

# 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 30.12.2016

Date of Reporting : 31.12.2016



### 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
41422	893	42315	50.05	28209	370	28579	50.06	842.65	14.06

\* 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	53.18	9.07	1.42	63.66	35.07	35.70	0.63	99.35	3.10
Haryana	33.16	0.25	0.00	33.41	76.57	74.58	-1.98	108.00	0.15
Rajasthan	122.76	5.37	7.42	135.55	70.47	70.40	-0.07	205.95	0.00
Delhi	12.32		0.00	12.32	49.22	50.51	1.29	62.83	0.04
UP	167.10	7.37	0.00	174.47	91.44	91.44	0.00	265.91	10.76
Uttarakhand		9.07	0.00	14.27	17.14	18.42	1.29	32.70	0.00
HP		4.89	1.07	4.89	21.40	21.90	0.50	26.79	0.00
J & K		4.14	0.00	4.14	39.11	33.41	-5.71	37.55	0.00
Chandigarh				0.00	3.77	3.57	-0.20	3.57	0.00
<b>Total</b>	<b>388.52</b>	<b>40.15</b>	<b>9.90</b>	<b>442.71</b>	<b>404.18</b>	<b>399.94</b>	<b>-4.24</b>	<b>842.65</b>	<b>14.06</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	5286	0	-15	-705	3002	0	-100	-621	5286	19:00	0
Haryana	5837	471	65	-436	3016	0	54	-700	5837	19:00	471
Rajasthan	9745	0	-20	343	7883	0	121	385	9745	19:00	0
Delhi	3176	0	45	-151	1386	5	19	-378	3801	11:00	0
UP	12525	0	0	239	9531	0	0	105	12525	19:00	0
Uttarakhand	1726	0	146	196	1071	0	72	158	1796	8:00	0
HP	1260	0	43	390	770	0	-32	596	1408	8:00	0
J&K	1686	421	-287	862	1459	365	-98	785	1769	7:00	442
Chandigarh	181	0	-47	0	92	0	1	0	218	9:00	0
<b>Total</b>	<b>41422</b>	<b>893</b>	<b>-70</b>	<b>739</b>	<b>28209</b>	<b>370</b>	<b>37</b>	<b>329</b>	<b>41422</b>	<b>19:00</b>	<b>893</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	1864	2013	1674	44.09	1837	43.26	0.83
Rihand I STPS (2*500)	1000	838	921	667	18.82	784	18.68	0.13
Rihand II STPS (2*500)	1000	950	1013	776	21.70	904	21.23	0.48
Rihand III STPS (2*500)	1000	752	1002	396	17.56	732	17.28	0.28
Dadri I STPS (4*210)	840	815	210	165	4.36	182	4.51	-0.14
Dadri II STPS (2*490)	980	980	460	353	10.15	423	10.73	-0.59
Unchahar I TPS (2*210)	420	406	417	292	8.30	346	8.72	-0.42
Unchahar II TPS (2*210)	420	405	424	294	8.17	340	8.53	-0.36
Unchahar III TPS (1*210)	210	203	182	137	3.93	164	4.24	-0.31
ISTPP (Jhajjar) (3*500)	1500	1440	795	619	16.98	707	17.44	-0.46
Dadri GPS (4*130.19+2*154.51)	830	732	272	238	6.23	259	6.70	-0.48
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	637	0	0	0.00	0	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	0.02	1	0.02	0.00
Singrauli Solar(15)	15	2	0	0	0.03	1	0.05	-0.02
KHEP(4*200)	800	870	860	0	2.66	111	2.61	0.05
<b>Sub Total (A)</b>	<b>12112</b>	<b>11311</b>	<b>8569</b>	<b>5611</b>	<b>163</b>	<b>6792</b>	<b>164</b>	<b>-1.02</b>
