

# पाँवर सिस्टम ऑपरेशन कार्पोरेशन लिमिटेड

(पावरग्रिड की पूर्ण स्वामित्व प्राप्त सहायक कंपनी)

## उत्तरी क्षेत्रीय भार प्रेषण केंद्र

CIN: U40105DL2009GOI188682

Power Supply Position in Northern Region for 21.12.2016

Date of Reporting : 22.12.2016



### I. Regional Availability/Demand:

Evening Peak (19:00 Hrs) MW				Off Peak (03:00 Hrs) MW				Day Energy (Net MU)	
Demand Met	Shortage	Requirement	Freq* (Hz)	Demand Met	Shortage	Requirement	Freq* (Hz)	Demand Met	Shortage
41776	650	42425	50.05	29469	352	29821	50.06	874.65	11.86

\* Half hourly (two 15 minutes block-one block each before and after the designated time) average frequency

### II. A. State's Load Details (At States periphery) in MUs:

UI (OD:(+ve), UD:(-ve))

State	State's Control Area Generation (Net MU)				Drawal Schedule (Net MU)	Actual Drawal (Net MU)	UI (Net MU)	Consumption (Net MU)	Shortages* (MU)
	Thermal	Hydro	Renewable/others \$	Total					
Punjab	54.28	8.18	0.26	62.71	40.44	41.35	0.92	104.06	0.00
Haryana	46.99	0.30	0.00	47.30	73.50	73.25	-0.25	120.54	0.00
Rajasthan	121.33	4.84	5.71	131.88	74.48	77.37	2.90	209.25	0.39
Delhi	11.72		0.00	11.72	47.50	49.40	1.90	61.12	0.33
UP	181.24	6.90	0.00	188.14	89.04	89.20	0.16	277.34	2.00
Uttarakhand		9.13	0.00	14.54	18.64	18.90	0.26	33.44	0.00
HP		3.67	1.34	5.01	21.24	21.76	0.52	26.77	0.05
J & K		5.36	0.00	5.36	38.53	33.15	-5.38	38.51	9.08
Chandigarh				0.00	3.47	3.62	0.15	3.62	0.00
<b>Total</b>	<b>415.55</b>	<b>38.37</b>	<b>7.31</b>	<b>466.65</b>	<b>406.84</b>	<b>408.01</b>	<b>1.16</b>	<b>874.65</b>	<b>11.86</b>

\* Shortage furnished by the respective constituents Others include UP Co-generation and JK Diesel

### II. B. State's Demand Met in MWs:

UI/OA/PX (OD/Import: (+ve), UD/Export: (-ve))

State	Evening Peak (19:00 Hrs) MW				Off Peak (03:00 Hrs) MW				Maximum Demand Met (MW) and Time(Hrs)	Shortage (MW)	
	Demand Met	Shortage	UI	STOA/PX transaction	Demand Met	Shortage	UI	STOA/PX transaction			
Punjab	5496	0	-35	-708	3077	0	65	-624	5511	9:00	0
Haryana	6171	0	-44	-336	3269	0	21	-607	6179	7:00	0
Rajasthan	9663	0	284	545	8075	0	285	396	9663	19:00	0
Delhi	3090	1	92	-315	1471	0	146	-543	3471	11:00	0
UP	12376	210	-223	-227	10206	0	-94	104	12849	7:00	120
Uttarakhand	1740	0	-34	204	1132	0	0	285	1824	8:00	0
HP	1295	0	45	394	740	0	-40	590	1407	8:00	27
J&K	1754	439	-152	878	1409	352	-165	840	1754	19:00	439
Chandigarh	190	0	-6	0	91	0	2	0	216	9:00	0
<b>Total</b>	<b>41776</b>	<b>650</b>	<b>-72</b>	<b>434</b>	<b>29469</b>	<b>352</b>	<b>220</b>	<b>442</b>	<b>41776</b>	<b>19:00</b>	<b>650</b>

\* STOA figures are at sellers boundary & PX figures are at regional boundary. # figures may not be at simultaneous hour.

