

# पॉवर सिस्टम ऑपरेशन कार्पोरेशन लिमिटेड

(पारदर्शिता की पूर्ण स्वामित्व प्राप्त सहायक कंपनी)

## उत्तरी क्षेत्रीय भार प्रेषण केंद्र

CIN: U40105DL2009GOI188682

Power Supply Position in Northern Region for 27.12.2016

Date of Reporting : 28.12.2016



### 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
41413	1011	42425	50.05	29254	358	29612	50.06	847.96	19.35

\* 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	55.56	9.03	1.20	65.78	31.52	32.55	1.03	98.33	0.00
Haryana	37.96	0.30	0.00	38.28	78.39	76.45	-1.95	114.72	0.00
Rajasthan	121.54	5.36	5.64	132.54	68.56	72.90	4.34	205.44	4.39
Delhi	11.90		0.00	11.90	48.12	48.69	0.57	60.59	0.04
UP	169.58	7.74	0.00	177.31	91.49	93.78	2.30	271.10	6.00
Uttarakhand		8.41	0.00	15.09	18.52	17.98	-0.54	33.08	0.00
HP		4.51	1.14	4.51	21.05	21.30	0.26	25.81	0.06
J & K		4.19	0.00	4.19	38.44	31.26	-7.19	35.45	8.86
Chandigarh				0.00	3.58	3.45	-0.13	3.45	0.00
<b>Total</b>	<b>396.55</b>	<b>39.52</b>	<b>7.98</b>	<b>449.60</b>	<b>399.67</b>	<b>398.37</b>	<b>-1.31</b>	<b>847.96</b>	<b>19.35</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	5195	0	29	-705	2966	0	97	-620	5195	19:00	0
Haryana	6205	0	-1	-407	3215	0	-23	-665	6205	19:00	0
Rajasthan	9052	590	250	362	8014	0	176	396	9052	19:00	590
Delhi	3094	0	-32	-304	1447	0	49	-488	3505	11:00	0
UP	13029	0	-150	-195	10284	0	320	125	13029	19:00	0
Uttarakhand	1754	0	12	383	1094	0	38	282	1806	8:00	0
HP	1215	0	-82	385	715	0	-53	588	1378	8:00	18
J&K	1686	421	-373	910	1433	358	-170	785	1691	20:00	423
Chandigarh	184	0	-27	0	86	0	0	0	214	9:00	0
<b>Total</b>	<b>41413</b>	<b>1011</b>	<b>-374</b>	<b>429</b>	<b>29254</b>	<b>358</b>	<b>436</b>	<b>404</b>	<b>41413</b>	<b>19:00</b>	<b>1011</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	Off Peak MW	Energy	Average	Schedule	UI
			(Gross)	(Gross)	(Net MU)	Sentout(MW)	Net MU	Net MU
<b>A. NTPC</b>								
Singrauli STPS (5*200+2*500)	2000	1709	1962	1315	38.74	1614	38.39	0.35
Rihand I STPS (2*500)	1000	838	896	683	18.52	772	18.48	0.04
Rihand II STPS (2*500)	1000	950	1008	735	20.74	864	20.81	-0.07
Rihand III STPS (2*500)	1000	950	1003	719	20.89	870	20.95	-0.06
Dadri I STPS (4*210)	840	815	221	155	4.29	179	4.57	-0.28
Dadri II STPS (2*490)	980	980	678	685	18.11	754	18.94	-0.84
Unchahar I TPS (2*210)	420	406	401	266	7.88	328	8.63	-0.75
Unchahar II TPS (2*210)	420	405	411	271	7.68	320	8.50	-0.82
Unchahar III TPS (1*210)	210	203	196	140	3.84	160	4.30	-0.46
ISTPP (Jhajjar) (3*500)	1500	1440	747	618	15.93	664	16.44	-0.51
Dadri GPS (4*130.19+2*154.51)	830	773	282	259	6.35	265	6.98	-0.63
Anta GPS (3*88.71+1*153.2)	419	417	0	0	0.00	0	0.00	0.00
Auraiya GPS (4*111.19+2*109.30)	663	635	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	0.04	2	0.05	-0.01