<b>B. NPC</b>								
NAPS (2*220)	440	415	460	455	10.07	420	9.96	0.11
RAPS- B (2*220)	440	386	427	428	9.21	384	9.26	-0.06
RAPS- C (2*220)	440	220	236	240	5.01	209	5.28	-0.27
<b>Sub Total (B)</b>	<b>1320</b>	<b>1021</b>	<b>1123</b>	<b>1123</b>	<b>24.29</b>	<b>1012</b>	<b>24.50</b>	<b>-0.22</b>
<b>C. NHPC</b>								
Chamera I HPS (3*180)	540	360	369	0	1.61	67	1.40	0.21
Chamera II HPS (3*100)	300	201	206	0	1.07	45	0.95	0.12
Chamera III HPS (3*77)	231	167	75	0	0.54	22	0.50	0.04
Bairasuli HPS(3*60)	180	120	121	0	0.48	20	0.45	0.04
Salal-HPS (6*115)	690	78	230	35	2.43	101	1.86	0.57
Tanakpur-HPS (3*31.4)	94	21	32	22	0.66	27	0.51	0.15
Uri-I HPS (4*120)	480	74	111	40	1.94	81	1.77	0.17
Uri-II HPS (4*60)	240	48	121	40	1.22	51	1.16	0.06
Dhauliganga-HPS (4*70)	280	280	282	0	0.92	38	0.88	0.04
Dulhasti-HPS (3*130)	390	387	396	0	3.66	153	3.50	0.16
Sewa-II HPS (3*40)	120	79	18	0	0.19	8	0.21	-0.02
Parbati 3 (4*130)	520	130	133	0	0.37	16	0.34	0.03
<b>Sub Total (C)</b>	<b>4065</b>	<b>1944</b>	<b>2093</b>	<b>137</b>	<b>15</b>	<b>629</b>	<b>14</b>	<b>1.58</b>
<b>D.SJVNL</b>								
NJPC (6*250)	1500	1615	1618	0	6.72	280	6.60	0.12
Rampur HEP (6*88.67)	412	375	375	0	1.85	77	1.79	0.06
<b>Sub Total (D)</b>	<b>1912</b>	<b>1990</b>	<b>1993</b>	<b>0</b>	<b>8.57</b>	<b>357</b>	<b>8.39</b>	<b>0.19</b>
<b>E. THDC</b>								
Tehri HPS (4*250)	1000	1027	85	0	8.49	354	8.27	0.22
Koteshwar HPS (4*100)	400	122	391	70	3.06	128	2.94	0.13
<b>Sub Total (E)</b>	<b>1400</b>	<b>1149</b>	<b>476</b>	<b>70</b>	<b>11.55</b>	<b>481</b>	<b>11.21</b>	<b>0.34</b>
<b>F. BBMB</b>								
Bhakra HPS (2*108+3*126+5*157)	1379	581	939	394	14.26	594	13.93	0.33
Dehar HPS (6*165)	990	134	165	0	3.30	138	3.21	0.10
Pong HPS (6*66)	396	190	330	0	4.56	190	4.55	0.00
<b>Sub Total (F)</b>	<b>2765</b>	<b>904</b>	<b>1434</b>	<b>394</b>	<b>22.12</b>	<b>922</b>	<b>21.69</b>	<b>0.42</b>
<b>G. IPP(s)/JV(s)</b>								
ALLAIN DUHANGAN HPS(IPP) (2*96)	192	0	0	0	0.41	17	0.39	0.02
KARCHAM WANGTOO HPS(IPP) (4*250)	1000	0	630	0	3.60	150	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	-2	-1	0.05	2	0.00	0.05
Budhil HPS(IPP) (2*35)	70	0	0	0	0.15	6	0.15	0.00
<b>Sub Total (G)</b>	<b>1662</b>	<b>0</b>	<b>628</b>	<b>-1</b>	<b>4.21</b>	<b>175</b>	<b>4.10</b>	<b>0.11</b>
<b>H. Total Regional Entities (A-G)</b>	<b>25237</b>	<b>18319</b>	<b>16317</b>	<b>7334</b>	<b>248.84</b>	<b>10368</b>	<b>247.43</b>	<b>1.41</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	4.04	168
	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	4.95	206
	Goidwal(GVK) (2*270)	540	0	0	0.02	1