Diversity is 1.03

UI (OD:(+ve), UG:(-ve))

### III. Regional Entities :

Station/ Constituent	Inst. Capacity (Effective) MW	Declared Capacity(MW)	Peak MW	Off Peak MW	Energy	Average	Schedule	UI
			(Gross)	(Gross)	(Net MU)	Sentout(MW)	Net MU	
<b>A. NTPC</b>								
Singrauli STPS (5*200+2*500)	2000	1857	1998	1980	44.24	1843	43.65	0.58
Rihand I STPS (2*500)	1000	817	788	669	17.91	746	18.31	-0.40
Rihand II STPS (2*500)	1000	950	981	778	21.87	911	21.53	0.35
Rihand III STPS (2*500)	1000	844	941	410	19.17	799	19.07	0.10
Dadri I STPS (4*210)	840	815	163	163	4.12	172	4.30	-0.19
Dadri II STPS (2*490)	980	980	937	706	17.46	728	18.14	-0.68
Unchahar I TPS (2*210)	420	364	361	283	7.16	298	7.74	-0.58
Unchahar II TPS (2*210)	420	405	366	294	7.62	317	8.44	-0.82
Unchahar III TPS (1*210)	210	203	169	142	3.66	152	4.22	-0.56
ISTPP (Jhajjar) (3*500)	1500	1440	706	618	15.27	636	15.37	-0.11
Dadri GPS (4*130.19+2*154.51)	830	750	302	262	6.31	263	6.92	-0.61
Anta GPS (3*88.71+1*153.2)	419	413	0	0	0.00	0	0.00	0.00
Auraiya GPS (4*111.19+2*109.30)	663	626	0	0	0.00	0	0.00	0.00
Dadri Solar(5)	5	1	0	0	0.02	1	0.02	0.00
Unchahar Solar(10)	10	2	0	0	0.04	2	0.04	0.00
Singrauli Solar(15)	15	2	0	0	0.06	3	0.05	0.01
KHEP(4*200)	800	870	796	0	2.68	112	2.61	0.07
<b>Sub Total (A)</b>	<b>12112</b>	<b>11339</b>	<b>8508</b>	<b>6305</b>	<b>168</b>	<b>6983</b>	<b>170</b>	<b>-2.85</b>
<b>B. NPC</b>								
NAPS (2*220)	440	416	454	459	10.05	419	9.98	0.07
RAPS- B (2*220)	440	385	429	433	9.29	387	9.24	0.05
RAPS- C (2*220)	440	230	238	239	5.08	212	5.52	-0.44
<b>Sub Total (B)</b>	<b>1320</b>	<b>1031</b>	<b>1121</b>	<b>1131</b>	<b>24.43</b>	<b>1018</b>	<b>24.74</b>	<b>-0.32</b>
<b>C. NHPC</b>								
Chamera I HPS (3*180)	540	360	368	0	1.47	61	1.30	0.17
Chamera II HPS (3*100)	300	201	208	0	1.23	51	1.10	0.13
Chamera III HPS (3*77)	231	167	159	0	0.54	22	0.50	0.04
Bairasuli HPS(3*60)	180	120	121	0	0.43	18	0.40	0.03
