

# 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 29.12.2016

Date of Reporting : 30.12.2016



### 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
41593	442	42035	50.05	28864	351	29214	50.06	851.61	13.22

\* 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	55.05	10.38	0.33	65.75	31.42	32.82	1.41	98.57	0.00
Haryana	36.44	0.32	0.00	36.76	78.59	78.22	-0.37	114.98	0.00
Rajasthan	127.14	4.29	2.13	133.55	70.78	71.74	0.96	205.29	0.00
Delhi	11.88		0.00	11.88	47.41	48.70	1.29	60.58	0.01
UP	176.19	7.04	0.00	183.23	88.81	90.71	1.90	273.94	3.87
Uttarakhand		8.93	0.00	15.30	16.71	17.16	0.44	32.46	0.00
HP		5.03	1.06	5.03	20.80	20.23	-0.58	25.26	0.46
J & K		4.13	0.00	4.13	38.91	32.89	-6.02	37.02	8.87
Chandigarh				0.00	3.62	3.51	-0.11	3.51	0.00
<b>Total</b>	<b>406.69</b>	<b>40.12</b>	<b>3.51</b>	<b>455.63</b>	<b>397.05</b>	<b>395.98</b>	<b>-1.08</b>	<b>851.61</b>	<b>13.22</b>

\* Shortage furnished by the respective constituent's 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	5222	0	96	-1217	2989	0	141	-621	5290	10:00	0
Haryana	6352	0	36	-394	3129	0	68	-651	6352	19:00	0
Rajasthan	9351	0	80	462	8177	0	99	399	9351	19:00	0
Delhi	3136	0	56	-201	1382	0	-1	-422	3506	12:00	0
UP	12572	0	-129	224	9947	0	17	105	12572	19:00	0
Uttarakhand	1733	0	10	259	1064	0	-30	170	1768	18:00	0
HP	1275	0	-46	420	686	0	-106	593	1324	8:00	0
J&K	1769	442	-261	910	1403	351	-157	795	1854	18:00	463
Chandigarh	185	0	-20	0	87	0	-1	0	212	9:00	0
<b>Total</b>	<b>41593</b>	<b>442</b>	<b>-177</b>	<b>464</b>	<b>28864</b>	<b>351</b>	<b>30</b>	<b>367</b>	<b>41593</b>	<b>19:00</b>	<b>442</b>

