

# पॉवर 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 13.12.2016

Date of Reporting : 14.12.2016



### 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
42178	1552	43730	50.05	29001	330	29331	50.06	842.34	15.74

\* 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:

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	56.08	7.14	0.29	63.51	40.35	40.46	0.11	103.97	0.00
Haryana	43.07	0.42	0.00	43.49	75.20	74.28	-0.92	117.76	0.00
Rajasthan	114.60	5.29	9.98	129.88	67.28	70.26	2.99	200.14	8.47
Delhi	14.29		0.00	14.29	42.92	43.51	0.59	57.80	0.03
UP	172.66	7.97	0.00	180.63	86.78	85.77	-1.00	266.41	1.60
Uttarakhand		7.34	0.00	14.08	18.44	18.72	0.28	32.81	0.00
HP		4.48	1.25	5.72	18.67	18.96	0.30	24.69	5.64
J & K		3.97	0.00	3.97	36.90	31.48	-5.42	35.45	0.00
Chandigarh				0.00	3.36	3.32	-0.04	3.32	0.00
<b>Total</b>	<b>400.71</b>	<b>36.60</b>	<b>11.52</b>	<b>455.57</b>	<b>389.89</b>	<b>386.78</b>	<b>-3.12</b>	<b>842.34</b>	<b>15.74</b>

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

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

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	5801	0	-33	-688	2961	0	70	-459	5801	19:00	0
Haryana	6374	0	52	-222	3420	0	-37	-512	6374	19:00	0
Rajasthan	9185	912	153	203	8095	0	117	261	9185	19:00	912
Delhi	3056	6	98	-407	1387	0	-1	-523	3237	11:00	0
UP	12945	195	-167	-202	9896	0	-192	126	12945	19:00	195
Uttarakhand	1707	0	-36	131	1138	0	4	348	1715	8:00	0
HP	1208	0	-128	285	698	0	7	426	1331	8:00	0
J&K	1757	439	-135	734	1320	330	-283	811	1832	1:00	458
Chandigarh	146	0	-22	0	86	0	1	0	190	8:00	0
<b>Total</b>	<b>42178</b>	<b>1552</b>	<b>-218</b>	<b>-167</b>	<b>29001</b>	<b>330</b>	<b>-313</b>	<b>478</b>	<b>42178</b>	<b>19:00</b>	<b>1552</b>