Salal-HPS (6*115)	690	80	226	30	2.18	91	1.93	0.25
Tanakpur-HPS (3*31.4)	94	23	32	31	0.70	29	0.54	0.16
Uri-I HPS (4*120)	480	63	233	24	1.83	76	1.52	0.31
Uri-II HPS (4*60)	240	48	40	41	1.21	51	1.16	0.06
Dhauliganga-HPS (4*70)	280	210	215	0	0.99	41	0.88	0.12
Dulhasti-HPS (3*130)	390	257	266	0	2.98	124	2.80	0.18
Sewa-II HPS (3*40)	120	80	44	0	0.18	7	0.25	-0.07
Parbati 3 (4*130)	520	198	209	0	0.61	25	0.57	0.04
<b>Sub Total (C)</b>	<b>4065</b>	<b>1808</b>	<b>2121</b>	<b>126</b>	<b>14</b>	<b>599</b>	<b>13</b>	<b>1.42</b>
<b>D.SJVNL</b>								
NJPC (6*250)	1500	1615	1448	0	6.05	252	6.11	-0.06
Rampur HEP (6*68.67)	412	442	434	0	1.69	70	1.70	-0.01
<b>Sub Total (D)</b>	<b>1912</b>	<b>2057</b>	<b>1882</b>	<b>0</b>	<b>7.74</b>	<b>322</b>	<b>7.81</b>	<b>-0.07</b>
<b>E. THDC</b>								
Tehri HPS (4*250)	1000	1058	789	0	7.24	302	7.00	0.24
Koteswar HPS (4*100)	400	105	153	0	2.55	106	2.51	0.04
<b>Sub Total (E)</b>	<b>1400</b>	<b>1163</b>	<b>942</b>	<b>0</b>	<b>9.79</b>	<b>408</b>	<b>9.51</b>	<b>0.28</b>
<b>F. BBMB</b>								
Bhakra HPS (2*108+3*126+5*157)	1379	587	1001	358	14.29	596	14.09	0.21
Dehar HPS (6*165)	990	104	330	0	2.59	108	2.50	0.09
Pong HPS (6*66)	396	176	396	66	4.19	175	4.23	-0.04
<b>Sub Total (F)</b>	<b>2765</b>	<b>867</b>	<b>1727</b>	<b>424</b>	<b>21.07</b>	<b>878</b>	<b>20.81</b>	<b>0.26</b>
<b>G. IPP(s)/JV(s)</b>								
ALLAIN DUHANGAN HPS(IPP) (2*96)	192	0	61	0	0.43	18	0.41	0.02
KARCHAM WANGTOO HPS(IPP) (4*250)	1000	0	630	0	3.52	147	3.56	-0.04
Malana Stg-II HPS (2*50)	100	0	0	0	0.00	0	0.00	0.00
Shree Cement TPS (2*150)	300	0	-1	0	-0.03	-1	0.00	-0.03
Budhil HPS(IPP) (2*35)	70	0	0	0	0.15	6	0.16	0.00
<b>Sub Total (G)</b>	<b>1662</b>	<b>0</b>	<b>690</b>	<b>0</b>	<b>4.07</b>	<b>170</b>	<b>4.13</b>	<b>-0.06</b>
<b>H. Total Regional Entities (A-G)</b>	<b>25237</b>	<b>18264</b>	<b>16991</b>	<b>7985</b>	<b>249.04</b>	<b>10377</b>	<b>250.38</b>	<b>-1.33</b>