	Rajpura (2*700)	1400	1220	660	25.68	1070
	Talwandi Saboo (3*660)	1980	727	616	18.46	769
	<b>Thermal (Total)</b>	<b>6560</b>	<b>2311</b>	<b>1641</b>	<b>53.18</b>	<b>2216</b>
	Total Hydro	1000	433	249	9.07	378
	Wind Power	0	0	0	0.00	0
	Biomass	288	0	0	1.21	51
	Solar	560	0	0	0.20	8
	<b>Renewable(Total)</b>	<b>848</b>	<b>0</b>	<b>0</b>	<b>1.42</b>	<b>59</b>
	<b>Total Punjab</b>	<b>8408</b>	<b>2744</b>	<b>1890</b>	<b>63.66</b>	<b>2652</b>
Haryana	Panipat TPS (2*210+2*250)	920	453	407	10.38	432
	DCRTPP (Yamuna nagar) (2*300)	600	269	231	5.98	249
	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	745	738	16.80	700
	<b>Thermal (Total)</b>	<b>4497</b>	<b>1467</b>	<b>1376</b>	<b>33.16</b>	<b>1382</b>
	Total Hydro	62	13	6	0.25	10
	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>1480</b>	<b>1382</b>	<b>33.41</b>	<b>1392</b>
Rajasthan	kota TPS (2*110+2*195+3*210)	1240	1141	979	24.85	1035
	suratgarh TPS (6*250)	1500	438	397	9.70	404
	Chabra TPS (4*250)	1000	934	861	20.68	862
	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	136	74	3.08	128
	RAPS A (NPC) (1*100+1*200)	300	170	172	4.25	177
	Barsingar (NLC) (2*125)	250	226	225	5.32	222
	Giral LTPS (2*125)	250	0	0	0.00	0
	Rajwst LTPS (IPP) (8*135)	1080	824	772	17.31	721
	VS LIGNITE LTPS (IPP) (1*135)	135	0	0	0.00	0
	Kalisindh Thermal(2*600)	1200	1136	984	23.35	973
	Kawai(Adani) (2*660)	1320	618	622	14.24	593
	<b>Thermal (Total)</b>	<b>8876</b>	<b>5623</b>	<b>5086</b>	<b>122.76</b>	<b>5115</b>
	Total Hydro	550	278	196	5.37	224
	Wind power	4017	272	152	4.76	198
	Biomass	99	6	6	0.15	6
	Solar	1295	5	0	2.51	104
	Renewable/Others (Total)	5411	283	158	7.42	309
	<b>Total Rajasthan</b>	<b>14837</b>	<b>6184</b>	<b>5440</b>	<b>135.55</b>	<b>5648</b>
UP	Anpara TPS (3*210+2*500)	1630	1307	1247	30.60	1275
	Obra TPS (2*50+2*94+5*200)	1194	460	424	11.20	467
	Paricha TPS (2*110+2*220+2*250)	1160	927	652	20.00	833
	Panki TPS (2*105)	210	126	135	3.00	125
	Harduaqanj TPS (1*60+1*105+2*250)	665	536	406	12.00	500
	Tanda TPS (NTPC) (4*110)	440	287	280	7.16	298
	Roza TPS (IPP) (4*300)	1200	1116	749	24.52	1022
	Anpara-C (IPP) (2*600)	1200	1085	630	24.31	1013
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	242	223	6.29	262
	Anpara-D(2*500)	1000	182	293	5.00	209
	Lalitpur TPS(3*660)	1980	0	229	3.82	159
	Bara(2*660)	1320	0	0	0.00	0
	<b>Thermal (Total)</b>	<b>12449</b>	<b>6268</b>	<b>5268</b>	<b>147.90</b>	<b>6162</b>
	Vishnuparyag HPS (IPP)(4*110)	440	83	78	1.99	83
	Alakanada(4*82.5)	330	76	0	1.30	54
	Other Hydro	527	237	91	4.08	170
	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>7464</b>	<b>6237</b>	<b>174.47</b>	<b>7270</b>	
Uttarakhand	Other Hydro	1250	529	287	9.07	378
	Total Gas	225	191	259	5.17	215
	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>720</b>	<b>546</b>	<b>14.27</b>	<b>595</b>
Delhi	Rajghat TPS (2*67.5)	135	0	0	0.00	0
	Delhi Gas Turbine (6x30 + 3x34)	282	71	70	1.93	80
	Pragati Gas Turbine (2x104+ 1x122)	330	161	163	3.92	163
	Rithala GPS (3*36)	95	0	0	0.00	0
	Bawana GPS (4*216+2*253)	1370	245	280	6.47	270
	Badarpur TPS (NTPC) (3*95+2*210)	705	0	0	0.00	0
	<b>Thermal (Total)</b>	<b>2917</b>	<b>477</b>	<b>513</b>	<b>12.32</b>	<b>513</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>477</b>	<b>513</b>	<b>12.32</b>	<b>513</b>
	HP	Baspa HPS (IPP) (3*100)	300	0	0	1.02
Malana HPS (IPP) (2*43)		86	0	0	0.23	10
Other Hydro		372	149	67	2.57	107
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	39	1.07	45
<b>Renewable(Total)</b>		<b>486</b>	<b>54</b>	<b>39</b>	<b>1.07</b>	<b>45</b>
<b>Total HP</b>		<b>1244</b>	<b>204</b>	<b>106</b>	<b>4.89</b>	<b>204</b>
J & K		Baqilhar HPS (IPP) (3*150+3*150)	900	147	127	3.15
	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>173</b>	

