Quad) – 320 km.</li> <li>➤ Sikar-Jaipur (POWERGRID) 400kV D/c – 157 km.</li> <li>➤ Sikar-Ratangarh 400kV D/c – 90 km.</li> <li>➤ LILO of both circuits of Sikar(RVPNL)-Ratangarh(RVPNL) 220 kV D/c line at Sikar(POWERGRID) – 5.4 km.</li> <li>➤ LILO of both Ckts of NathpaJhakri-Abdullahpur 400kV D/c at Panchkula – 25 km.</li> <li>➤ Establishment of new 400/220kV substation with 2x315 MVA transformation capacity at Sikar.</li> <li>➤ Establishment of new 400/220kV substation with 2x315 MVA transformation capacity at Panchkula.</li> </ul>	2012-13	Under implementation.
14	System strengthening in Northern Region for Karcham Wangtoo HEP	➤ Abdullapur–Sonepat 400kV D/c (Triple)	Jan'11	Under Implementation.
15	765 kV System for Central Part of Northern Grid – PART - I	<ul style="list-style-type: none"> <li>➤ Agra - Meerut 765 kV S/c – 260 km</li> <li>➤ Agra - Jhatikra 765 kV S/c – 240 km</li> <li>➤ Jhatikra - Bhiwani 765 kV S/c – 80 km</li> <li>➤ Bhiwani – Moga 765 kV S/c – 275 km</li> <li>➤ LILO of both circuits of Mundka/Bawana – Bamnoli at Jhatikra – 5km</li> </ul>	2013-14	Under Implementation.
16	765 kV System for Central Part of Northern Grid – PART – II	<ul style="list-style-type: none"> <li>➤ Agra Substation extension</li> <li>➤ Establishment of 765/400/220 kV substation at Jhatikra with 4x1500MVA 765/400 kV</li> </ul>	2013-14	Under Implementation.

	Name of the Scheme	Elements	Target now	Status
		<ul style="list-style-type: none"> <li>➤ Augmentation of Moga &amp; Meerut 400/220 kV substation to 765/400/220 kV substation with 2x1500MVA transformation capacity</li> </ul>		
17	765 kV System for Central Part of Northern Grid – PART – III	<ul style="list-style-type: none"> <li>➤ Meerut – Bhiwani 765 kV S/c – 175 km.</li> <li>➤ Establishment of 765/400/220 kV substation at Bhiwani with 2x1000MVA 765/400 kV and 2x500 MVA 400/220 kV</li> <li>➤ LILO of both circuits of Bawana/Bahadurgarh-Hissar 400 kV D/c at Bhiwani – 15 km.</li> <li>➤ LILO of both circuits of Bareilly-Mandaula 400 kV D/c at Meerut – 103 km.</li> <li>➤ Mandaula Bus split</li> <li>➤ Ballabgarh Bus split</li> </ul>	2013-14	Under Implementation. Compln. Sch. :- 30 months from IA.
18	Transmission Scheme for transfer of power from DVC projects & Maithon-RB	<ul style="list-style-type: none"> <li>➤ Maithon - Gaya 400kV quad D/C line</li> <li>➤ Gaya - Sasaram 765kV S/C line</li> <li>➤ Gaya-Balia 765kV S/C</li> <li>➤ Balia-Lucknow 765kV S/C</li> <li>➤ LILO of both circuits of Allahabad - Mainpuri 400kV D/C line at Fatehpur 765/400kV sub-station of POWERGRID</li> <li>➤ Ranchi-WR Pooling 765kV 2xS/C</li> <li>➤ 40% Series compensation of Barh-Balia 400kV quad D/C line at Balia end</li> <li>➤ 40% Series compensation of Biharsharif-Balia 400kV quad D/C line at Biharsharif /Balia end</li> <li>➤ Lucknow 765/400kV new sub-station – Lucknow 400/220kV existing sub-station 400 kV quad 2xD/c line</li> <li>➤ Bareilly 765/400kV new sub-station –</li> </ul>	August'12	Under Implementation.