KHEP(4*200)	800	870	690	551	2.55	106	2.61	-0.06
<b>Sub Total (A)</b>	<b>12112</b>	<b>11393</b>	<b>8495</b>	<b>6397</b>	<b>166</b>	<b>6900</b>	<b>170</b>	<b>-4.11</b>
<b>B. NPC</b>								
NAPS (2*220)	440	418	450	456	9.99	416	10.03	-0.04
RAPS- B (2*220)	440	387	427	429	9.29	387	9.29	0.00
RAPS- C (2*220)	440	220	238	241	5.07	211	5.28	-0.21
<b>Sub Total (B)</b>	<b>1320</b>	<b>1025</b>	<b>1115</b>	<b>1126</b>	<b>24.35</b>	<b>1015</b>	<b>24.60</b>	<b>-0.25</b>
<b>C. NHPC</b>								
Chamera I HPS (3*180)	540	360	365	0	1.56	65	1.45	0.11
Chamera II HPS (3*100)	300	201	209	0	1.09	45	1.00	0.09
Chamera III HPS (3*77)	231	167	74	0	0.51	21	0.50	0.01
Bairasuli HPS(3*60)	180	120	122	0	0.42	18	0.40	0.02
Salal-HPS (6*115)	690	81	230	40	2.40	100	1.94	0.46
Tanakpur-HPS (3*31.4)	94	25	32	30	0.69	29	0.60	0.09
Uri-I HPS (4*120)	480	75	233	42	1.91	79	1.81	0.10
Uri-II HPS (4*60)	240	49	121	39	1.22	51	1.18	0.04
Dhauliganga-HPS (4*70)	280	238	280	0	0.97	41	0.88	0.10
Dulhasti-HPS (3*130)	390	294	399	0	3.30	138	3.00	0.30
Sewa-II HPS (3*40)	120	79	26	0	0.14	6	0.21	-0.07
Parbati 3 (4*130)	520	130	130	0	0.47	20	0.46	0.02
<b>Sub Total (C)</b>	<b>4065</b>	<b>1818</b>	<b>2221</b>	<b>151</b>	<b>15</b>	<b>612</b>	<b>13</b>	<b>1.28</b>
<b>D.SJVNL</b>								
NJPC (6*250)	1500	1615	1489	0	6.96	290	6.89	0.07
Rampur HEP (6*68.67)	412	289	372	0	1.91	80	1.88	0.03
<b>Sub Total (D)</b>	<b>1912</b>	<b>1904</b>	<b>1861</b>	<b>0</b>	<b>8.87</b>	<b>370</b>	<b>8.77</b>	<b>0.10</b>
<b>E. THDC</b>								
Tehri HPS (4*250)	1000	1032	1029	0	8.38	349	8.30	0.08
Koteshwar HPS (4*100)	400	122	402	69	2.99	125	2.94	0.06
<b>Sub Total (E)</b>	<b>1400</b>	<b>1154</b>	<b>1431</b>	<b>69</b>	<b>11.37</b>	<b>474</b>	<b>11.24</b>	<b>0.14</b>
<b>F. BBMB</b>								
Bhakra HPS (2*108+3*126+5*157)	1379	537	989	358	13.23	551	12.90	0.33
Dehar HPS (6*165)	990	87	330	0	2.25	94	2.09	0.16
Pong HPS (6*66)	396	197	396	0	4.66	194	4.73	-0.07
<b>Sub Total (F)</b>	<b>2765</b>	<b>821</b>	<b>1715</b>	<b>358</b>	<b>20.14</b>	<b>839</b>	<b>19.71</b>	<b>0.43</b>
<b>G. IPP(s)/JV(s)</b>								
ALLAIN DUHANGAN HPS(IPP) (2*96)	192	0	40	0	0.41	17	0.39	0.02
KARCHAM WANGTOO HPS(IPP) (4*250)	1000	0	630	0	3.67	153	3.67	-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	-1	0	-0.03	-1	0.00	-0.03
Budhil HPS(IPP) (2*35)	70	0	0	0	0.19	8	0.19	0.00
<b>Sub Total (G)</b>	<b>1662</b>	<b>0</b>	<b>669</b>	<b>0</b>	<b>4.24</b>	<b>177</b>	<b>4.26</b>	<b>-0.02</b>
<b>H. Total Regional Entities (A-G)</b>	<b>25237</b>	<b>18115</b>	<b>17507</b>	<b>8101</b>	<b>249.26</b>	<b>10386</b>	<b>251.70</b>	<b>-2.43</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	210	2.37	99
	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	204	205	4.62	192
	Goidwal(GVK) (2*270)	540	0	0	-0.03	-1