Total State Control Area Generation	50078	19501	16262	442.71	18446
J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]		8819	8401	203.09	8462
<b>Total Regional Availability(Gross)</b>	<b>75315</b>	<b>44637</b>	<b>31997</b>	<b>894.64</b>	<b>37277</b>

**IV. Total Hydro Generation:**

Regional Entities Hydro	12234	7486	601	64.02	2667
State Control Area Hydro	7163	2272	1420	40.15	1890
<b>Total Regional Hydro</b>	<b>19397</b>	<b>9758</b>	<b>2021</b>	<b>104.17</b>	<b>4557</b>

**V. Total Renewable Generation:**

Regional Entities Renewable	30	0	0	0.05	2
State Control Area Renewable	7356	337	197	9.94	414
<b>Total Regional Renewable</b>	<b>7386</b>	<b>337</b>	<b>197</b>	<b>9.99</b>	<b>416</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)	-300	-200	50	500	0.17	5.49	-5.33
765 KV Gwalior-Agra (D/C)	2396	2125	2966	0	57.58	0.00	57.58
400 KV Zerda-Kankroli	-8	-163	42	174	0.00	1.84	-1.84
400 KV Zerda-Bhimnal	84	15	194	100	1.13	0.00	1.13
220 KV Auraiya-Malanpur	-50	-40	0	125	0.00	1.38	-1.38
220 KV Badod-Kota/Morak	-54	-81	0	98	0.00	1.53	-1.53
Mundra-Mohinderghar(HVDC Bipole)	2504	1598	2515	0.00	53.07	0.00	53.07
400 KV RAPPCC-Sujalpur	360	293	430	0	8.49	0.00	8.49
400 KV Vindhychal-Rihand	0	0	0	0	0.00	0.00	0.00
765 kV Phagi-Gwalior (D/C)	1161	1197	1558	0	33.31	0.00	33.31
<b>Sub Total WR</b>	<b>6093</b>	<b>4744</b>			<b>153.74</b>	<b>10.25</b>	<b>143.49</b>
400 kV Sasaram - Varanasi	-75	-36	0	87	0.00	1.54	-1.54
400 kV Sasaram - Allahabad	-128	-67	0	128	0.00	2.40	-2.40
400 KV MZP- GKP (D/C)	116	492	492	0	7.22	0.00	7.22
400 KV Patna-Balia(D/C) X 2	758	765	909	0	18.57	0.00	18.57
400 KV B'Sharif-Balia (D/C)	118	155	300	0	5.24	0.00	5.24
765 KV Gaya-Balia	217	301	330	0	6.68	0.00	6.68
765 KV Gaya-Varanasi (D/C)	447	605	729	0	14.93	0.00	14.93
220 KV Pusaali-Sahupuri	129	94	149	0	2.56	0.00	2.56
132 KV K'nasa-Sahupuri	0	0	0	0	0.00	0.51	-0.51
132 KV Son Ngr-Rihand	-20	-22	0	44	0.00	-0.90	0.90
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	71	180	252	0	4.08	0.00	4.08