I. State Entities	Station	Effective Installed Capacity (MW)	Peak MW	Off Peak MW	Energy(MU)	Average(Sentout MW)
Punjab	Guru Gobind Singh TPS (Ropar) (6*210)	1260	160	160	3.84	160
	Guru Nanak Dev TPS(Bhatinda) (2*110+2*120)	460	0	0	-0.02	-1
	Guru Hargobind Singh TPS(L.mbt) (2*210+2*250)	920	206	204	4.83	201
	Goinadwal(GVK) (2*270)	540	0	0	-0.02	-1

	Rajpura (2*700)	1400	660	330	13.55	565
	Talwandi Saboo (3*660)	1980	1588	924	32.10	1337
	<b>Thermal (Total)</b>	<b>6560</b>	<b>2614</b>	<b>1618</b>	<b>54.28</b>	<b>2262</b>
	Total Hydro	1000	360	316	8.18	341
	Wind Power	0	0	0	0.00	0
	Biomass	288	0	0	0.20	8
	Solar	560	0	0	0.06	3
	<b>Renewable(Total)</b>	<b>848</b>	<b>0</b>	<b>0</b>	<b>0.26</b>	<b>11</b>
	<b>Total Punjab</b>	<b>8408</b>	<b>2974</b>	<b>1934</b>	<b>62.71</b>	<b>2613</b>
Haryana	Panipat TPS (2*210+2*250)	920	455	409	10.24	427
	DCRTPP (Yamuna nagar) (2*300)	600	553	466	12.00	500
	Faridabad GPS (NTPC)(2*137.75+1*156)	432	0	0	0.00	0
	RGTPP (khedar) (IPP) (2*600)	1200	0	0	0.00	0
	Magnum Diesel (IPP)	25	0	0	0.00	0
	Jhajjar(CLP) (2*660)	1320	1181	657	24.75	1031
	<b>Thermal (Total)</b>	<b>4497</b>	<b>2189</b>	<b>1532</b>	<b>46.99</b>	<b>1958</b>
	Total Hydro	62	0	9	0.30	13
	Wind Power	0	0	0	0.00	0
	Biomass	40	0	0	0.00	0
	Solar	0	0	0	0.00	0
	<b>Renewable(Total)</b>	<b>40</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0</b>
	<b>Total Haryana</b>	<b>4599</b>	<b>2189</b>	<b>1541</b>	<b>47.30</b>	<b>1971</b>
Rajasthan	kota TPS (2*110+2*195+3*210)	1240	1128	960	25.57	1065
	suratgarh TPS (6*250)	1500	875	756	20.74	864
	Chabra TPS (4*250)	1000	914	839	21.42	892
	Dholpur GPS (3*110)	330	0	0	0.00	0
	Ramgarh GPS(1*37.5 + 1*35.5 +2*37.5 +1*110 +1*50)	271	167	171	4.17	174
	RAPS A (NPC) (1*100+1*200)	300	170	168	4.25	177
	Barsingar (NLC) (2*125)	250	113	113	2.63	109
	Giral LTPS (2*125)	250	0	0	0.00	0
	Rajwest LTPS (IPP) (8*135)	1080	827	734	19.21	801
	VS LIGNITE LTPS (IPP) (1*135)	135	0	0	0.00	0
	Kalisindh Thermal(2*600)	1200	974	1132	23.36	973
	Kawai(Adani) (2*660)	1320	0	0	0.00	0
	<b>Thermal (Total)</b>	<b>8876</b>	<b>5168</b>	<b>4873</b>	<b>121.33</b>	<b>5055</b>
	Total Hydro	550	174	253	4.84	202
	Wind power	4017	107	287	3.11	130
	Biomass	99	4	4	0.09	4
	Solar	1295	9	0	2.51	105
	Renewable/Others (Total)	5411	120	291	5.71	238
	<b>Total Rajasthan</b>	<b>14837</b>	<b>5462</b>	<b>5417</b>	<b>131.88</b>	<b>5495</b>
UP	Anpara TPS (3*210+2*500)	1630	1173	1030	27.90	1163
	Obra TPS (2*50+2*94+5*200)	1194	329	284	7.80	325
	Paricha TPS (2*110+2*220+2*250)	1160	577	580	16.70	696
	Panki TPS (2*105)	210	72	113	2.20	92
	Harduaganj TPS (1*60+1*105+2*250)	665	416	399	11.30	471
