

# पॉवर सिस्टम ऑपरेशन कार्पोरेशन लिमिटेड

(पारंपरिक की पूर्ण स्वामित्व प्राप्त सहायक कंपनी)

## उत्तरी क्षेत्रीय भार प्रेषण केंद्र

CIN: U40105DL2009GOI188682

Power Supply Position in Northern Region for 16.10.2016

Date of Reporting : 17.10.2016



### 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
40169	446	40615	50.10	36424	296	36720	50.10	887.9	8.39

\* 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	54.62	11.16		65.90	58.76	58.87	0.11	124.77	0.00
Haryana	34.67	0.72		35.40	92.98	92.02	-0.96	127.42	0.00
Rajasthan	110.85	2.27	7.97	121.09	63.27	66.69	3.42	187.78	0.00
Delhi	19.19			19.19	54.81	53.83	-0.98	73.01	0.01
UP	150.41	17.66		168.07	113.90	111.03	-2.87	279.10	0.00
Uttarakhand		9.52		15.74	17.36	16.98	-0.39	32.72	0.00
HP		13.85		13.85	13.58	12.41	-1.17	26.26	0.00
J & K		10.77	0.00	10.77	27.34	22.76	-4.58	33.53	8.38
Chandigarh				0.00	3.67	3.31	-0.36	3.31	0.00
<b>Total</b>	<b>369.73</b>	<b>65.95</b>	<b>7.97</b>	<b>450.00</b>	<b>445.66</b>	<b>437.89</b>	<b>-7.76</b>	<b>887.89</b>	<b>8.39</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	5425	0	-91	-101	4677	0	73	-101	5434	20:00	0
Haryana	6602	0	-216	625	4618	0	-93	544	6734	20:00	0
Rajasthan	7917	0	250	595	7994	0	56	653	8461	8:00	0
Delhi	3418	0	-175	74	2827	0	52	-103	3583	20:00	0
UP	12101	0	-487	370	12926	0	34	1596	12926	3:00	0
Uttarakhand	1698	0	22	90	1300	0	17	198	1698	19:00	0
HP	1046	0	-111	-331	778	0	31	74	1152	8:00	0
J&K	1786	446	6	195	1185	296	-128	160	1786	19:00	446
Chandigarh	176	0	-58	-25	119	0	-6	0	176	19:00	0
<b>Total</b>	<b>40169</b>	<b>446</b>	<b>-859</b>	<b>1494</b>	<b>36424</b>	<b>296</b>	<b>36</b>	<b>3022</b>	<b>41019</b>	<b>20:00</b>	<b>430</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	1833	1999	1995	42.21	1759	41.92	0.29
Rihand I STPS (2*500)	1000	943	886	967	20.50	854	20.56	-0.07
Rihand II STPS (2*500)	1000	951	809	968	20.50	854	20.28	0.22
Rihand III STPS (2*500)	1000	472	437	494	10.26	428	10.14	0.13
Dadri I STPS (4*210)	840	815	319	326	7.07	295	7.30	-0.23
Dadri II STPS (2*490)	980	970	689	693	15.80	659	16.47	-0.67
Unchahar I TPS (2*210)	420	153	128	132	2.87	120	2.92	-0.05
Unchahar II TPS (2*210)	420	400	260	288	6.20	258	6.87	-0.67
Unchahar III TPS (1*210)	210	200	130	148	3.13	130	3.44	-0.31
ISTPP (Jhajjar) (3*500)	1500	1425	313	333	7.22	301	7.35	-0.13
Dadri GPS (4*130.19+2*154.51)	830	784	263	334	6.74	281	7.17	-0.43
Anta GPS (3*88.71+1*153.2)	419	384	341	335	8.11	338	8.19	-0.09
Auraiya GPS (4*111.19+2*109.30)	663	623	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	0.00	0	0.05	-0.05
Singrauli Solar(15)	15	2	0	0	0.06	3	0.06	0.00