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

Diversity is 1.02

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

### 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
<b>A. NTPC</b>								
Singrauli STPS (5*200+2*500)	2000	1864	1989	1481	42.88	1786	42.34	0.53
Rihand I STPS (2*500)	1000	838	902	661	18.80	783	18.73	0.07
Rihand II STPS (2*500)	1000	950	1008	776	21.62	901	21.24	0.37
Rihand III STPS (2*500)	1000	480	517	395	11.00	458	10.73	0.27
Dadri I STPS (4*210)	840	815	211	162	4.29	179	4.47	-0.18
Dadri II STPS (2*490)	980	980	487	355	10.08	420	10.89	-0.81
Unchahar I TPS (2*210)	420	406	365	282	8.04	335	8.55	-0.50
Unchahar II TPS (2*210)	420	405	340	296	7.71	321	8.24	-0.53
Unchahar III TPS (1*210)	210	203	174	133	3.78	157	4.11	-0.34
ISTPP (Jhajjar) (3*500)	1500	1440	996	632	15.99	666	16.29	-0.29
Dadri GPS (4*130.19+2*154.51)	830	736	303	255	6.42	268	6.77	-0.35
Anta GPS (3*88.71+1*153.2)	419	417	0	0	0.00	0.00	0.00	0.00
Auraiya GPS (4*111.19+2*109.30)	663	637	0	0	0.00	0.00	0.00	0.00
Dadri Solar(5)	5	0	0	0	0.01	0	0.01	0.00
Unchahar Solar(10)	10	1	0	0	0.00	0	0.02	-0.01
Singrauli Solar(15)	15	1	0	0	0.02	1	0.02	0.00
KHEP(4*200)	800	870	860	0	2.55	106	2.61	-0.06
<b>Sub Total (A)</b>	<b>12112</b>	<b>11043</b>	<b>8152</b>	<b>5428</b>	<b>153</b>	<b>6383</b>	<b>155</b>	<b>-1.82</b>
<b>B. NPC</b>								
NAPS (2*220)	440	416	457	450	10.04	419	9.98	0.06
RAPS- B (2*220)	440	387	427	430	9.25	385	9.29	-0.04
RAPS- C (2*220)	440	220	237	240	5.06	211	5.28	-0.22
<b>Sub Total (B)</b>	<b>1320</b>	<b>1023</b>	<b>1121</b>	<b>1120</b>	<b>24.35</b>	<b>1015</b>	<b>24.55</b>	<b>-0.20</b>
<b>C. NHPC</b>								
Chamera I HPS (3*180)	540	360	367	0	1.55	65	1.40	0.15
Chamera II HPS (3*100)	300	198	207	0	1.09	46	1.08	0.02
Chamera III HPS (3*77)	231	167	70	0	0.53	22	0.50	0.02
Bairasuli HPS(3*60)	180	120	121	0	0.42	17	0.35	0.07
Salal-HPS (6*115)	690	83	230	32	2.45	102	2.00	0.46
Tanakpur-HPS (3*31.4)	94	23	32	29	0.68	28	0.56	0.12