	Rajpura (2*700)	1400	920	660	23.86	994
	Talwandi Saboo (3*660)	1980	924	924	24.77	1032
	<b>Thermal (Total)</b>	<b>6560</b>	<b>2258</b>	<b>1999</b>	<b>55.56</b>	<b>2315</b>
	Total Hydro	1000	419	253	9.03	376
	Wind Power	0	0	0	0.00	0
	Biomass	288	0	0	1.00	42
	Solar	560	0	0	0.20	8
	<b>Renewable(Total)</b>	<b>848</b>	<b>0</b>	<b>0</b>	<b>1.20</b>	<b>50</b>
	<b>Total Punjab</b>	<b>8408</b>	<b>2677</b>	<b>2252</b>	<b>65.78</b>	<b>2741</b>
Haryana	Panipat TPS (2*210+2*250)	920	448	421	10.17	424
	DCRTPP (Yamuna nagar) (2*300)	600	279	235	5.85	244
	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	1102	741	21.96	915
	<b>Thermal (Total)</b>	<b>4497</b>	<b>1829</b>	<b>1397</b>	<b>37.98</b>	<b>1583</b>
	Total Hydro	62	14	15	0.30	12
	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>1843</b>	<b>1412</b>	<b>38.28</b>	<b>1595</b>
	Rajasthan	kota TPS (2*110+2*195+3*210)	1240	947	794	22.00
suratgarh TPS (6*250)		1500	687	570	15.45	644
Chabra TPS (4*250)		1000	425	874	12.44	518
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	76	78	1.87	78
RAPS A (NPC) (1*100+1*200)		300	172	173	4.29	179
Barsingar (NLC) (2*125)		250	226	226	5.30	221
Giral LTPS (2*125)		250	0	0	0.00	0
Rajwest LTPS (IPP) (8*135)		1080	781	824	19.63	818
VS LIGNITE LTPS (IPP) (1*135)		135	0	0	0.00	0
Kalisindh Thermal(2*600)		1200	1128	972	25.74	1072
Kawai(Adani) (2*660)		1320	619	615	14.82	617
<b>Thermal (Total)</b>		<b>8876</b>	<b>5061</b>	<b>5126</b>	<b>121.54</b>	<b>5064</b>
Total Hydro		550	167	211	5.36	223
Wind power		4017	95	178	3.03	126
Biomass		99	6	6	0.16	6
Solar		1295	0	0	2.45	102
Renewable/Others (Total)		5411	101	184	5.64	235
<b>Total Rajasthan</b>		<b>14837</b>	<b>5329</b>	<b>5521</b>	<b>132.54</b>	<b>5522</b>
UP	Anpara TPS (3*210+2*500)	1630	1174	1067	27.10	1129
	Obra TPS (2*50+2*94+5*200)	1194	342	441	9.24	385
	Paricha TPS (2*110+2*220+2*250)	1160	930	653	20.12	839
	Panki TPS (2*105)	210	131	135	3.17	132
	Harduaganj TPS (1*60+1*105+2*250)	665	440	410	10.21	426
	Tanda TPS (NTPC) (4*110)	440	381	276	8.50	354
	Roza TPS (IPP) (4*300)	1200	1111	753	23.99	1000
	Anpara-C (IPP) (2*600)	1200	1080	630	23.77	990
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	323	252	7.26	303
	Anpara-D(2*500)	1000	383	294	8.88	370
	Lalitpur TPS(3*660)	1980	333	597	8.14	339
	Bara(2*660)	1320	0	0	0.00	0
	<b>Thermal (Total)</b>	<b>12449</b>	<b>6628</b>	<b>5508</b>	<b>150.38</b>	<b>6266</b>
	Vishnuparyag HPS (IPP)(4*110)	440	88	83	2.06	86
	Alaknada(4*82.5)	330	76	0	1.27	53
	Other Hydro	527	270	120	4.41	184
	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>7862</b>	<b>6511</b>	<b>177.31</b>	<b>7388</b>	
Uttarakhand	Other Hydro	1250	367	306	8.41	350
	Total Gas	225	282	274	6.64	277
	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>649</b>	<b>580</b>	<b>15.09</b>	<b>629</b>
Delhi	Rajghat TPS (2*67.5)	135	0	0	0.00	0
	Delhi Gas Turbine (6x30 + 3x34)	282	73	72	1.96	82
	Pragati Gas Turbine (2x104+ 1x122)	330	157	160	3.83	160
	Rithala GPS (3*36)	95	0	0	0.00	0
	Bawana GPS (4*216+2*253)	1370	251	280	6.11	255
	Badarpur TPS (NTPC) (3*95+2*210)	705	0	0	0.00	0
	<b>Thermal (Total)</b>	<b>2917</b>	<b>481</b>	<b>512</b>	<b>11.90</b>	<b>496</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>512</b>	<b>11.90</b>	<b>496</b>
	HP	Baspa HPS (IPP) (3*100)	300	0	0	0.93
Malana HPS (IPP) (2*43)		86	31	0	0.24	10
Other Hydro		372	170	51	2.19	91
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	54	42	1.14	48
<b>Renewable(Total)</b>		<b>486</b>	<b>54</b>	<b>42</b>	<b>1.14</b>	<b>48</b>
<b>Total HP</b>		<b>1244</b>	<b>255</b>	<b>93</b>	<b>4.51</b>	<b>188</b>
J & K		Baqilhar HPS (IPP) (3*150+3*150)	900	150	130	3.20
	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>231</b>	<b>151</b>	<b>4</b>	<b>175</b>