KHEP(4*200)	800	858	860	0	5.46	228	5.00	0.46
<b>Sub Total (A)</b>	<b>12112</b>	<b>10816</b>	<b>7434</b>	<b>7013</b>	<b>156</b>	<b>6507</b>	<b>158</b>	<b>-1.58</b>
<b>B. NPC</b>								
NAPS (2*220)	440	189	210	210	4.50	187	4.54	-0.04
RAPS- B (2*220)	440	380	423	427	9.20	384	9.12	0.08
RAPS- C (2*220)	440	29	0	0	0.00	0	0.70	-0.70
<b>Sub Total (B)</b>	<b>1320</b>	<b>598</b>	<b>633</b>	<b>637</b>	<b>13.70</b>	<b>571</b>	<b>14.36</b>	<b>-0.66</b>
<b>C. NHPC</b>								
Chamera I HPS (3*180)	540	540	548	0	2.13	89	2.00	0.13
Chamera II HPS (3*100)	300	301	310	0	2.55	106	2.45	0.10
Chamera III HPS (3*77)	231	231	230	0	1.54	64	1.45	0.09
Bairasuli HPS(3*60)	180	179	180	0	0.96	40	0.90	0.06
Salal-HPS (6*115)	690	225	345	204	6.29	262	5.41	0.88
Tanakpur-HPS (3*31.4)	94	54	63	64	1.52	64	1.30	0.22
Uri-I HPS (4*120)	480	95	245	73	2.64	110	2.28	0.36
Uri-II HPS (4*60)	240	66	79	38	1.58	66	1.58	0.00
Dhauliganga-HPS (4*70)	280	277	282	0	2.08	86	2.03	0.05
Dulhasti-HPS (3*130)	390	383	396	135	6.62	276	6.50	0.12
Sewa-II HPS (3*40)	120	119	117	0	0.34	14	0.36	-0.02
Parbati 3 (4*130)	520	303	344	0	0.95	40	0.91	0.04
<b>Sub Total (C)</b>	<b>4065</b>	<b>2772</b>	<b>3138</b>	<b>514</b>	<b>29</b>	<b>1217</b>	<b>27</b>	<b>2.04</b>
<b>D.SJVNL</b>								
NJPC (6*250)	1500	1605	1604	0	13.08	545	13.00	0.08
Rampur HEP (6*88.67)	412	442	443	0	3.74	156	3.63	0.12
<b>Sub Total (D)</b>	<b>1912</b>	<b>2047</b>	<b>2047</b>	<b>0</b>	<b>16.82</b>	<b>701</b>	<b>16.63</b>	<b>0.19</b>
<b>E. THDC</b>								
Tehri HPS (4*250)	1000	1071	1063	0	5.80	241	5.60	0.20
Koteshwar HPS (4*100)	400	75	101	71	1.81	76	1.80	0.01
<b>Sub Total (E)</b>	<b>1400</b>	<b>1146</b>	<b>1164</b>	<b>71</b>	<b>7.61</b>	<b>317</b>	<b>7.40</b>	<b>0.21</b>
<b>F. BBMB</b>								
Bhakra HPS (2*108+3*126+5*157)	1379	748	1070	679	18.34	764	17.95	0.38
Dehar HPS (6*165)	990	240	660	165	5.92	247	5.76	0.16
Pong HPS (6*66)	396	178	330	132	4.33	181	4.27	0.06
<b>Sub Total (F)</b>	<b>2765</b>	<b>1166</b>	<b>2060</b>	<b>976</b>	<b>28.59</b>	<b>1191</b>	<b>27.99</b>	<b>0.60</b>
<b>G. IPP(s)/JV(s)</b>								
ALLAIN DUHANGAN HPS(IPP) (2*96)	192	0	124	0	0.92	38	0.94	-0.02
KARCHAM WANGTOO HPS(IPP) (4*250)	1000	0	810	0	6.87	286	6.87	0.00
Malana Stg-II HPS (2*50)	100	0	96	0	0.73	31	0.69	0.05
Shree Cement TPS (2*150)	300	0	75	73	1.79	75	1.81	-0.02
Budhil HPS(IPP) (2*35)	70	0	25	25	0.44	18	0.41	0.02
<b>Sub Total (G)</b>	<b>1662</b>	<b>0</b>	<b>1131</b>	<b>98</b>	<b>10.76</b>	<b>448</b>	<b>10.72</b>	<b>0.03</b>
<b>H. Total Regional Entities (A-G)</b>	<b>25237</b>	<b>18546</b>	<b>17606</b>	<b>9309</b>	<b>262.84</b>	<b>10952</b>	<b>262.00</b>	<b>0.84</b>