	Tanda TPS (NTPC) (4*110)	440	379	280	8.54	356
	Roza TPS (IPP) (4*300)	1200	757	747	23.70	988
	Anpara-C (IPP) (2*600)	1200	1062	630	23.10	963
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	58	58	1.60	67
	Anpara-D(2*500)	1000	858	852	18.60	775
	Lalitpur TPS(3*660)	1980	0	0	0.00	0
	Bara(2*660)	1320	872	707	20.60	858
	<b>Thermal (Total)</b>	<b>12449</b>	<b>6553</b>	<b>5680</b>	<b>162.04</b>	<b>6752</b>
	Vishnuparyag HPS (IPP)(4*110)	440	88	88	2.10	88
	Alakanada(4*82.5)	330	77	0	1.10	46
	Other Hydro	527	139	152	3.70	154
	Cogeneration	981	800	800	19.20	800
	Wind Power	0	0	0	0.00	0
	Biomass	26	0	0	0.00	0
	Solar	102	0	0	0.00	0
	<b>Renewable(Total)</b>	<b>128</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0</b>
<b>Total UP</b>	<b>14855</b>	<b>7657</b>	<b>6720</b>	<b>188.14</b>	<b>7839</b>	
Uttarakhand	Other Hydro	1250	638	255	9.13	380
	Total Gas	225	213	231	5.37	224
	Wind Power	0	0	0	0.00	0
	Biomass	127	0	0	0.00	0
	Solar	20	0	0	0.04	2
	Small Hydro (< 25 MW)	180	0	0	0.00	0
	<b>Renewable(Total)</b>	<b>327</b>	<b>0</b>	<b>0</b>	<b>0.04</b>	<b>2</b>
	<b>Total Uttarakhand</b>	<b>1802</b>	<b>851</b>	<b>486</b>	<b>14.54</b>	<b>606</b>
Delhi	Rajghat TPS (2*67.5)	135	0	0	0.00	0
	Delhi Gas Turbine (6x30 + 3x34)	282	73	71	1.98	82
	Pragati Gas Turbine (2x104+ 1x122)	330	157	149	3.74	156
	Rithala GPS (3*36)	95	0	0	0.00	0
	Bawana GPS (4*216+2*253)	1370	251	280	6.01	250
	Badarpur TPS (NTPC) (3*95+2*210)	705	0	0	0.00	0
	<b>Thermal (Total)</b>	<b>2917</b>	<b>481</b>	<b>500</b>	<b>11.72</b>	<b>488</b>
	Wind Power	0	0	0	0.00	0
	Biomass	16	0	0	0.00	0
	Solar	2	0	0	0.00	0
	<b>Renewable(Total)</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0</b>
<b>Total Delhi</b>	<b>2935</b>	<b>481</b>	<b>500</b>	<b>11.72</b>	<b>488</b>	
HP	Baspa HPS (IPP) (3*100)	300	0	0	1.09	46
	Malana HPS (IPP) (2*43)	86	46	0	0.25	10
	Other Hydro	372	115	60	2.32	97
	Wind Power	0	0	0	0.00	0
	Biomass	0	0	0	0.00	0
	Solar	0	0	0	0.00	0
	Small Hydro (< 25 MW)	486	63	50	1.34	56
	<b>Renewable(Total)</b>	<b>486</b>	<b>63</b>	<b>50</b>	<b>1.34</b>	<b>56</b>
	<b>Total HP</b>	<b>1244</b>	<b>224</b>	<b>110</b>	<b>5.01</b>	<b>209</b>
J & K	Baqilhar HPS (IPP) (3*150+3*150)	900	100	88	2.17	91
	Other Hydro/IPP(including 98 MW Small Hydro)	308	180	110	3.18	133
	Gas/Diesel/Others	190	0	0	0.00	0
	Wind Power	0	0	0	0.00	0
	Biomass	0	0	0	0.00	0
	Solar	0	0	0	0.00	0
	Small Hydro (< 25 MW)Included in Other Hydro Above	98	0	0	0.00	0
	<b>Renewable(Total)</b>	<b>98</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0</b>
<b>Total J &amp; K</b>	<b>1398</b>	<b>280</b>	<b>198</b>	<b>5</b>	<b>223</b>	