	Name of the Scheme	Elements	Target now	Status
		<p>Bareilly 400/220kV existing sub-station 400 kV quad 2xD/c line ( to match with NKSTPP System)</p> <ul style="list-style-type: none"> <li>➤ Ranchi 765/400kV new sub-station – Ranchi 400/220kV existing sub-station 400 kV quad 2xD/c</li> <li>➤ 765kV substations like Gaya, Sasaram, Fatehpur, Agra, Balia, Lucknow, Bareilly (matching with NKSTPP system) and Ranchi(1200 or 765kV) alongwith suitable interconnection with its downstream system at 400kV level.</li> </ul>		
19	NR System Strengthening Scheme- XIII	<ul style="list-style-type: none"> <li>➤ Gurgaon (PG Sec 72) – Manesar 400 kV D/c(Quad) – 18 km.</li> <li>➤ Establishment of 400/220kV substation with 2x500 MVA transformation capacity at Manesar</li> <li>➤ Delinking Agra-Samaypur and Samaypur-Gurgaon (PG Sec-72) 400 kV lines from Samaypur and making a direct line from Agra to Gurgaon (PG Sec-72) 400 kV S/c circuit – 1.5 km.</li> <li>➤ 2 nos. of 220 kV bays at Fatehabad 400/220 kV substation.</li> <li>➤ 125 MVAR Bus Reactor at Manesar</li> </ul>	2011-12	Under Implementation.
20	NR System Strengthening Scheme- XIV	<ul style="list-style-type: none"> <li>➤ LILO of Nallagarh-Kaithal 400 kV circuit (Triple Snowbird second ckt of Nalagarh-Hissar 400 kV D/c line) at Patiala (first ckt is already LILOed) – 11 km.</li> <li>➤ Additional 500 MVA 400/220 kV ICT at Patiala so as to increase transformation capacity from 2x315 MVA to 2x315+1x500 MVA</li> <li>➤ Additional 500 MVA 400/220 kV ICT at</li> </ul>	August, 2011	Under Implementation.

	Name of the Scheme	Elements	Target now	Status
		<p>Malerkotla so as to increase transformation capacity from 2x315 MVA to 2x315+1x500 MVA</p> <ul style="list-style-type: none"> <li>➤ 125 MVAR Bus Reactor at Patiala</li> </ul>		
21	NR System Strengthening Scheme- XV	<ul style="list-style-type: none"> <li>➤ Manesar - Neemrana 400 kV D/c</li> <li>➤ Bhiwadi - Neemrana 400 kV D/c</li> <li>➤ LILO of Bhiwadi – Jaipur 400 kV S/c to establish new 400/220 kV S/s at Kotputli.</li> <li>➤ Establishment of 400/220kV substation with 2x315 MVA transformation capacity at Neemrana and Kotputli</li> </ul>	2011-12	Under Implementation.
22	NR System Strengthening Scheme- XVI	<ul style="list-style-type: none"> <li>➤ LILO of both circuits of Kishenpur – Wagoora 400 kV D/c to create new 400/220 kV S/s at New Wanpoh</li> <li>➤ Kishenpur – New Wanpoh 400 kV D/c</li> <li>➤ Establishment of 400/220kV substation with 2x315 MVA transformation capacity at New Wanpoh</li> </ul>	July'13	Under Implementation.
23	NR System Strengthening Scheme- XVII	<ul style="list-style-type: none"> <li>➤ Neemrana – Sikar 400 kV D/c</li> </ul>	August '11	Under Implementation.
24	NR System Strengthening Scheme- XVIII	<ul style="list-style-type: none"> <li>➤ Bagpat – Dehradun 400 kV D/c (Quad)</li> <li>➤ Establishment of 400/220kV substation with 2x315 MVA transformation capacity at Dehradun</li> </ul>	2012-13	Under Implementation.
25	NR System Strengthening Scheme- XIX	<ul style="list-style-type: none"> <li>➤ LILO of both circuits of Meerut – Kaithal 400 kV D/c (Quad HSIL) to create new 400/220 kV S/s at Bagpat</li> <li>➤ Bagpat 400/220 kV GIS s/s with 2x500 MVA transformation capacity</li> <li>➤ 80 MVAR Bus Reactor at Kaithal</li> <li>➤ 125 MVAR Bus Reactor at Bagpat</li> </ul>	2012-13	Under Implementation.
26	NR System	<ul style="list-style-type: none"> <li>➤ LILO of one circuit of Parbati PS –</li> </ul>	Jan'13	Under

	Name of the Scheme	Elements	Target now	Status
	Strengthening Scheme-XX	Amritsar 400 kV D/c to create new 400/220 kV S/s at Hamirpur ➤ Hamirpur 400/220 kV s/s with 2x315 MVA transformation capacity		implementation
27	Kameng (600 MW ) & Lower Subansiri HEP (2000 MW) Transmission system : Part-A : North East – Northern / Western Interconnector – I	<ul style="list-style-type: none"> <li>➤ Biswanath Chariyali – Agra +800 kV, 6000 MW HVDC bi-pole line</li> <li>➤ Balipara – Bishwanath Chariyali 400kV D/C</li> <li>➤ LILO of Ranganadi – Balipara 400kV D/C line at Biswanath Chariyali (Pooling Point)</li> <li>➤ Biswanath Chariyali – Biswanath Chariyali (AEGCL) 132 kV D/c</li> <li>➤ Establishment of 400/132 kV Pooling Station at Biswanath Chariyali with 2x200MVA, 400/132/33 kV transformers alongwith associated bays.</li> <li>➤ HVDC rectifier module of 3,000 MW at Biswanath Chariyali and inverter module of 3,000 MW capacity at Agra.</li> <li>➤ Augmentation of 400 kV Agra substation by 4x105 MVA, 400/220/33 kV transformer alongwith associated bays.</li> </ul>	August, 2013	Under Implementation.
28	Northern Regional Transmission System Strengthening Scheme	<ul style="list-style-type: none"> <li>➤ 1x315 MVA, 400/220 kV ICT (3<sup>rd</sup>) at Bhiwadi alongwith associated bays and two nos. of 220 kV line bays</li> <li>➤ Two nos. of additional bays 220 kV at Panchkula, Sonipat and Gurgaon sec-72 s/s as per the decision taken in 23<sup>rd</sup> SCM to have 6 nos. 220 kV line bays with first two 315 MVA ICTs. These bays are to be utilized by HVPNL.</li> <li>➤ Bhiwani – Jind 400 kV D/c</li> </ul>	2012-13	Under Implementation