I. State Entities	Station	Effective Installed Capacity (MW)	Peak MW	Off Peak MW	Energy(MU)	Average(Sent out MW)
Punjab	Guru Gobind Singh TPS (Ropar) (6*210)	1260	160	160	3.52	146
	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	0	205	0.99	41
	Goindwal(GVK) (2*270)	540	0	0	-0.03	-1
	Rajpura (2*700)	1400	1170	1320	29.56	1231
	Talwandi Saboo (3*660)	1980	616	616	20.60	859
	<b>Thermal (Total)</b>	<b>6560</b>	<b>1946</b>	<b>2301</b>	<b>54.62</b>	<b>2276</b>
	Total Hydro	1000	441	475	11.16	465
	Wind Power	0	0	0	0.00	0
	Biomass	288	2	2	0.06	2
	Solar	560	3	3	0.07	3
	<b>Renewable(Total)</b>	<b>848</b>	<b>5</b>	<b>5</b>	<b>0.13</b>	<b>5</b>
	<b>Total Punjab</b>	<b>8408</b>	<b>2392</b>	<b>2781</b>	<b>65.90</b>	<b>2746</b>
	Haryana	Panipat TPS (2*210+2*250)	920	201	201	4.86
DCRTPP (Yamuna nagar) (2*300)		600	557	468	11.38	474
Faridabad GPS (NTPC)(2*137.75+1*1156)		432	0	0	0.00	0
RGTPP (khedar) (IPP) (2*600)		1200	779	783	18.43	768
Magnum Diesel (IPP)		25	0	0	0.00	0
Jhajjar(CLP) (2*660)		1320	0	0	0.00	0
<b>Thermal (Total)</b>		<b>4497</b>	<b>1537</b>	<b>1452</b>	<b>34.67</b>	<b>1445</b>
Total Hydro		62	32	36	0.72	30
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>1569</b>	<b>1488</b>	<b>35.40</b>	<b>1475</b>
Rajasthan		kota TPS (2*110+2*195+3*210)	1240	1064	1124	25.68
	suratgarh TPS (6*250)	1500	206	220	4.60	192
	Chabra TPS (4*250)	1000	602	706	16.72	697
	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	110	120	2.82	117
	RAPS A (NPC) (1*100+1*200)	300	0	0	0.00	0
	Barsingar (NLC) (2*125)	250	226	228	5.34	223
	Giral LTPS (2*125)	250	0	0	0.00	0
	Rajwest LTPS (IPP) (8*135)	1080	550	812	16.47	686
	VS LIGNITE LTPS (IPP) (1*135)	135	0	0	0.00	0
	Kalisindh Thermal(2*600)	1200	420	532	11.21	467
	Kawai(Adani) (2*660)	1320	1016	1210	28.02	1168
	<b>Thermal (Total)</b>	<b>8876</b>	<b>4194</b>	<b>4952</b>	<b>110.85</b>	<b>4619</b>
	Total Hydro	550	95	114	2.27	95
	Wind power	4017	140	250	4.49	187
	Biomass	99	22	22	0.53	22
	Solar	1295	0	0	2.95	123
	Renewable/Others (Total)	5411	162	272	7.97	332
	<b>Total Rajasthan</b>	<b>14837</b>	<b>4451</b>	<b>5338</b>	<b>121.09</b>	<b>5046</b>
UP	Anpara TPS (3*210+2*500)	1630	582	563	13.43	560
	Obra TPS (2*50+2*94+5*200)	1194	120	128	2.95	123
	Paricha TPS (2*110+2*220+2*250)	1160	661	876	18.93	789
	Panki TPS (2*105)	210	135	135	3.38	141
	Harduaganj TPS (1*60+1*105+2*250)	665	392	525	11.73	489
	Tanda TPS (NTPC) (4*110)	440	374	350	8.84	368
	Roza TPS (IPP) (4*300)	1200	945	954	21.93	914
	Anpara-C (IPP) (2*600)	1200	1053	1085	23.39	975
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	282	403	8.28	345
	Anpara-D(2*500)	1000	882	719	18.67	778
	Lalitpur TPS(3*660)	1980	580	580	14.65	611
	Bara(2*660)	1320	546	0	3.02	126
	<b>Thermal (Total)</b>	<b>12449</b>	<b>6552</b>	<b>6318</b>	<b>149.21</b>	<b>6217</b>
	Vishnuparyag HPS (IPP)(4*110)	440	241	236	8.28	345
	Alaknada(4*82.5)	330	84	84	3.38	141
	Other Hydro	527	263	266	6.00	250
	Cogeneration	981	50	50	1.20	50
	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>7190</b>	<b>6954</b>	<b>168.07</b>	<b>7003</b>	
Uttarakhand	Other Hydro	1250	510	365	9.52	396
	Total Gas	225	256	259	6.17	257
	Wind Power	0	0	0	0.00	0
	Biomass	127	0	0	0.00	0
	Solar	20	0	0	0.06	3
	Small Hydro (< 25 MW)	180	0	0	0.00	0
	<b>Renewable(Total)</b>	<b>327</b>	<b>0</b>	<b>0</b>	<b>0.06</b>	<b>3</b>
	<b>Total Uttarakhand</b>	<b>1802</b>	<b>766</b>	<b>624</b>	<b>15.74</b>	<b>656</b>
Delhi	Rajghat TPS (2*67.5)	135	0	0	0.00	0
	Delhi Gas Turbine (6x30 + 3x34)	282	74	75	1.87	78
	Pragati Gas Turbine (2x104+ 1x122)	330	262	152	4.10	171
	Rithala GPS (3*36)	95	0	0	0.00	0
	Bawana GPS (4*216+2*253)	1370	250	251	6.02	251
	Badarpur TPS (NTPC) (3*95+2*210)	705	325	327	7.19	300
	<b>Thermal (Total)</b>	<b>2917</b>	<b>911</b>	<b>805</b>	<b>19.19</b>	<b>799</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>911</b>	<b>805</b>	<b>19.19</b>	<b>799</b>	