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

### III. Regional Entities :

Station/ Constituent	Inst. Capacity (Effective) MW	Declared Capacity(MW)	Peak MW (Gross)	Off Peak MW (Gross)	Energy (Net MU)	Average Sentout(MW)	Schedule Net MU	UI	
								Net MU	Net MU
<b>A. NTPC</b>									
Singrauli STPS (5*200+2*500)	2000	1855	1988	1652	43.44	1810	42.81	0.63	
Rihand I STPS (2*500)	1000	953	938	694	19.66	819	19.34	0.32	
Rihand II STPS (2*500)	1000	963	1027	664	20.41	850	19.55	0.86	
Rihand III STPS (2*500)	1000	963	1014	644	20.37	849	19.46	0.90	
Dadri I STPS (4*210)	840	815	177	130	4.07	170	4.21	-0.14	
Dadri II STPS (2*490)	980	980	677	687	16.88	704	17.84	-0.96	
Unchahar I TPS (2*210)	420	361	332	276	7.22	301	7.55	-0.33	
Unchahar II TPS (2*210)	420	405	352	335	8.08	337	8.43	-0.35	
Unchahar III TPS (1*210)	210	203	170	136	3.88	162	4.23	-0.35	
ISTPP (Jhajjar) (3*500)	1500	1440	852	612	15.27	636	15.62	-0.35	
Dadri GPS (4*130.19+2*154.51)	830	722	240	230	6.10	254	6.58	-0.48	
Anta GPS (3*88.71+1*153.2)	419	412	0	0	0.00	0	0.00	0.00	
Auraiya GPS (4*111.19+2*109.30)	663	625	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	1	0	0	0.03	1	0.03	0.00	
Singrauli Solar(15)	15	2	0	0	0.01	0	0.05	-0.04	
KHEP(4*200)	800	870	643	0	2.84	118	2.61	0.23	
<b>Sub Total (A)</b>	<b>12112</b>	<b>11569</b>	<b>8410</b>	<b>6060</b>	<b>168</b>	<b>7011</b>	<b>168</b>	<b>-0.06</b>	
<b>B. NPC</b>									
NAPS (2*220)	440	415	443	457	9.83	410	9.96	-0.13	
RAPS- B (2*220)	440	384	384	384	9.22	384	9.22	0.00	
RAPS- C (2*220)	440	218	235	237	4.94	206	5.23	-0.29	
<b>Sub Total (B)</b>	<b>1320</b>	<b>1017</b>	<b>1062</b>	<b>1078</b>	<b>23.99</b>	<b>1000</b>	<b>24.41</b>	<b>-0.42</b>	
<b>C. NHPC</b>									
Chamera I HPS (3*180)	540	360	330	0	1.40	59	1.20	0.20	
Chamera II HPS (3*100)	300	201	206	0	1.22	51	1.10	0.12	
Chamera III HPS (3*77)	231	231	155	0	0.57	24	0.50	0.07	
Bairasuli HPS(3*60)	180	120	123	0	0.49	21	0.43	0.06	
Salal-HPS (6*115)	690	98	337	70	2.93	122	2.35	0.58	