Uri-I HPS (4*120)	480	71	231	20	1.86	77	1.70	0.16
Uri-II HPS (4*60)	240	49	120	40	1.22	51	1.17	0.06
Dhauliganga-HPS (4*70)	280	280	280	0	0.90	37	0.88	0.02
Dulhasti-HPS (3*130)	390	387	397	0	3.68	153	3.50	0.18
Sewa-II HPS (3*40)	120	79	24	0	0.15	6	0.21	-0.06
Parbati 3 (4*130)	520	130	132	0	0.57	24	0.55	0.01
<b>Sub Total (C)</b>	<b>4065</b>	<b>1947</b>	<b>2212</b>	<b>121</b>	<b>15</b>	<b>628</b>	<b>14</b>	<b>1.21</b>
<b>D.SJVNL</b>								
NJPC (6*250)	1500	1615	1621	0	6.80	284	6.75	0.05
Rampur HEP (6*88.67)	412	375	375	0	1.86	77	1.84	0.02
<b>Sub Total (D)</b>	<b>1912</b>	<b>1990</b>	<b>1996</b>	<b>0</b>	<b>8.66</b>	<b>361</b>	<b>8.59</b>	<b>0.08</b>
<b>E. THDC</b>								
Tehri HPS (4*250)	1000	1027	1025	0	8.43	351	8.30	0.13
Koteshwar HPS (4*100)	400	122	401	69	2.97	124	2.94	0.03
<b>Sub Total (E)</b>	<b>1400</b>	<b>1149</b>	<b>1426</b>	<b>69</b>	<b>11.40</b>	<b>475</b>	<b>11.24</b>	<b>0.16</b>
<b>F. BBMB</b>								
Bhakra HPS (2*108+3*126+5*157)	1379	562	1096	367	13.94	581	13.48	0.46
Dehar HPS (6*165)	990	158	330	0	3.85	160	3.80	0.05
Pong HPS (6*66)	396	192	330	0	4.61	192	4.61	0.00
<b>Sub Total (F)</b>	<b>2765</b>	<b>912</b>	<b>1756</b>	<b>367</b>	<b>22.40</b>	<b>933</b>	<b>21.89</b>	<b>0.51</b>
<b>G. IPP(s)/JV(s)</b>								
ALLAIN DUHANGAN HPS(IPP) (2*96)	192	0	44	0	0.41	17	0.39	0.02
KARCHAM WANGTOO HPS(IPP) (4*250)	1000	0	630	0	3.55	148	3.56	-0.01
Malana Stg-II HPS (2*50)	100	0	0	0	0.00	0	0.00	0.00
Shree Cement TPS (2*150)	300	0	0	0	0.00	0	0.00	0.00
Budhil HPS(IPP) (2*35)	70	0	0	0	0.00	0	0.15	-0.15
<b>Sub Total (G)</b>	<b>1662</b>	<b>0</b>	<b>674</b>	<b>0</b>	<b>3.96</b>	<b>165</b>	<b>4.10</b>	<b>-0.14</b>
<b>H. Total Regional Entities (A-G)</b>	<b>25237</b>	<b>18064</b>	<b>17336</b>	<b>7104</b>	<b>239.05</b>	<b>9960</b>	<b>239.26</b>	<b>-0.21</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	210	160	4.01	167
	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	253	203	5.07	211
	Goidwal(GVK) (2*270)	540	0	0	-0.02	-1