HP	Baspa HPS (IPP) (3*100)	300	0	78	2.16	90
	Malana HPS (IPP) (2*43)	86	46	30	0.68	28
	Other Hydro	372	316	296	7.25	302
	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	163	154	3.78	157
	<b>Renewable(Total)</b>	<b>486</b>	<b>163</b>	<b>154</b>	<b>3.78</b>	<b>157</b>
	<b>Total HP</b>	<b>1244</b>	<b>525</b>	<b>558</b>	<b>13.85</b>	<b>577</b>
	J & K	Baglihar HPS (IPP) (3*150+3*150)	900	438	290	8.00
Other Hydro/IPP(including 98 MW Small Hydro)		308	138	93	2.77	115
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>576</b>	<b>383</b>	<b>11</b>	<b>449</b>
<b>Total State Control Area Generation</b>		<b>50078</b>	<b>18380</b>	<b>18931</b>	<b>450.00</b>	<b>18750</b>
<b>J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]</b>		<b>7573</b>	<b>8998</b>	<b>199.62</b>	<b>8317</b>	
<b>Total Regional Availability(Gross)</b>	<b>75315</b>	<b>43559</b>	<b>37238</b>	<b>912.46</b>	<b>38019</b>	

**IV. Total Hydro Generation:**

<b>Regional Entities Hydro</b>	<b>12234</b>	<b>10299</b>	<b>1560</b>	<b>96.21</b>	<b>4009</b>
<b>State Control Area Hydro</b>	<b>7163</b>	<b>3023</b>	<b>2776</b>	<b>65.95</b>	<b>3007</b>
<b>Total Regional Hydro</b>	<b>19397</b>	<b>13322</b>	<b>4336</b>	<b>162.16</b>	<b>7016</b>