Tanakpur-HPS (3*31.4)	94	25	33	32	0.77	32	0.60	0.17	
Uri-I HPS (4*120)	480	77	230	22	1.97	82	1.85	0.12	
Uri-II HPS (4*60)	240	53	40	80	1.39	58	1.27	0.12	
Dhauliganga-HPS (4*70)	280	210	211	0	1.13	47	0.98	0.15	
Dulhasti-HPS (3*130)	390	255	260	0	2.81	117	2.90	-0.09	
Sewa-II HPS (3*40)	120	80	84	0	0.26	11	0.25	0.01	
Parbati 3 (4*130)	520	130	135	0	0.42	17	0.39	0.03	
<b>Sub Total (C)</b>	<b>4065</b>	<b>1839</b>	<b>2143</b>	<b>204</b>	<b>15</b>	<b>640</b>	<b>14</b>	<b>1.54</b>	
<b>D.SJVNL</b>									
NJPC (6*250)	1500	1615	1615	0	7.43	310	7.38	0.04	
Rampur HEP (6*68.67)	412	442	449	0	2.07	86	2.05	0.02	
<b>Sub Total (D)</b>	<b>1912</b>	<b>2057</b>	<b>2064</b>	<b>0</b>	<b>9.50</b>	<b>396</b>	<b>9.43</b>	<b>0.07</b>	
<b>E. THDC</b>									
Tehri HPS (4*250)	1000	957	1068	0	7.02	292	6.70	0.32	
Koteshwar HPS (4*100)	400	100	200	63	2.46	102	2.41	0.05	
<b>Sub Total (E)</b>	<b>1400</b>	<b>1058</b>	<b>1268</b>	<b>63</b>	<b>9.47</b>	<b>395</b>	<b>9.11</b>	<b>0.36</b>	
<b>F. BBMB</b>									
Bhakra HPS (2*108+3*126+5*157)	1379	622	1014	387	14.91	621	14.92	-0.01	
Dehar HPS (6*165)	990	130	495	0	3.26	136	3.11	0.15	
Pong HPS (6*66)	396	128	396	0	3.03	126	3.08	-0.06	
<b>Sub Total (F)</b>	<b>2765</b>	<b>880</b>	<b>1905</b>	<b>387</b>	<b>21.19</b>	<b>883</b>	<b>21.11</b>	<b>0.08</b>	
<b>G. IPP(s)/JV(s)</b>									
ALLAIN DUHANGAN HPS(IPP) (2*96)	192	0	15	0	0.48	20	0.45	0.03	
KARCHAM WANGTOO HPS(IPP) (4*250)	1000	0	630	0	4.05	169	3.91	0.14	
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	-1	-0.04	-2	0.00	-0.04	
Budhil HPS(IPP) (2*35)	70	0	0	0	0.19	8	0.19	0.01	
<b>Sub Total (G)</b>	<b>1662</b>	<b>0</b>	<b>644</b>	<b>-1</b>	<b>4.69</b>	<b>195</b>	<b>4.55</b>	<b>0.14</b>	
<b>H. Total Regional Entities (A-G)</b>	<b>25237</b>	<b>18419</b>	<b>17497</b>	<b>7792</b>	<b>252.46</b>	<b>10519</b>	<b>250.75</b>	<b>1.72</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	370	160	6.92	288
	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	780	597	17.31	721
	Goidwal(GVK) (2*270)	540	0	0	-0.02	-1