	Rajpura (2*700)	1400	1220	660	25.57	1065
	Talwandi Saboo (3*660)	1980	616	924	20.44	852
	<b>Thermal (Total)</b>	<b>6560</b>	<b>2299</b>	<b>1947</b>	<b>55.05</b>	<b>2294</b>
	Total Hydro	1000	468	386	10.38	432
	Wind Power	0	0	0	0.00	0
	Biomass	288	0	0	0.28	12
	Solar	560	0	0	0.05	2
	<b>Renewable(Total)</b>	<b>848</b>	<b>0</b>	<b>0</b>	<b>0.33</b>	<b>14</b>
	<b>Total Punjab</b>	<b>8408</b>	<b>2767</b>	<b>2333</b>	<b>65.75</b>	<b>2740</b>
Haryana	Panipat TPS (2*210+2*250)	920	455	406	9.96	415
	DCRTPP (Yamuna nagar) (2*300)	600	276	233	5.64	235
	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	1182	737	20.85	869
	<b>Thermal (Total)</b>	<b>4497</b>	<b>1913</b>	<b>1376</b>	<b>36.44</b>	<b>1519</b>
	Total Hydro	62	13	9	0.32	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>1926</b>	<b>1385</b>	<b>36.76</b>	<b>1532</b>
Rajasthan	kota TPS (2*110+2*195+3*210)	1240	1051	973	23.95	998
	suratgarh TPS (6*250)	1500	405	587	10.90	454
	Chabra TPS (4*250)	1000	915	910	21.09	879
	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	74	77	1.84	77
	RAPS A (NPC) (1*100+1*200)	300	169	172	4.24	177
	Barsingar (NLC) (2*125)	250	226	228	5.28	220
	Giral LTPS (2*125)	250	0	0	0.00	0
	Rajwest LTPS (IPP) (8*135)	1080	829	832	19.78	824
	VS LIGNITE LTPS (IPP) (1*135)	135	0	0	0.00	0
	Kalisindh Thermal(2*600)	1200	1137	1123	25.25	1052
	Kawai(Adani) (2*660)	1320	616	625	14.80	617
	<b>Thermal (Total)</b>	<b>8876</b>	<b>5422</b>	<b>5527</b>	<b>127.14</b>	<b>5297</b>
	Total Hydro	550	194	142	4.29	179
	Wind power	4017	59	125	2.01	84
	Biomass	99	0	0	0.00	0
	Solar	1295	2	0	0.12	5
	Renewable/Others (Total)	5411	61	125	2.13	89
	<b>Total Rajasthan</b>	<b>14837</b>	<b>5677</b>	<b>5794</b>	<b>133.55</b>	<b>5565</b>
UP	Anpara TPS (3*210+2*500)	1630	1188	1180	28.52	1188
	Obra TPS (2*50+2*94+5*200)	1194	500	437	11.36	473
	Paricha TPS (2*110+2*220+2*250)	1160	904	653	19.89	829
	Panki TPS (2*105)	210	144	135	3.35	140
	Harduaganj TPS (1*60+1*105+2*250)	665	536	411	12.06	503
	Tanda TPS (NTPC) (4*110)	440	378	280	8.65	360
	Roza TPS (IPP) (4*300)	1200	1125	748	24.27	1011
	Anpara-C (IPP) (2*600)	1200	1080	720	24.29	1012
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	287	224	6.62	276
	Anpara-D(2*500)	1000	424	295	9.46	394
	Lalitpur TPS(3*660)	1980	228	590	8.53	356
	Bara(2*660)	1320	0	0	0.00	0
	<b>Thermal (Total)</b>	<b>12449</b>	<b>6794</b>	<b>5673</b>	<b>156.99</b>	<b>6541</b>
	Vishnuparyag HPS (IPP)(4*110)	440	88	78	2.03	84
	Alakanada(4*82.5)	330	76	0	1.26	53
	Other Hydro	527	176	93	3.75	156
	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>7934</b>	<b>6644</b>	<b>183.23</b>	<b>7635</b>	
Uttarakhand	Other Hydro	1250	629	386	8.93	372
	Total Gas	225	270	265	6.32	263
	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>899</b>	<b>651</b>	<b>15.30</b>	<b>637</b>
Delhi	Rajghat TPS (2*67.5)	135	0	0	0.00	0
	Delhi Gas Turbine (6x30 + 3x34)	282	71	71	1.82	76
	Pragati Gas Turbine (2x104+ 1x122)	330	160	162	3.88	162
	Rithala GPS (3*36)	95	0	0	0.00	0
	Bawana GPS (4*216+2*253)	1370	264	280	6.18	257
	Badarpur TPS (NTPC) (3*95+2*210)	705	0	0	0.00	0
	<b>Thermal (Total)</b>	<b>2917</b>	<b>495</b>	<b>513</b>	<b>11.88</b>	<b>495</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>495</b>	<b>513</b>	<b>11.88</b>	<b>495</b>	
HP	Baspa HPS (IPP) (3*100)	300	33	0	1.15	48
	Malana HPS (IPP) (2*43)	86	30	0	0.20	8
	Other Hydro	372	214	69	2.62	109
	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	52	39	1.06	44
	<b>Renewable(Total)</b>	<b>486</b>	<b>52</b>	<b>39</b>	<b>1.06</b>	<b>44</b>
	<b>Total HP</b>	<b>1244</b>	<b>329</b>	<b>107</b>	<b>5.03</b>	<b>210</b>
	J & K	Baqilhar HPS (IPP) (3*150+3*150)	900	147	127	3.14
Other Hydro/IPP(including 98 MW Small Hydro)		308	81	21	0.99	41
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>228</b>	<b>148</b>	<b>4</b>	<b>172</b>	