**V. Total Renewable Generation:**

<b>Regional Entities Renewable</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0.09</b>	<b>4</b>
<b>State Control Area Renewable</b>	<b>7356</b>	<b>330</b>	<b>431</b>	<b>11.94</b>	<b>497</b>
<b>Total Regional Renewable</b>	<b>7386</b>	<b>330</b>	<b>431</b>	<b>12.02</b>	<b>501</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	
Vindhyhall(HVDC B/B)	-250	-250	0	250	0.00	6.02	-6.02
765 KV Gwalior-Agra (D/C)	2059	2467	2558	0	48.75	0.00	48.75
400 KV Zerda-Kankroli	194	135	198	0	2.76	0.00	2.76
400 KV Zerda-Bhinmal	231	117	251	0	3.24	0.00	3.24
220 KV Auraiya-Malanpur	-44	-19	0	79	0.00	0.96	-0.96
220 KV Badod-Kota/Morak	64	55	57	19	1.00	0.00	1.00
Mundra-Mohindergerh(HVDC Bipole)	1198	1603	2006	0.00	37.96	0.00	37.96
400 KV Vindhyachal - Rihand	0	0	0	0	0.00	0.00	0.00
765 kV Phagi-Gwalior (D/C)	1226	1266	679	0	28.39	0.00	28.39
<b>Sub Total WR</b>	<b>4678</b>	<b>5374</b>			<b>122.10</b>	<b>6.97</b>	<b>115.13</b>
Pusauli Bypass/HVDC	80	-200	150	0	2.67	0.00	2.67
400 KV MZP- GKP (D/C)	156	516	528	0	8.94	0.00	8.94
400 KV Patna-Balia(D/C) X 2	422	599	693	0	12.92	0.00	12.92
400 KV B Sharif-Balia (D/C)	50	171	291	0	3.49	0.00	3.49
765 KV Gaya-Balia	241	331	349	0	6.28	0.00	6.28
765 KV Gaya-Varanasi (D/C)	447	603	625	0	12.74	0.00	12.74
220 KV Pusauli-Sahupuri	176	162	181	0	3.57	0.00	3.57
132 KV K'nasa-Sahupuri	-32	-36	0	40	0.00	0.65	-0.65
132 KV Son Ngr-Rihand	-36	-36	0	36	0.00	0.76	-0.76
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	-4	-47	99	118	0.00	0.31	-0.31
400 KV Barh -GKP (D/C)	392	460	464	0	9.49	0.00	9.49
400 kV B Sharif - Varanasi (D/C)	42	134	188	0	2.86	0.00	2.86
<b>Sub Total ER</b>	<b>1934</b>	<b>2657</b>			<b>62.96</b>	<b>1.71</b>	<b>61.25</b>
+/- 800 KV BiswanathChariali-Agra	961	967	977	0.00	23.24	0.00	23.24
<b>Sub Total NER</b>	<b>961</b>	<b>967</b>			<b>23.24</b>	<b>0.00</b>	<b>23.24</b>
<b>Total IR Exch</b>	<b>7573</b>	<b>8998</b>			<b>208.30</b>	<b>8.69</b>	<b>199.62</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
39.22	3.62	42.85	12.42	1.44	12.20	15.67	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
67.47	130.06	197.53	84.49	115.13	199.62	17.02	-14.93	2.09

**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	-21	0	0	21	0	0	-0.08

**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	0.00	1.34	45.99	75.98	18.58	4.18	0.00	0.00

<----- Frequency (Hz) ----->				Average Frequency Hz	Frequency Variation Index	Std. Dev.	Frequency in 15 Min Block		Freq Dev Index (% of Time)
Maximum		Minimum					MAX (Hz)	MIN (Hz)	
Freq	Time	Freq	Time						
50.19	14.00	49.81	18.10	50.01	0.028	0.053	50.20	50.03	24.02