Total State Control Area Generation	50078	20118	16906	466.65	19444
J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]		6789	6736	193.32	8055
Total Regional Availability(Gross)	75315	43898	31627	909.01	37875

**IV. Total Hydro Generation:**

Regional Entities Hydro	12234	8159	550	59.59	2483
State Control Area Hydro	7163	2193	1612	39.71	1880
Total Regional Hydro	19397	10352	2161	99.31	4363

**V. Total Renewable Generation:**

Regional Entities Renewable	30	0	0	0.12	5
State Control Area Renewable	7356	183	341	7.35	306
Total Regional Renewable	7386	183	341	7.47	311

**VI(A). Inter Regional Exchange [Import (+ve)/Export (-ve)] [Linkwise]**

Element	Peak(19:00 Hrs) MW	Off Peak(03:00 Hrs) MW	Maximum Interchange (MW)		Energy (MU)		Net Energy MU
			Import	Export	Import	Export	
Vindhychal(HVDC B/B)	-500	-500	0	500	0.00	12.19	-12.19
765 KV Gwalior-Agra (D/C)	1844	1964	2706	0	54.10	0.00	54.10
400 KV Zerda-Kankroli	-126	-141	0	207	0.00	3.35	-3.35
400 KV Zerda-Bhimnal	-10	-94	104	137	0.00	0.54	-0.54
220 KV Auraiya-Malanpur	-83	-75	0	129	0.00	1.95	-1.95
220 KV Badod-Kota/Morak	-76	-98	0	119	0.00	1.97	-1.97
Mundra-Mohinderghar(HVDC Bipole)	2302	2003	2507	0.00	55.66	0.00	55.66
400 KV RAPP-Subalpur	344	220	449	0	8.01	0.00	8.01
400 KV Vindhychal-Rihand	0	0	0	0	0.00	0.00	0.00
765 kV Phagi-Gwalior (D/C)	1224	1305	1756	0	36.27	0.00	36.27
<b>Sub Total WR</b>	<b>4919</b>	<b>4584</b>			<b>154.04</b>	<b>20.00</b>	<b>134.04</b>
400 kV Sasaram - Varanasi	208	186	212	0	4.75	0.00	4.75
400 kV Sasaram - Allahabad	36	58	74	0	1.11	0.00	1.11
400 KV MZP- GKP (D/C)	160	190	457	0	7.76	0.00	7.76
400 KV Patna-Balia(D/C) X 2	745	735	1005	0	15.31	0.00	15.31
400 KV B'Sharif-Balia (D/C)	90	148	288	0	4.57	0.00	4.57
765 KV Gaya-Balia	167	226	404	0	6.40	0.00	6.40
765 KV Gaya-Varanasi (D/C)	356	442	835	0	13.42	0.00	13.42
220 KV Pusauli-Sahupuri	174	127	174	0	3.14	0.00	3.14
132 KV K'nasa-Sahupuri	-36	-36	0	36	0.00	0.51	-0.51
132 KV Son Ngr-Rihand	-33	-25	0	44	0.00	0.82	-0.82
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	32	28	202	32	1.97	0.00	1.97
400 KV Barh -GKP (D/C)	468	508	564	460	12.00	0.00	12.00
400 kV B'Sharif - Varanasi (D/C)	7	65	210	7	2.39	0.00	2.39
<b>Sub Total ER</b>	<b>2374</b>	<b>2652</b>			<b>72.80</b>	<b>1.33</b>	<b>71.47</b>
+/- 800 KV BiswanathChariali-Agra	-504	-500	0	504.00	0.00	12.19	-12.19
<b>Sub Total NER</b>	<b>-504</b>	<b>-500</b>			<b>0.00</b>	<b>12.19</b>	<b>-12.19</b>
<b>Total IR Exch</b>	<b>6789</b>	<b>6736</b>			<b>226.84</b>	<b>33.52</b>	<b>193.32</b>

**VI(B). Inter Regional Schedule & Actual Exchanges [Import (+ve)/Export (-ve)] [Corridor wise]**

ISGS/LT Schedule (MU)			Bilateral Schedule (MU)		Power Exchange Shdl (MU)		Wheeling (MU)	
ER	Bhutan	Total	Through ER	Through WR	Through ER	Through WR	Through ER	Through WR
47.05	0.74	47.79	2.20	-8.41	19.69	14.21	0.00	0.00

Total IR Schedule (MU)			Total IR Actual (MU)			Net IR UI (MU)		
Through ER	Through WR Inclds Mndra	Total	Through ER(including NER)	Through WR	Total	Through ER (including NER)	Through WR	Total
69.69	128.42	198.11	59.28	134.04	193.32	-10.41	5.62	-4.79

**VI(C). Inter National Exchange with Nepal [Import (+ve)/Export (-ve)] [Linkwise]**

Element	Peak(19:00 Hrs) MW	Off Peak(03:00 Hrs) MW	Maximum Interchange (MW)		Energy (MU)		Net Energy MU
			Import	Export	Import	Export	
132 KV Tanakpur - Mahendarnagar	-31	-29	0	32	0	1	-0.72

**VII. Frequency Profile** ----- % of Time Frequency ----->

<49.2	<49.7	<49.8	<49.9	<50.0	49.9-50.05	50.05-50.10	50.10-50.20	>50.20	>50.50
0.00	0.00	0.19	8.23	52.67	71.05	16.08	4.53	0.17	0.00