Total State Control Area Generation	50078	19327	17032	449.60	18733
J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]		6941	6974	185.84	7743
<b>Total Regional Availability(Gross)</b>	<b>75315</b>	<b>43775</b>	<b>32107</b>	<b>884.70</b>	<b>36863</b>

**IV. Total Hydro Generation:**

Regional Entities Hydro	12234	8587	1129	61.70	2571
State Control Area Hydro	7163	2169	1506	39.52	1925
<b>Total Regional Hydro</b>	<b>19397</b>	<b>10756</b>	<b>2635</b>	<b>101.22</b>	<b>4496</b>

**V. Total Renewable Generation:**

Regional Entities Renewable	30	0	0	0.09	4
State Control Area Renewable	7356	155	226	8.02	334
<b>Total Regional Renewable</b>	<b>7386</b>	<b>155</b>	<b>226</b>	<b>8.11</b>	<b>338</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)	-200	-50	0	200	0.00	2.91	-2.91
765 KV Gwalior-Agra (D/C)	2083	1711	2734	0	51.26	0.00	51.26
400 KV Zerda-Kankroli	-22	-137	4	155	0.00	1.82	-1.82
400 KV Zerda-Bhimnal	135	-10	172	69	1.07	0.00	1.07
220 KV Auraiya-Malanpur	-50	-79	0	94	0.00	1.57	-1.57
220 KV Badod-Kota/Morak	-17	-63	23	69	0.00	1.20	-1.20
Mundra-Mohinderghar(HVDC Bipole)	2298	2002	2503	0.00	53.72	0.00	53.72
400 KV RAPPCC-Sujalpur	400	280	424	0	8.27	0.00	8.27
400 KV Vindhychal-Rihand	0	0	0	0	0.00	0.00	0.00
765 kV Phagi-Gwalior (D/C)	1120	1026	775	0	30.21	0.00	30.21
<b>Sub Total WR</b>	<b>5747</b>	<b>4680</b>			<b>144.52</b>	<b>7.50</b>	<b>137.02</b>
400 kV Sasaram - Varanasi	-62	-38	0	91	0.00	2.21	-2.21
400 kV Sasaram - Allahabad	-142	0	0	143	0.00	0.81	-0.81
400 KV MZP- GKP (D/C)	56	426	452	0	6.46	0.00	6.46
400 KV Patna-Balia(D/C) X 2	594	725	810	0	17.10	0.00	17.10
400 KV B'Sharif-Balia (D/C)	80	196	228	0	4.13	0.00	4.13
765 KV Gaya-Balia	124	159	279	0	4.38	0.00	4.38
765 KV Gaya-Varanasi (D/C)	403	554	761	0	13.65	0.00	13.65
220 KV Pusaali-Sahupuri	0	0	0	0	0.00	0.00	0.00
132 KV K'nasa-Sahupuri	0	0	0	0	0.00	0.51	-0.51
132 KV Son Ngr-Rihand	-28	-40	0	40	0.00	0.83	-0.83
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	125	110	273	0	4.04	0.00	4.04