400 KV Barh -GKP (D/C)	528	494	600	0	11.98	0.00	11.98
400 kV B'Sharif - Varanasi (D/C)	65	196	246	0	3.93	0.00	3.93
<b>Sub Total ER</b>	<b>2226</b>	<b>3157</b>			<b>75.20</b>	<b>3.55</b>	<b>71.65</b>
+/- 800 KV BiswanathChariali-Agra	500	500	0	500.00	0.00	12.05	-12.05
<b>Sub Total NER</b>	<b>500</b>	<b>500</b>			<b>0.00</b>	<b>12.05</b>	<b>-12.05</b>
<b>Total IR Exch</b>	<b>8819</b>	<b>8401</b>			<b>228.94</b>	<b>25.85</b>	<b>203.09</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
47.06	0.94	48.00	-0.62	-10.43	22.49	7.64	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
69.87	122.52	192.39	59.60	143.49	203.09	-10.27	20.97	10.70

**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	-29	-30	0	28	0	1	-0.73

**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	1.40	22.29	65.96	61.92	11.20	4.32	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	5:02	49.73	10:18	49.97	0.074	50.09	49.83	38.08	

**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	2:48	402	15:36	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	420	3:01	404	18:25	0.0	0.0	0.0	0.0	0.0
Bareilly(PG)400kV	400	422	1:01	390	16:05	0.0	0.0	8.2	0.0	8.2
Kanpur	400	418	0:51	401	10:04	0.0	0.0	0.0	0.0	0.0
Dadri	400	428	2:58	405	12:17	0.0	0.0	33.0	0.0	33.0
Ballabgarh	400	431	3:49	408	12:16	0.0	0.0	46.9	0.7	46.9
Bawana	400	425	1:13	402	12:18	0.0	0.0	27.1	0.0	27.1
Bassi	400	424	4:00	394	12:17	0.0	0.0	5.2	0.0	5.2
Hissar	400	422	4:00	398	12:19	0.0	0.0	1.0	0.0	1.0
Moga	400	420	0:52	403	12:19	0.0	0.0	0.0	0.0	0.0
Abdullapur	400	426	3:01	408	12:21	0.0	0.0	32.1	0.0	32.1
Nalagarh	400	429	22:04	414	16:18	0.0	0.0	52.2	0.0	52.2
Kishenpur	400	416	0:28	396	16:41	0.0	0.0	0.0	0.0	0.0
Wagoora	400	390	21:47	367	18:20	54.0	99.9	0.0	0.0	54.0
Amritsar	400	426	3:01	408	16:13	0.0	0.0	34.3	0.0	34.3
Kashipur	400	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Hamirpur	400	422	0:59	409	17:51	0.0	0.0	2.2	0.0	2.2
Rishikesh	400	422	0:50	398	10:05	0.0	0.0	8.0	0.0	8.0