----- Frequency (Hz) ----->				Average Frequency	Frequency Variation	Std. Dev.	Frequency in 15 Min Block		Freq Dev Index (%) of Time
Maximum		Minimum					MAX	MIN	
Freq	Time	Freq	Time	Hz	Index	(Hz)	(Hz)		
50.22	6.02	49.77	6.42	49.99	0.045	50.11	49.88	28.95	

**VIII(A). Voltage profile 400 kV**

Station	Voltage Level (kV)	Maximum		Minimum		Voltage (in % of Time)				Volta ge Deviat
		Voltage(KV)	Time	Voltage (KV)	Time	<380 kV	<390 kV	>420 kV	>430 kV	
Rihand	400	405	0:00	398	14:59	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	416	2:02	401	17:54	0.0	0.0	0.0	0.0	0.0
Bareilly(PG)400kV	400	419	2:02	398	11:09	0.0	0.0	0.0	0.0	0.0
Kanpur	400	413	20:22	402	12:27	0.0	0.0	0.0	0.0	0.0
Dadri	400	426	1:25	402	11:07	0.0	0.0	20.6	0.0	20.6
Ballabgarh	400	431	4:02	405	11:18	0.0	0.0	36.0	0.1	36.0
Bawana	400	409	0:00	409	0:00	0.0	0.0	0.0	0.0	0.0
Bassi	400	425	20:24	398	11:09	0.0	0.0	6.0	0.0	6.0
Hissar	400	422	4:03	395	11:16	0.0	0.0	0.7	0.0	0.7
Moga	400	423	2:35	400	10:24	0.0	0.0	10.7	0.0	10.7
Abdullapur	400	429	3:00	407	11:08	1.1	1.1	32.0	0.0	33.1
Nalagarh	400	434	4:03	411	11:11	0.0	0.0	54.2	15.2	54.2
Kishenpur	400	423	23:58	397	10:24	0.0	0.0	3.2	0.0	3.2
Wagoora	400	397	23:18	368	7:25	38.5	93.2	0.0	0.0	38.5
Amritsar	400	433	3:13	402	10:19	0.0	0.0	38.6	0.1	38.6
Kashipur	400	0	0:00	0	0:00	100.0	100.0	0.0	0.0	100.0
Hamirpur	400	426	4:06	402	11:09	0.0	0.0	48.9	0.0	48.9
Rishikesh	400	420	3:00	395	11:08	0.0	0.0	0.0	0.0	0.0

**VIII(B). Voltage profile 765 kV**

Station	Voltage Level (kV)	Maximum		Minimum		Voltage (in % of Time)				Volta ge Deviat
		Voltage(KV)	Time	Voltage (KV)	Time	<728 kV	<742 kV	>800 kV	>820 kV	
Fatehpur	765	775	2:02	739	5:49	0.0	0.6	0.0	0.0	0.0
Balia	765	782	2:01	754	11:16	0.0	0.0	0.0	0.0	0.0
Moga	765	803	20:53	763	11:10	0.0	0.0	1.2	0.0	1.2

Agra	765	789	20:53	751	6:25	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	807	4:00	767	11:10	0.0	0.0	14.6	0.0	14.6
Unnao	765	776	2:02	742	11:16	0.0	0.0	0.0	0.0	0.0
Lucknow	765	790	23:55	755	11:10	0.0	0.0	0.0	0.0	0.0
Meerut	765	808	20:53	759	6:23	0.0	0.0	3.8	0.0	3.8
Jhatikara	765	804	4:02	763	11:15	0.0	0.0	2.1	0.0	2.1
Bareilly 765 kV	765	788	2:02	749	11:16	0.0	0.0	0.0	0.0	0.0
Anta	765	796	19:58	769	6:22	0.0	0.0	0.0	0.0	0.0
Phagi	765	801	19:57	764	11:13	0.0	0.0	3.4	0.0	3.4