	Rajpura (2*700)	1400	660	330	12.39	516
	Talwandi Saboo (3*660)	1980	872	616	19.50	813
	<b>Thermal (Total)</b>	<b>6560</b>	<b>2682</b>	<b>1703</b>	<b>56.08</b>	<b>2337</b>
	Total Hydro	1000	324	240	7.14	297
	Wind Power	0	0	0	0.00	0
	Biomass	288	0	0	0.27	11
	Solar	560	0	0	0.02	1
	<b>Renewable(Total)</b>	<b>848</b>	<b>0</b>	<b>0</b>	<b>0.29</b>	<b>12</b>
	<b>Total Punjab</b>	<b>8408</b>	<b>3006</b>	<b>1943</b>	<b>63.51</b>	<b>2646</b>
Haryana	Panipat TPS (2*210+2*250)	920	214	216	5.10	213
	DCRTPP (Yamuna nagar) (2*300)	600	551	458	11.67	486
	Faridabad GPS (NTPC)(2*137.75+1*156)	432	206	156	3.55	148
	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	1200	739	22.76	948
	<b>Thermal (Total)</b>	<b>4497</b>	<b>2171</b>	<b>1569</b>	<b>43.07</b>	<b>1795</b>
	Total Hydro	62	20	13	0.42	17
	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>2191</b>	<b>1582</b>	<b>43.49</b>	<b>1812</b>
Rajasthan	kota TPS (2*110+2*195+3*210)	1240	1166	1156	26.84	1118
	suratgarh TPS (6*250)	1500	656	448	12.26	511
	Chabra TPS (4*250)	1000	688	685	16.44	685
	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	172	183	4.34	181
	RAPS A (NPC) (1*100+1*200)	300	167	171	4.21	175
	Barsingar (NLC) (2*125)	250	30	94	1.58	66
	Giral LTPS (2*125)	250	0	0	0.00	0
	Rajwest LTPS (IPP) (8*135)	1080	819	824	19.40	808
	VS LIGNITE LTPS (IPP) (1*135)	135	0	0	0.00	0
	Kalisindh Thermal(2*600)	1200	752	769	18.99	791
	Kawai(Adani) (2*660)	1320	462	456	10.54	439
	<b>Thermal (Total)</b>	<b>8876</b>	<b>4912</b>	<b>4786</b>	<b>114.60</b>	<b>4775</b>
	Total Hydro	550	184	263	5.29	221
	Wind power	4017	668	187	9.69	404
	Biomass	99	12	12	0.30	12
	Solar	1295	0	0	0.00	0
	Renewable/Others (Total)	5411	680	199	9.98	416
	<b>Total Rajasthan</b>	<b>14837</b>	<b>5776</b>	<b>5248</b>	<b>129.88</b>	<b>5412</b>
UP	Anpara TPS (3*210+2*500)	1630	1139	924	27.47	1145
	Obra TPS (2*50+2*94+5*200)	1194	330	310	7.63	318
	Paricha TPS (2*110+2*220+2*250)	1160	834	583	17.12	713
	Panki TPS (2*105)	210	0	0	0.00	0
	Harduaganj TPS (1*60+1*105+2*250)	665	311	259	7.19	299
	Tanda TPS (NTPC) (4*110)	440	280	207	6.16	257
	Roza TPS (IPP) (4*300)	1200	1080	752	22.64	943
	Anpara-C (IPP) (2*600)	1200	642	617	18.21	759
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	81	58	1.63	68
	Anpara-D(2*500)	1000	865	692	19.50	813
	Lalitpur TPS(3*660)	1980	269	237	5.80	242
	Bara(2*660)	1320	873	723	20.12	838
	<b>Thermal (Total)</b>	<b>12449</b>	<b>6704</b>	<b>5362</b>	<b>153.46</b>	<b>6394</b>
	Vishnuparyag HPS (IPP)(4*110)	440	93	93	2.26	94
	Alakanada(4*82.5)	330	76	0	1.17	49
	Other Hydro	527	258	214	4.55	189
	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>7931</b>	<b>6469</b>	<b>180.63</b>	<b>7526</b>	
Uttarakhand	Other Hydro	1250	435	209	7.34	306
	Total Gas	225	284	285	6.70	279
	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>719</b>	<b>494</b>	<b>14.08</b>	<b>587</b>
Delhi	Rajghat TPS (2*67.5)	135	0	0	0.00	0
	Delhi Gas Turbine (6x30 + 3x34)	282	79	80	1.89	79
	Pragati Gas Turbine (2x104+ 1x122)	330	264	264	6.39	266
	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>594</b>	<b>625</b>	<b>14.29</b>	<b>595</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>594</b>	<b>625</b>	<b>14.29</b>	<b>595</b>
HP	Baspa HPS (IPP) (3*100)	300	150	0	1.16	48
	Malana HPS (IPP) (2*43)	86	28	0	0.26	11
	Other Hydro	372	161	28	3.06	127
	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	55	50	1.25	52
	<b>Renewable(Total)</b>	<b>486</b>	<b>55</b>	<b>50</b>	<b>1.25</b>	<b>52</b>
	<b>Total HP</b>	<b>1244</b>	<b>394</b>	<b>78</b>	<b>5.72</b>	<b>238</b>
	J & K	Baqilhar HPS (IPP) (3*150+3*150)	900	100	100	2.40
Other Hydro/IPP(including 98 MW Small Hydro)		308	85	23	1.57	65
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>185</b>	<b>123</b>	<b>4</b>	<b>165</b>	

