

# पॉवर सिस्टम ऑपरेशन कापोरेशन लिमिटेड

(पॉवर सिस्टम की पूर्ण स्वामित्व प्राप्त सहायक कंपनी)

## उत्तरी क्षेत्रीय भार प्रेषण केंद्र

CIN: U40105DL2009GOI188682

Power Supply Position in Northern Region for 30.10.2016

Date of Reporting : 31.10.2016



### 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
38953	457	39410	50.10	32550	330	32880	0.00	823.3	9.29

\* 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	32.63	10.57	0.20	43.39	50.87	50.48	-0.39	93.88	0.00
Haryana	33.66	0.60	0.00	34.25	67.13	66.01	-1.12	100.27	0.00
Rajasthan	116.20	3.60	8.06	127.86	57.03	58.71	1.68	186.57	0.00
Delhi	9.10		0.00	9.10	48.76	49.35	0.59	58.45	0.00
UP	162.21	12.48	0.00	174.69	127.34	124.31	-3.03	299.00	0.00
Uttarakhand		10.36	0.00	14.69	14.95	12.79	-2.15	27.48	0.00
HP		5.18	2.67	7.86	10.07	9.87	-0.19	17.73	0.00
J & K		9.75	0.00	9.75	31.69	27.39	-4.29	37.15	9.29
Chandigarh				0.00	3.35	2.80	-0.55	2.80	0.00
<b>Total</b>	<b>353.79</b>	<b>52.53</b>	<b>10.93</b>	<b>421.59</b>	<b>411.19</b>	<b>401.73</b>	<b>-9.46</b>	<b>823.32</b>	<b>9.29</b>

\* Shortage furnished by the respective constituent. \$ 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	4073	0	104	-1187	3765	0	178	-101	4455	8:00	0
Haryana	5490	0	-498	-504	3393	0	102	-472	5611	6:00	0
Rajasthan	7286	0	-333	157	8099	0	271	263	9137	8:00	0
Delhi	2772	0	-281	-327	2346	0	125	-316	2828	20:00	0
UP	15053	0	-778	3421	11804	0	-341	1188	15053	19:00	0
Uttarakhand	1424	0	-37	32	1047	0	-136	352	1424	19:00	0
HP	873	0	51	-629	682	0	46	83	978	8:00	0
J&K	1829	457	-137	362	1320	330	-173	402	1829	19:00	457
Chandigarh	155	0	-94	0	95	0	-4	0	155	19:00	0
<b>Total</b>	<b>38953</b>	<b>457</b>	<b>-2003</b>	<b>1326</b>	<b>32550</b>	<b>330</b>	<b>68</b>	<b>1399</b>	<b>38953</b>	<b>19:00</b>	<b>457</b>