## VIII(A). Voltage profile 400 kV

Station	Voltage Level (kV)	Maximum		Minimum		Voltage (in % of Time)				Voltage Deviat
		Voltage(KV)	Time	Voltage (KV)	Time	<380 kV	<390 kV	>420 kV	>430 kV	
Rihand	400	410	7:21	404	12:17	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	421	7:08	407	13:22	0.0	0.0	0.0	0.0	0.0
Bareilly(PG)400kV	400	404	0:00	404	0:00	0.0	0.0	0.0	0.0	0.0
Kanpur	400	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Dadri	400	420	3:59	403	11:46	0.0	0.0	0.0	0.0	0.0
Ballabgarh	400	428	4:00	408	11:44	0.0	0.0	47.9	0.0	47.9
Bawana	400	423	3:59	404	11:46	0.0	0.0	8.1	0.0	8.1
Bassi	400	422	3:59	400	5:57	0.0	0.0	0.2	0.0	0.2
Hissar	400	419	3:58	400	11:45	0.0	0.0	0.0	0.0	0.0
Moga	400	421	2:55	402	11:46	0.0	0.0	0.2	0.0	0.2
Abdullapur	400	428	2:45	408	11:45	0.0	0.0	43.2	0.0	43.2
Nalagarh	400	429	2:51	409	11:41	0.0	0.0	42.4	0.0	42.4
Kishenpur	400	422	2:39	394	18:39	0.0	0.0	6.7	0.0	6.7
Wagoora	400	412	3:43	367	18:41	7.1	35.6	0.0	0.0	7.1
Amritsar	400	429	2:46	404	11:44	0.0	0.0	45.5	0.0	45.5
Kashipur	400	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Hamirpur	400	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Rishikesh	400	414	21:58	393	11:49	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)				Voltage Deviat
		Voltage(KV)	Time	Voltage (KV)	Time	<728 kV	<742 kV	>800 kV	>820 kV	
Fatehpur	765	776	7:07	745	18:53	0.0	0.0	0.0	0.0	0.0
Balia	765	788	7:05	766	11:47	0.0	0.0	0.0	0.0	0.0
Moga	765	799	2:53	768	11:45	0.0	0.0	0.0	0.0	0.0
Agra	765	790	15:07	757	18:47	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	802	4:00	774	11:27	0.0	0.0	1.3	0.0	1.3
Unnao	765	770	15:06	747	11:43	0.0	0.0	0.0	0.0	0.0
Lucknow	765	791	7:06	766	11:46	0.0	0.0	0.0	0.0	0.0
Meerut	765	803	4:02	768	11:47	0.0	0.0	1.4	0.0	1.4
Jhatikara	765	800	4:01	772	18:46	0.0	0.0	0.0	0.0	0.0
Bareilly 765 kV	765	788	21:54	759	11:46	0.0	0.0	0.0	0.0	0.0
Anta	765	0	0:00	0	0:00	100.0	100.0	0.0	0.0	100.0
Phagi	765	793	15:25	759	23:36	0.0	0.0	0.0	0.0	0.0

Note : '0' in Max / Min Col -&gt; 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	500.82	1127.29	510.25	1560.04	284.05	537.09
Pong	426.72	384.05	415.68	705.67	419.80	875.55	91.60	262.72
Tehri	829.79	740.04	824.25	1092.08	819.80	1002.27	110.95	126.00
Koteswar	612.50	598.50	609.44	4.21	610.73	4.94	126.00	119.63
Chamera-I	760.00	748.75	758.28	0.00	0.00	0.00	78.63	57.52
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	515.79	3.29	512.98	3.57	85.69	133.10

\* 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	-101	0	0	-101	0	0	-2.42	0.00	-2.42
Delhi	6	-109	0	62	12	0	2.42	-0.75	1.67
Haryana	215	329	0	366	259	0	7.91	6.94	14.85
HP	96	-22	0	-9	-322	0	2.64	-3.34	-0.70
J&K	160	0	0	160	35	0	5.04	1.22	6.26
CHD	0	0	0	0	0	-25	0.00	-0.02	-0.02
Rajasthan	-5	658	0	-7	602	0	-0.13	15.18	15.06
UP	226	1370	0	78	292	0	-1.17	7.67	6.50
Uttarakhand	25	173	0	25	65	0	0.46	5.69	6.15
Total	624	2398	0	576	943	-25	14.77	32.60	47.37

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-101	-101	0	0	0	0
Delhi	163	6	13	-169	0	0
Haryana	486	174	337	258	0	0
HP	178	-9	-15	-515	0	0
J&K	260	160	198	0	0	0
CHD	0	0	0	0	10	-31
Rajasthan	-5	-7	658	432	0	0
UP	247	-329	1370	-100	0	0
Uttarakhand	25	13	597	11	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

<b>WR</b>	<b>0.00%</b>
<b>ER</b>	<b>0.00%</b>
<b>Simultaneous</b>	<b>0.00%</b>

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

<b>WR</b>	<b>0.00%</b>
<b>ER</b>	<b>0.00%</b>
<b>Simultaneous</b>	<b>0.00%</b>

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

<b>Rihand - Dadri</b>	<b>0.00%</b>
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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	0	12
Rajasthan	2	15
Delhi	3	25
UP	1	15
Uttarakhand	8	96
HP	3	20
J & K	1	17
Chandigarh	2	17

**XIII. System Constraints:****XIV. Grid Disturbance / Any Other Significant Event:****XV. Weather Conditions For 16.10.2016 :**

Normal

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