Note: '0' in Max / Min Col -> Telemetry Outage

**IX. Reservoir Parameters:**

Name of Reservoir	Parameters		Present Parameters		Last Year		Last day	
	FRL (m)	MDDL (m)	Level (m)	Energy (MU)	Level (m)	Energy (MU)	Inflow (m <sup>3</sup> /s)	Usage (m <sup>3</sup> /s)
Bhakra	513.59	445.62	490.47	748.75	502.87	1219.07	146.54	461.14
Pong	426.72	384.05	409.34	474.29	412.65	588.94	43.38	283.42
Tehri	829.79	740.04	812.05	842.28	806.35	724.19	39.55	167.00
Koteshwar	612.50	598.50	611.28	5.20	610.71	4.95	167.00	167.91
Chamera-I	760.00	748.75	759.88	0.00	0.00	0.00	36.07	39.58
Rihand	268.22	252.98	0.00	0.00	0.00	0.00	0.00	0.00
RPS	352.80	343.81	0.00	0.00	0.00	0.00	0.00	0.00
Jawahar Sagar	298.70	295.78	0.00	0.00	0.00	0.00	0.00	0.00
RSD	527.91	487.91	506.23	2.92	501.10	3.62	39.88	108.71

\* NA: Not Available

**X(A). Short-Term Open Access Details:**

State	Off- Peak Hours (03:00 Hrs)			Peak Hours (19:00 Hrs)			Day Energy (MU)		
	Bilateral (MW)	IEX (MW)	PXIL (MW)	Bilateral (MW)	IEX (MW)	PXIL (MW)	Bilateral (MU)	IEX / PXIL (MU)	Total (MU)
Punjab	-625	2	0	-708	0	0	-18.36	3.70	-14.66
Delhi	-184	-359	0	-274	-41	0	-5.75	-0.13	-5.88
Haryana	-957	350	0	-662	326	0	-18.29	8.33	-9.96
HP	492	98	0	401	-7	0	12.76	-0.85	11.92
J&K	608	232	0	603	275	0	14.73	4.96	19.69
CHD	0	0	0	0	0	0	0.00	0.03	0.03
Rajasthan	-7	403	0	-7	552	0	4.29	19.11	23.40
UP	104	0	0	-127	-100	0	-7.73	-1.38	-9.11
Uttarakhand	320	-35	0	320	-116	0	7.40	0.16	7.57
<b>Total</b>	<b>-249</b>	<b>691</b>	<b>0</b>	<b>-455</b>	<b>889</b>	<b>0</b>	<b>-10.94</b>	<b>33.94</b>	<b>23.01</b>

**X(B). Short-Term Open Access Details:**

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-605	-997	711	0	0	0
Delhi	-140	-365	379	-359	0	0
Haryana	-642	-987	375	135	0	0
HP	659	377	253	-677	0	0
J&K	646	590	339	-98	0	0
CHD	0	0	24	-41	0	0
Rajasthan	440	-7	1449	378	0	0
UP	137	-889	0	-100	0	0
Uttarakhand	351	71	211	-158	0	0

**XI. System Reliability Indices(Violation of TTC and ATC):**

(i)%age of times N-1 Criteria was violated in the inter - regional corridors

WR	0.00%
ER	0.00%
Simultaneous	0.00%

(ii)%age of times ATC violated on the inter-regional corridors

WR	0.69%
ER	0.00%
Simultaneous	4.17%

(iii)%age of times Angular Difference on Important Buses was beyond permissible limits(40 deg.)

Rihand - Dadri	0.00%
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**XII. Zero Crossing Violations**

State	No. of violations(Maximum 8 in a day)	Maximum number of continuous blocks without sign change
Punjab	1	23
Haryana	1	15
Rajasthan	3	18
Delhi	5	27
UP	1	17
Uttarakhand	3	34
HP	3	23
J & K	3	21
Chandigarh	4	40

**XIII. System Constraints:**

**XIV. Grid Disturbance / Any Other Significant Event:**

**XV. Weather Conditions For 21.12.2016 :**

XVI. Synchronisation of new generating units :

XVII. Synchronisation of new 220 / 400 / 765 KV lines and energising of bus / /substation :

0  
0.00  
0  
0

XVIII. Tripping of lines in pooling stations :

XIX. Complete generation loss in a generating station :

Note: Data(regarding drawal,generation, shortage , inter-regional flows and reservoir levels)of the constituents filled in the report are as per last furnished data by the respective state/constituent to NRLDC.

Report for : 21.12.2016

पारी प्रभारी अभियंता / SHIFT CHARGE ENGINEER