400 KV Barh -GKP (D/C)	492	536	576	0	11.84	0.00	11.84
400 kV B'Sharif - Varanasi (D/C)	52	167	218	0	3.41	0.00	3.41
<b>Sub Total ER</b>	<b>1694</b>	<b>2795</b>			<b>65.00</b>	<b>4.36</b>	<b>60.65</b>
+/- 800 KV BiswanathChariali-Agra	-500	-501	0	500.00	0.00	11.83	-11.83
<b>Sub Total NER</b>	<b>-500</b>	<b>-501</b>			<b>0.00</b>	<b>11.83</b>	<b>-11.83</b>
<b>Total IR Exch</b>	<b>6941</b>	<b>6974</b>			<b>209.53</b>	<b>23.68</b>	<b>185.84</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
44.16	0.90	45.06	0.02	-8.06	16.56	2.52	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
61.64	126.19	187.82	48.82	137.02	185.84	-12.81	10.83	-1.98

**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	-14	-13	0	14	0	1	-0.69

**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	0.63	7.84	46.86	66.32	18.91	6.04	0.93	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)		
50.31	6.04	49.76	9.17	50.00	0.054	50.15	49.88	33.68	

**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	411	2:58	399	19:33	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	421	0:57	402	17:40	0.0	0.0	0.9	0.0	0.9
Bareilly(PG)400kV	400	422	0:26	403	14:37	0.0	0.0	1.8	0.0	1.8
Kanpur	400	419	0:23	339	20:00	40.0	40.0	0.0	0.0	40.0
Dadri	400	427	2:02	406	9:18	0.0	0.0	23.8	0.0	23.8
Ballabgarh	400	432	2:59	410	9:38	0.0	0.0	43.5	3.1	43.5
Bawana	400	420	20:51	331	13:14	0.4	0.4	0.0	0.0	0.4
Bassi	400	424	4:01	399	10:07	0.0	0.0	6.6	0.0	6.6
Hissar	400	421	4:04	398	9:18	0.0	0.0	0.0	0.0	0.0
Moga	400	421	0:23	399	9:20	0.0	0.0	1.5	0.0	1.5
Abdullapur	400	426	2:56	406	9:18	0.0	0.0	25.0	0.0	25.0
Nalagarh	400	430	20:45	408	9:22	0.0	0.0	46.5	0.0	46.5
Kishenpur	400	425	12:05	397	9:19	0.0	0.0	2.2	0.0	2.2
Wagoora	400	422	12:05	361	16:17	25.4	74.7	0.2	0.0	25.5
Amritsar	400	430	0:24	400	9:20	0.0	0.0	36.5	0.0	36.5
Kashipur	400	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Hamirpur	400	424	21:20	404	11:02	0.0	0.0	2.8	0.0	2.8
Rishikesh	400	421	0:24	397	14:39	0.0	0.0	1.2	0.0	1.2