	Name of the Scheme	Elements	Target now	Status
		<ul style="list-style-type: none"> <li>➤ Establishment of new 400/220 kV, 2x315 MVA substation at Jind</li> <li>➤ Establishment of new 400/220 kV, 2x315 MVA substation at Sohawal</li> <li>➤ LILO of both the ckts of Balia – Lucknow 400 kV D/c line at Sohawal</li> <li>➤ Establishment of new 400/220 kV, 2x315 MVA substation at Saharanpur</li> <li>➤ LILO of both the ckts of Dehradun – Bagpat 400 kV D/c Quad line at Saharanpur</li> <li>➤ Establishment of new 400/220 kV, 2x315 MVA substation at Shajahanpur</li> <li>➤ LILO of both the ckts of Lucknow (PG) – Bareilly 400 kV D/c line at Shajahanpur</li> <li>➤ Establishment of new 400/220 kV, 2x500 MVA substation at Jaipur (South)</li> <li>➤ LILO of both the ckts of Agra – Jaipur 400 kV D/c line at Jaipur (South)</li> </ul>		
29	NR System Strengthening Scheme-XXI	<ul style="list-style-type: none"> <li>➤ Lucknow – Bareilly 765 kV S/c</li> <li>➤ Bareilly–Kashipur–Roorkee–Saharanpur 400 kV D/c (quad)</li> <li>➤ Establishment of new 765/400 kV, 2x1500 MVA substation at Bareilly</li> <li>➤ Bareilly – Bareilly 400 kV 2xD/c (quad)</li> </ul>	2013-14	Under implementation.
30	NR System Strengthening Scheme-XXII	<ul style="list-style-type: none"> <li>➤ Kishenpur – Samba 400 kV D/c</li> <li>➤ Dulhasti – Samba 400 kV S/c</li> <li>➤ Establishment of new 400/220 kV, 2x315 MVA substation at Samba</li> </ul>	2013	Under implementation
31	NR System Strengthening Scheme-XXIII	<ul style="list-style-type: none"> <li>➤ Augmentation of 400/220 kV transformation capacity by 2x500 MVA at Maharaniabagh</li> <li>➤ Augmentation of 400/220 kV transformation capacity by 1x500 MVA at Lucknow</li> </ul>	2011-12	Under implementation.

	Name of the Scheme	Elements	Target now	Status
		➤ Augmentation of 400/220 kV transformation capacity by 1x500 MVA at Bahadurgarh		
32	Transmission system for Tehri PSP (1000 MW)	<ul style="list-style-type: none"> <li>➤ Tehri – Tehri Pooling Point 400 D/c (quad)</li> <li>➤ Establishment of 765/400 kV, 3x1500 MVA GIS substation at Tehri Pool</li> <li>➤ Augmentation of 765/400 kV, 1x1500 MVA at Meerut</li> <li>➤ Charging of Tehri Pool – Meerut line at 765 kV level</li> <li>➤ Modification of Series Capacitors for operation at 765 kV level</li> </ul>	Matching with generation	Matching with gen. project
33	NR System Strengthening Scheme - XXIV	<ul style="list-style-type: none"> <li>➤ Dehradun – Abdullapur 400 kV D/c (Quad)</li> <li>➤ Dulhasti – Kishenpur 400 kV D/c (Quad) – Single Circuit Strung</li> <li>➤ 2 nos. of 63 MVAR line Reactors (one on each ckt) on Barh – Balia 400 kV D/c line at Balia end</li> </ul>	2013-14	Investment approval to be taken up shortly
34	Bus Reactor Scheme:	<ul style="list-style-type: none"> <li>➤ 125 MVAR Bus Reactor at Gorakhpur, Allahabad, Mainpuri, Hissar, Jullandhar, Kankroli, Nallagarh</li> <li>➤ 2X125 MVAR Bus Reactor at Vindhyachal (NR bus)</li> <li>➤ 80 MVAR Bus Reactor at Amritsar</li> </ul>	July '12	Under implementation