Total State Control Area Generation	50078	20255	17576	455.63	18985
J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]		7172	6588	200.40	8350
Total Regional Availability(Gross)	75315	44763	31268	895.08	37295

**IV. Total Hydro Generation:**

Regional Entities Hydro	12234	8923	556	64.06	2669
State Control Area Hydro	7163	2471	1614	40.12	1937
Total Regional Hydro	19397	11394	2171	104.18	4606

**V. Total Renewable Generation:**

Regional Entities Renewable	30	0	0	0.03	1
State Control Area Renewable	7356	113	164	3.56	148
Total Regional Renewable	7386	113	164	3.59	150

**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)	150	-50	300	50	2.79	0.46	2.34
765 KV Gwalior-Agra (D/C)	1757	1546	2846	0	53.18	0.00	53.18
400 KV Zerda-Kankroli	-22	-209	14	218	0.00	1.98	-1.98
400 KV Zerda-Bhimnal	129	-91	171	107	0.98	0.00	0.98
220 KV Auraiya-Malanpur	-121	-97	0	121	0.00	1.89	-1.89
220 KV Badod-Kota/Morak	-48	-82	4	79	0.00	1.32	-1.32
Mundra-Mohinderghar(HVDC Bipole)	2502	2002	2505	0.00	55.95	0.00	55.95
400 KV RAPPCC-Sujalpur	370	280	450	0	8.53	0.00	8.53
400 KV Vindhychal-Rihand	0	0	0	0	0.00	0.00	0.00
765 kV Phagi-Gwalior (D/C)	1060	954	1508	0	30.46	0.00	30.46
<b>Sub Total WR</b>	<b>5777</b>	<b>4253</b>			<b>151.88</b>	<b>5.64</b>	<b>146.24</b>
400 kV Sasaram - Varanasi	-71	-39	0	72	0.00	1.62	-1.62
400 kV Sasaram - Allahabad	-127	-48	0	126	0.00	2.38	-2.38
400 KV MZP- GKP (D/C)	95	379	397	0	7.01	0.00	7.01
400 KV Patna-Balia(D/C) X 2	739	736	840	0	17.37	0.00	17.37
400 KV B'Sharif-Balia (D/C)	66	214	264	0	4.76	0.00	4.76
765 KV Gaya-Balia	117	251	321	0	5.74	0.00	5.74
765 KV Gaya-Varanasi (D/C)	410	521	733	0	14.02	0.00	14.02
220 KV Pusaali-Sahupuri	85	86	153	0	2.45	0.00	2.45
132 KV K'nasa-Sahupuri	0	0	0	0	0.00	0.51	-0.51
132 KV Son Ngr-Rihand	-37	-40	0	40	0.00	0.65	-0.65
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	109	135	269	0	4.29	0.00	4.29
400 KV Barh -GKP (D/C)	494	492	558	0	11.86	0.00	11.86
400 kV B'Sharif - Varanasi (D/C)	23	148	231	0	3.71	0.00	3.71
<b>Sub Total ER</b>	<b>1903</b>	<b>2835</b>			<b>71.22</b>	<b>5.15</b>	<b>66.07</b>
+/- 800 KV BiswanathCharialli-Agra	-508	-500	0	508.00	0.00	11.91	-11.91
<b>Sub Total NER</b>	<b>-508</b>	<b>-500</b>			<b>0.00</b>	<b>11.91</b>	<b>-11.91</b>
<b>Total IR Exch</b>	<b>7172</b>	<b>6588</b>			<b>223.11</b>	<b>22.71</b>	<b>200.40</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
46.23	0.94	47.17	-0.56	-10.43	26.25	4.42	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
72.85	119.16	192.01	54.16	146.24	200.40	-18.70	27.08	8.39

**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	-13	0	14	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	0.22	10.84	61.44	76.40	9.36	3.46	0.00	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)		
50.19	13.02	49.75	22.09	49.98	0.044	0.064	50.11	49.88	23.60

**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	409	1:30	400	21:48	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	421	2:44	403	17:51	0.0	0.0	0.3	0.0	0.3
Bareilly(PG)400kV	400	422	2:37	404	14:20	0.0	0.0	4.5	0.0	4.5
Kanpur	400	419	2:58	404	8:45	0.0	0.0	0.0	0.0	0.0
Dadri	400	426	2:59	410	9:31	0.0	0.0	23.3	0.0	23.3
Ballabgarh	400	430	20:59	412	9:34	0.0	0.0	41.2	0.0	41.2
Bawana	400	423	1:58	408	9:26	0.0	0.0	14.2	0.0	14.2
Bassi	400	424	20:59	400	6:52	0.0	0.0	1.8	0.0	1.8
Hissar	400	420	20:55	402	9:25	0.0	0.0	0.0	0.0	0.0
Moga	400	421	13:02	404	9:25	0.0	0.0	0.1	0.0	0.1
Abdullapur	400	426	13:02	412	9:39	0.0	0.0	22.9	0.0	22.9
Nalagarh	400	431	13:04	414	9:31	0.0	0.0	60.1	0.8	60.1
Kishenpur	400	421	13:02	396	18:15	0.0	0.0	0.1	0.0	0.1
Wagoora	400	402	13:02	364	18:14	59.7	98.0	0.0	0.0	59.7
Amritsar	400	428	13:02	407	9:45	0.0	0.0	25.9	0.0	25.9
Kashipur	400	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Hamirpur	400	419	13:33	407	8:19	0.0	0.0	0.0	0.0	0.0
Rishikesh	400	422	2:31	399	15:43	0.0	0.0	4.1	0.0	4.1