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

Diversity is : 1.06

UI [OG:(+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	Net MU
<b>A. NTPC</b>									
Singrauli STPS (5*200+2*500)	2000	1693	1960	1383	37.11	1546	36.46		0.64
Rihand I STPS (2*500)	1000	943	741	821	17.98	749	17.88		0.10
Rihand II STPS (2*500)	1000	954	745	716	18.02	751	17.92		0.10
Rihand III STPS (2*500)	1000	952	761	715	18.15	756	17.78		0.37
Dadri I STPS (4*210)	840	815	320	299	6.80	283	6.89		-0.09
Dadri II STPS (2*490)	980	980	701	683	15.77	657	16.53		-0.76
Unchahar I TPS (2*210)	420	337	276	279	5.84	243	5.71		0.13
Unchahar II TPS (2*210)	420	402	313	303	6.68	278	6.77		-0.10
Unchahar III TPS (1*210)	210	201	144	133	3.10	129	3.38		-0.29
ISTPP (Jhajjar) (3*500)	1500	1425	304	308	6.70	279	6.86		-0.16
Dadri GPS (4*130.19+2*154.51)	830	789	235	347	6.57	274	6.70		-0.14
Anta GPS (3*88.71+1*153.2)	419	388	0	0	0.00	0	0.00		0.00
Auraiya GPS (4*111.19+2*109.30)	663	624	0	0	0.00	0	0.00		0.00
Dadri Solar(5)	5	1	0	0	0.01	1	0.01		0.00
Unchahar Solar(10)	10	2	0	0	0.04	2	0.05		-0.01
Singrauli Solar(15)	15	2	0	0	0.01	0	0.05		-0.04
KHEP(4*200)	800	859	858	0	2.98	124	2.75		0.23
<b>Sub Total (A)</b>	<b>12112</b>	<b>11366</b>	<b>7358</b>	<b>5987</b>	<b>146</b>	<b>6072</b>	<b>146</b>		<b>-0.02</b>
<b>B. NPC</b>									
NAPS (2*220)	440	397	437	439	9.70	404	9.53		0.17
RAPS- B (2*220)	440	386	427	430	9.29	387	9.26		0.02
RAPS- C (2*220)	440	195	219	212	4.50	188	4.67		-0.17
<b>Sub Total (B)</b>	<b>1320</b>	<b>978</b>	<b>1083</b>	<b>1081</b>	<b>23.49</b>	<b>979</b>	<b>23.46</b>		<b>0.03</b>
<b>C. NHPC</b>									
Chamera I HPS (3*180)	540	540	545	0	2.72	113	2.50		0.22
Chamera II HPS (3*100)	300	301	308	0	2.04	85	1.97		0.08
Chamera III HPS (3*77)	231	231	226	0	1.11	46	1.00		0.11
Bairasuil HPS(3*60)	180	179	183	0	0.74	31	0.71		0.03
Salal-HPS (6*115)	690	203	333	202	5.61	234	4.86		0.75
Tanakpur-HPS (3*31.4)	94	42	58	45	1.22	51	1.01		0.21
Uri-I HPS (4*120)	480	87	216	23	2.30	96	2.09		0.21
Uri-II HPS (4*60)	240	61	121	38	1.53	64	1.48		0.06
Dhauliganga-HPS (4*70)	280	280	268	0	1.59	66	1.47		0.12
Dulhasti-HPS (3*130)	390	383	395	21	5.44	227	5.20		0.24
Sewa-II HPS (3*40)	120	119	124	0	0.41	17	0.36		0.04
Parbati 3 (4*130)	520	260	261	0	0.82	34	0.78		0.04
<b>Sub Total (C)</b>	<b>4065</b>	<b>2686</b>	<b>3037</b>	<b>329</b>	<b>26</b>	<b>1064</b>	<b>23</b>		<b>2.10</b>
<b>D.SJVNL</b>									
NJPC (6*250)	1500	1605	1522	0	10.17	424	10.27		-0.10
Rampur HEP (6*68.67)	412	442	443	0	2.90	121	2.85		0.05
<b>Sub Total (D)</b>	<b>1912</b>	<b>2047</b>	<b>1965</b>	<b>0</b>	<b>13.07</b>	<b>544</b>	<b>13.12</b>		<b>-0.05</b>
<b>E. THDC</b>									
Tehri HPS (4*250)	1000	1071	990	0	6.08	253	6.06		0.02
Koteshwar HPS (4*100)	400	91	100	92	2.17	90	2.19		-0.02
<b>Sub Total (E)</b>	<b>1400</b>	<b>1163</b>	<b>1090</b>	<b>92</b>	<b>8.25</b>	<b>344</b>	<b>8.25</b>		<b>0.00</b>
<b>F. BBMB</b>									
Bhakra HPS (2*108+3*126+5*157)	1379	535	1057	396	13.11	546	12.83		0.28
Dehar HPS (6*165)	990	214	495	150	5.25	219	5.13		0.11
Pong HPS (6*66)	396	260	264	264	6.23	260	6.24		-0.01
<b>Sub Total (F)</b>	<b>2765</b>	<b>1008</b>	<b>1816</b>	<b>810</b>	<b>24.59</b>	<b>1025</b>	<b>24.20</b>		<b>0.39</b>
<b>G. IPP(s)/JV(s)</b>									
ALLAIN DUHANGAN HPS(IPP) (2*96)	192	0	114	0	0.79	33	0.75		0.04