**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	777	3:02	744	10:04	0.0	0.0	0.0	0.0	0.0
Balia	765	789	1:06	760	10:05	0.0	0.0	0.0	0.0	0.0
Moga	765	801	1:05	766	12:19	0.0	0.0	0.4	0.0	0.4

Agra	765	790	4:01	752	10:18	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	805	3:40	770	12:13	0.0	0.0	23.0	0.0	23.0
Unnao	765	775	3:48	740	10:04	0.0	0.7	0.0	0.0	0.0
Lucknow	765	803	3:49	769	10:05	0.0	0.0	6.7	0.0	6.7
Meerut	765	810	21:57	766	12:20	0.0	0.0	13.2	0.0	13.2
Jhatikara	765	805	0:59	764	12:19	0.0	0.0	13.5	0.0	13.5
Bareilly 765 kV	765	797	3:49	761	10:06	0.0	0.0	0.0	0.0	0.0
Anta	765	792	3:14	757	16:06	0.0	0.0	0.0	0.0	0.0
Phagi	765	799	3:20	758	12:22	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	488.57	690.35	501.12	1140.31	163.56	445.90
Pong	426.72	384.05	408.19	435.19	411.34	544.90	50.80	304.18
Tehri	829.79	740.04	808.80	778.88	802.95	665.65	40.52	199.00
Koteshwar	612.50	598.50	610.23	4.69	610.40	4.69	199.00	201.58
Chamera-I	760.00	748.75	759.68	0.00	0.00	0.00	41.30	43.06
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	504.96	2.35	498.24	4.47	35.76	144.16

\* 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	0	0	-22.92	0.07	-22.85
Delhi	-184	-194	0	-274	124	0	-5.75	2.75	-2.99
Haryana	-953	252	0	-656	220	0	-17.90	5.78	-12.13
HP	520	76	0	405	-14	0	12.73	-1.24	11.49
J&K	610	175	0	605	257	0	14.45	5.39	19.84
CHD	0	0	0	0	0	0	0.00	0.31	0.31
Rajasthan	-7	393	0	-7	351	0	8.59	10.93	19.52
UP	105	0	0	-137	377	0	-7.67	3.82	-3.85
Uttarakhand	120	38	0	120	76	0	3.00	2.76	5.77
<b>Total</b>	<b>-412</b>	<b>741</b>	<b>0</b>	<b>-651</b>	<b>1390</b>	<b>0</b>	<b>-15.47</b>	<b>30.57</b>	<b>15.10</b>

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-618	-1457	97	-280	0	0
Delhi	-139	-364	648	-380	0	0
Haryana	-621	-965	457	123	0	0
HP	663	381	76	-567	0	0
J&K	610	592	403	-118	0	0
CHD	0	0	39	-14	0	0
Rajasthan	869	-7	850	285	0	0
UP	123	-848	427	-100	0	0
Uttarakhand	151	120	324	-96	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	6.25%
ER	0.00%
Simultaneous	1.04%

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

WR	12.85%
ER	1.39%
Simultaneous	17.36%

(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	0	12
Haryana	1	14
Rajasthan	1	13
Delhi	5	40
UP	1	23
Uttarakhand	2	26
HP	2	21
J & K	3	30
Chandigarh	3	31

**XIII. System Constraints:**

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

**XV. Weather Conditions For 30.12.2016 :**

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

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

1. First time charging of 400 KV, 125 MVAR Bus Reactor-2 through 413 Main bay on 400 KV Bus-1 at Jaipur South has been successfully commissioned at 20:14 Hr on 30.12.2016.
2. First time ac filter-2 at Krukshetra at 1800Hrs on 30.12.2016

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 : 30.12.2016

पारी प्रभारी अभियंता / SHIFT CHARGE ENGINEER