**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	777	0:26	742	6:41	0.0	0.0	0.0	0.0	0.0
Balia	765	792	0:24	760	17:42	0.0	0.0	0.0	0.0	0.0
Moga	765	802	0:24	758	9:17	0.0	0.0	0.3	0.0	0.3

Agra	765	789	0:23	755	6:42	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	808	2:56	773	9:12	0.0	0.0	19.0	0.0	19.0
Unnao	765	777	1:15	745	17:55	0.0	0.0	0.0	0.0	0.0
Lucknow	765	797	23:46	771	17:42	0.0	0.0	0.0	0.0	0.0
Meerut	765	805	20:59	761	6:40	0.0	0.0	5.7	0.0	5.7
Jhatikara	765	808	3:00	770	9:17	0.0	0.0	19.0	0.0	19.0
Bareilly 765 kV	765	796	0:25	760	9:06	0.0	0.0	0.0	0.0	0.0
Anta	765	800	3:59	773	9:13	0.0	0.0	0.0	0.0	0.0
Phagi	765	804	3:59	756	6:31	0.0	0.0	2.0	0.0	2.0

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	489.21	709.72	501.67	1166.44	153.76	436.11
Pong	426.72	384.05	408.58	444.61	411.77	555.85	52.53	317.83
Tehri	829.79	740.04	809.95	801.29	804.20	688.95	44.37	195.00
Koteshwar	612.50	598.50	610.39	4.72	610.49	4.83	195.00	196.87
Chamera-I	760.00	748.75	0.00	0.00	0.00	0.00	39.29	41.93
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	505.49	2.42	499.19	2.84	54.30	103.30

\* 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	3	0	-705	0	0	-20.91	0.27	-20.65
Delhi	-183	-305	0	-273	-31	0	-5.72	-0.89	-6.61
Haryana	-974	310	0	-659	252	0	-18.48	6.62	-11.86
HP	519	69	0	404	-19	0	12.77	-1.48	11.29
J&K	610	175	0	605	306	0	14.45	4.80	19.25
CHD	0	0	0	0	0	0	0.00	0.14	0.14
Rajasthan	-7	403	0	-7	369	0	6.74	9.44	16.17
UP	125	0	0	-95	-100	0	-6.87	-1.49	-8.36
Uttarakhand	225	57	0	225	158	0	5.56	2.54	8.11
<b>Total</b>	<b>-308</b>	<b>712</b>	<b>0</b>	<b>-506</b>	<b>935</b>	<b>0</b>	<b>-12.47</b>	<b>19.95</b>	<b>7.48</b>

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-618	-1256	97	-97	0	0
Delhi	-137	-363	273	-317	0	0
Haryana	-659	-996	311	57	0	0
HP	662	379	69	-595	0	0
J&K	610	592	412	-124	0	0
CHD	0	0	34	-31	0	0
Rajasthan	684	-7	710	145	0	0
UP	166	-806	0	-100	0	0
Uttarakhand	257	225	304	-74	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	1.74%
ER	0.00%
Simultaneous	1.39%

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

WR	5.21%
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	2	14
Haryana	3	17
Rajasthan	2	18
Delhi	1	21
UP	1	21
Uttarakhand	1	15
HP	1	20
J & K	3	47
Chandigarh	3	30

**XIII. System Constraints:**

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

**XV. Weather Conditions For 27.12.2016 :**

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

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

Rajpura(thermal)-Dhuri 1 400kV line LILO at Rajpura(s/s) and Rajpura (thermal)-Rajpura section first time charged at 14.52 on 27-12-2016

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 : 27.12.2016

पारी प्रभारी अभियंता / SHIFT CHARGE ENGINEER