**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	778	1:15	747	10:20	0.0	0.0	0.0	0.0	0.0
Balia	765	791	2:54	762	17:51	0.0	0.0	0.0	0.0	0.0
Moga	765	862	7:14	771	9:44	0.0	0.0	0.6	0.1	0.6

Agra	765	789	2:57	761	5:50	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	804	20:55	775	9:45	0.0	0.0	3.2	0.0	3.2
Unnao	765	778	2:59	745	8:47	0.0	0.0	0.0	0.0	0.0
Lucknow	765	804	2:44	767	7:46	0.0	0.0	5.8	0.0	5.8
Meerut	765	810	20:57	769	6:25	0.0	0.0	4.2	0.0	4.2
Jhatikara	765	804	20:57	771	9:44	0.0	0.0	1.9	0.0	1.9
Bareilly 765 kV	765	798	2:57	765	14:13	0.0	0.0	0.0	0.0	0.0
Anta	765	793	4:05	770	22:51	0.0	0.0	0.0	0.0	0.0
Phagi	765	799	4:03	768	8:46	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	488.78	700.02	501.29	1153.36	165.26	447.58
Pong	426.72	384.05	408.32	444.61	411.47	544.90	53.26	307.80
Tehri	829.79	740.04	809.25	787.65	803.40	665.65	40.29	197.00
Koteshwar	612.50	598.50	610.40	4.70	610.28	4.69	197.00	195.40
Chamera-I	760.00	748.75	759.70	0.00	0.00	0.00	42.39	41.51
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	505.10	3.26	498.65	3.67	46.07	131.03

\* 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	-623	2	0	-705	-512	0	-22.92	0.80	-22.12
Delhi	-183	-239	0	-273	72	0	-5.72	1.40	-4.32
Haryana	-953	301	0	-639	246	0	-17.78	6.29	-11.49
HP	519	74	0	404	17	0	12.72	-1.41	11.32
J&K	610	184	0	605	306	0	14.45	5.39	19.84
CHD	0	0	0	0	0	0	0.00	0.15	0.15
Rajasthan	-7	406	0	-7	469	0	8.59	12.40	21.00
UP	105	0	0	-153	377	0	-8.07	3.62	-4.45
Uttarakhand	134	36	0	134	125	0	3.30	2.36	5.66
<b>Total</b>	<b>-398</b>	<b>764</b>	<b>0</b>	<b>-635</b>	<b>1099</b>	<b>0</b>	<b>-15.43</b>	<b>31.00</b>	<b>15.57</b>

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-618	-1457	486	-512	0	0
Delhi	-137	-363	490	-277	0	0
Haryana	-618	-981	302	-86	0	0
HP	662	379	74	-620	0	0
J&K	610	592	412	-15	0	0
CHD	0	0	34	-46	0	0
Rajasthan	869	-7	937	323	0	0
UP	132	-863	377	-100	0	0
Uttarakhand	165	94	263	-72	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	4.51%
ER	0.00%
Simultaneous	1.39%

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

WR	0.00%
ER	0.00%
Simultaneous	31.25%

(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	15
Haryana	2	16
Rajasthan	1	14
Delhi	4	50
UP	1	19
Uttarakhand	4	26
HP	3	24
J & K	4	30
Chandigarh	5	38

**XIII. System Constraints:**

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

**XV. Weather Conditions For 29.12.2016 :**

**XVI. Synchronisation of new generating units :**

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

1. 400kV Rajpura(PSTCL)-Dhuri-1 first time charged at 1848Hrs on 29.12.16 after LILO of Rajpura(Th)-Dhuri at Rajpura(PSTCL)
2. 125MVAr B/R-1 at 400kV GSS Kanpur(old) first time charged at 1351Hrs on 29.12.16.

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 : 29.12.2016

पारी प्रभारी अभियंता / SHIFT CHARGE ENGINEER