Total State Control Area Generation	50078	20795	16562	455.57	18982
J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]		6979	7990	177.35	7389
<b>Total Regional Availability(Gross)</b>	<b>75315</b>	<b>45271</b>	<b>32344</b>	<b>885.38</b>	<b>36891</b>

**IV. Total Hydro Generation:**

Regional Entities Hydro	12234	8668	654	62.90	2621
State Control Area Hydro	7163	2253	1518	37.85	1858
<b>Total Regional Hydro</b>	<b>19397</b>	<b>10921</b>	<b>2173</b>	<b>100.75</b>	<b>4479</b>

**V. Total Renewable Generation:**

Regional Entities Renewable	30	0	0	0.05	2
State Control Area Renewable	7356	735	249	11.56	482
<b>Total Regional Renewable</b>	<b>7386</b>	<b>735</b>	<b>249</b>	<b>11.61</b>	<b>484</b>

**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	12.13	-12.13
765 KV Gwalior-Agra (D/C)	2139	2102	2549	0	54.06	0.00	54.06
400 KV Zerda-Kankroli	-88	-64	49	140	0.00	1.73	-1.73
400 KV Zerda-Bhimnal	6	39	139	83	0.44	0.00	0.44
220 KV Auraiya-Malanpur	-75	-60	0	103	0.00	1.69	-1.69
220 KV Badod-Kota/Morak	-63	-35	18	59	0.00	0.54	-0.54
Mundra-Mohinderghar(HVDC Bipole)	1802	1298	2005	0.00	41.00	0.00	41.00
400 KV RAPPCC-Sujalpur	260	295	360	0	6.87	0.00	6.87
400 KV Vindhychal-Rihand	0	0	0	0	0.00	0.00	0.00
765 kV Phagi-Gwalior (D/C)	1014	1348	1572	0	31.33	0.00	31.33
<b>Sub Total WR</b>	<b>5495</b>	<b>5423</b>			<b>133.70</b>	<b>16.09</b>	<b>117.61</b>
400 kV Sasaram - Varanasi	284	256	297	0	9.84	0.00	9.84
400 kV Sasaram - Allahabad	54	77	81	0	1.64	0.00	1.64
400 KV MZP- GKP (D/C)	118	410	474	0	7.89	0.00	7.89
400 KV Patna-Balia(D/C) X 2	600	807	856	0	16.72	0.00	16.72
400 KV B'Sharif-Balia (D/C)	64	172	260	0	3.78	0.00	3.78
765 KV Gaya-Balia	157	240	286	0	5.52	0.00	5.52
765 KV Gaya-Varanasi (D/C)	262	525	683	0	12.72	0.00	12.72
220 KV Pusaali-Sahupuri	120	102	139	0	2.71	0.00	2.71
132 KV K'nasa-Sahupuri	-28	-20	0	28	0.00	0.51	-0.51
132 KV Son Ngr-Rihand	-26	-24	0	28	0.00	0.58	-0.58
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	-175	-62	86	175	0.00	0.80	-0.80
400 KV Barh -GKP (D/C)	492	496	542	0	11.52	0.00	11.52
400 kV B'Sharif - Varanasi (D/C)	62	88	159	75	1.36	0.00	1.36
<b>Sub Total ER</b>	<b>1984</b>	<b>3067</b>			<b>73.70</b>	<b>1.89</b>	<b>71.81</b>
+/- 800 KV BiswanathChariali-Agra	-500	-500	0	504.00	0.00	12.08	-12.08
<b>Sub Total NER</b>	<b>-500</b>	<b>-500</b>			<b>0.00</b>	<b>12.08</b>	<b>-12.08</b>
<b>Total IR Exch</b>	<b>6979</b>	<b>7990</b>			<b>207.40</b>	<b>30.06</b>	<b>177.35</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
44.00	0.92	44.92	0.75	-9.44	12.58	1.06	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
58.25	109.50	167.75	59.74	117.61	177.35	1.48	8.11	9.59

**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	12	12	0	13	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	0.15	12.82	61.22	72.58	11.02	3.84	0.21	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)		
50.23	5.01	49.76	17.23	49.98	0.049	0.067	0.00	0.00	27.42

**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	397	12:43	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	419	3:28	398	17:23	0.0	0.0	0.0	0.0	0.0
Bareilly(PG)400kV	400	423	3:02	398	11:16	0.0	0.0	7.3	0.0	7.3
Kanpur	400	419	2:54	398	10:16	0.0	0.0	0.0	0.0	0.0
Dadri	400	426	1:56	406	11:12	0.0	0.0	23.3	0.0	23.3
Ballabgarh	400	431	3:00	408	11:09	0.0	0.0	39.4	1.0	39.4
Bawana	400	429	2:28	406	15:27	0.0	0.0	36.5	0.0	36.5
Bassi	400	421	3:59	400	11:51	0.0	0.0	0.3	0.0	0.3
Hissar	400	419	2:27	394	15:26	0.0	0.0	0.0	0.0	0.0
Moga	400	423	2:56	399	15:27	0.0	0.0	7.8	0.0	7.8
Abdullapur	400	424	2:27	403	15:27	0.0	0.0	18.8	0.0	18.8
Nalagarh	400	429	2:48	410	15:32	0.0	0.0	40.3	0.0	40.3
Kishenpur	400	423	2:45	397	15:36	0.0	0.0	6.3	0.0	6.3
Wagoora	400	395	23:22	369	15:31	38.1	96.4	0.0	0.0	38.1
Amritsar	400	428	2:48	399	15:27	0.0	0.0	25.3	0.0	25.3
Kashipur	400	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Hamirpur	400	423	20:58	401	15:24	0.0	0.0	1.8	0.0	1.8
Rishikesh	400	422	2:55	390	11:17	0.0	0.0	2.5	0.0	2.5

**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	779	3:02	738	11:13	0.0	10.0	0.0	0.0	0.0
Balia	765	780	23:57	755	17:23	0.0	0.0	0.0	0.0	0.0
Moga	765	800	20:59	761	15:26	0.0	0.0	0.0	0.0	0.0

Agra	765	793	2:32	756	11:17	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	809	2:32	767	15:24	0.0	0.0	16.6	0.0	16.6
Unnao	765	771	2:55	728	10:16	0.0	19.7	0.0	0.0	0.0
Lucknow	765	802	2:32	761	10:21	0.0	0.0	5.1	0.0	5.1
Meerut	765	804	20:41	766	15:26	0.0	0.0	4.2	0.0	4.2
Jhatikara	765	808	2:31	769	11:21	0.0	0.0	13.4	0.0	13.4
Bareilly 765 kV	765	797	2:55	751	11:19	0.0	0.0	0.0	0.0	0.0
Anta	765	794	4:00	772	22:20	0.0	0.0	0.0	0.0	0.0
Phagi	765	800	2:33	771	11:08	0.0	0.0	0.0	0.0	0.0

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	492.30	808.03	504.44	1285.56	186.32	456.58
Pong	426.72	384.05	410.29	504.32	413.85	633.63	69.60	202.27
Tehri	829.79	740.04	814.15	885.26	808.95	782.78	40.08	160.00
Koteshwar	612.50	598.50	609.91	4.44	611.03	4.95	160.00	161.89
Chamera-I	760.00	748.75	759.59	0.00	0.00	0.00	41.26	37.74
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	507.48	2.78	503.17	3.91	33.69	84.26

\* 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	-464	5	0	-545	-143	0	-14.04	-0.19	-14.23
Delhi	-283	-240	0	-372	-35	0	-8.66	-0.65	-9.31
Haryana	-844	332	0	-543	321	0	-15.63	7.83	-7.80
HP	356	69	0	264	21	0	9.41	-1.04	8.38
J&K	615	196	0	611	122	0	15.07	2.61	17.68
CHD	0	0	0	0	0	0	0.00	-0.08	-0.08
Rajasthan	-7	269	0	-7	210	0	4.37	6.54	10.91
UP	126	0	0	-102	-100	0	-7.01	-1.51	-8.52
Uttarakhand	325	23	0	24	106	0	4.91	1.76	6.67
Total	-177	655	0	-670	503	0	-11.57	15.26	3.69

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-443	-756	49	-204	0	0
Delhi	-283	-453	404	-377	0	0
Haryana	-532	-879	371	140	0	0
HP	544	240	69	-429	0	0
J&K	678	596	279	-194	0	0
CHD	0	0	10	-61	0	0
Rajasthan	448	-7	653	-206	0	0
UP	160	-817	0	-100	0	0
Uttarakhand	325	24	248	-61	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	4.17%

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

WR	23.61%
ER	0.00%
Simultaneous	38.54%

(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	2	15
Haryana	0	11
Rajasthan	2	24
Delhi	3	20
UP	1	15
Uttarakhand	2	36
HP	2	28
J & K	4	41
Chandigarh	6	66

**XIII. System Constraints:**

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

**XV. Weather Conditions For 13.12.2016 :**  
Dense Fog in some parts of NR.

XVI. Synchronisation of new generating units :

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

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 : 13.12.2016

पारी प्रभारी अभियंता / SHIFT CHARGE ENGINEER