KARCHAM WANGTOO HPS(IPP) (4*250)	1000	0	825	0	5.55	231	5.57		-0.02
Malana Stg-II HPS (2*50)	100	0	0	0	0.48	20	0.44		0.03
Shree Cement TPS (2*150)	300	0	-1	-1	-0.04	-2	0.00		-0.04
Budhil HPS(IPP) (2*35)	70	0	10	10	0.25	10	0.35		-0.11
<b>Sub Total (G)</b>	<b>1662</b>	<b>0</b>	<b>948</b>	<b>9</b>	<b>7.03</b>	<b>293</b>	<b>7.12</b>		<b>-0.09</b>
<b>H. Total Regional Entities (A-G)</b>	<b>25237</b>	<b>19247</b>	<b>17297</b>	<b>8308</b>	<b>247.69</b>	<b>10320</b>	<b>245.33</b>		<b>2.36</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	3.46	144
	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	200	206	4.49	187
	Goindwal(GVK) (2*270)	540	0	0	-0.03	-1
	Rajpura (2*700)	1400	660	660	17.20	717
	Talwandi Saboo (3*660)	1980	308	308	7.53	314
	<b>Thermal (Total)</b>	<b>6560</b>	<b>1328</b>	<b>1334</b>	<b>32.63</b>	<b>1360</b>
	Total Hydro	1000	488	395	10.57	440
	Wind Power	0	0	0	0.00	0
	Biomass	288	5	5	0.12	5
	Solar	560	3	3	0.08	3
	<b>Renewable(Total)</b>	<b>848</b>	<b>8</b>	<b>8</b>	<b>0.20</b>	<b>8</b>
	<b>Total Punjab</b>	<b>8408</b>	<b>1824</b>	<b>1737</b>	<b>43.39</b>	<b>1808</b>
Haryana	Panipat TPS (2*210+2*250)	920	201	203	4.87	203
	DCRTPP (Yamuna nagar) (2*300)	600	454	462	11.01	459
	Faridabad GPS (NTPC)(2*137.75+1*156)	432	0	0	0.00	0
	RGTPP (khedar) (IPP) (2*600)	1200	758	787	17.77	741
	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>1413</b>	<b>1452</b>	<b>33.66</b>	<b>1402</b>
	Total Hydro	62	11	20	0.60	25
	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>1424</b>	<b>1472</b>	<b>34.25</b>	<b>1427</b>	
Rajasthan	kota TPS (2*110+2*195+3*210)	1240	971	1133	24.50	1021
	suratgarh TPS (6*250)	1500	1120	1206	24.40	1017
	Chabra TPS (4*250)	1000	749	827	20.30	846
	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	145	127	3.60	150
	RAPS A (NPC) (1*100+1*200)	300	0	0	0.00	0
	Barsingsar (NLC) (2*125)	250	227	228	5.40	225
	Giral LTPS (2*125)	250	0	0	0.00	0
	Rajwest LTPS (IPP) (8*135)	1080	386	701	14.10	588
	VS LIGNITE LTPS (IPP) (1*135)	135	0	0	0.00	0
	Kalisindh Thermal(2*600)	1200	415	410	10.60	442
	Kawai(Adani) (2*660)	1320	438	603	13.30	554
	<b>Thermal (Total)</b>	<b>8876</b>	<b>4451</b>	<b>5235</b>	<b>116.20</b>	<b>4842</b>
	Total Hydro	550	145	127	3.60	150
	Wind power	4017	90	337	5.08	212
	Biomass	99	20	20	0.47	20
	Solar	1295	0	0	2.51	105
Renewable/Others (Total)	5411	110	357	8.06	336	
<b>Total Rajasthan</b>	<b>14837</b>	<b>4706</b>	<b>5719</b>	<b>127.86</b>	<b>5328</b>	
UP	Anpara TPS (3*210+2*500)	1630	1230	1202	27.13	1130
	Obra TPS (2*50+2*94+5*200)	1194	278	270	6.61	275
	Paricha TPS (2*110+2*220+2*250)	1160	652	660	15.08	628
	Panki TPS (2*105)	210	135	135	3.19	133
	Harduaganj TPS (1*60+1*105+2*250)	665	382	388	7.21	301
	Tanda TPS (NTPC) (4*110)	440	362	280	7.16	298
	Roza TPS (IPP) (4*300)	1200	756	756	17.81	742
	Anpara-C (IPP) (2*600)	1200	828	617	17.60	734
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	330	282	6.88	287
	Anpara-D(2*500)	1000	775	744	18.07	753
	Lalitpur TPS(3*660)	1980	945	762	21.38	891
	Bara(2*660)	1320	542	540	11.69	487
	<b>Thermal (Total)</b>	<b>12449</b>	<b>7215</b>	<b>6636</b>	<b>159.81</b>	<b>6659</b>
	Vishnuparyag HPS (IPP)(4*110)	440	167	157	6.88	287
	Alaknanda(4*82.5)	330	163	82	3.19	133
	Other Hydro	527	36	214	2.40	100
	Cogeneration	981	100	100	2.40	100
	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>7681</b>	<b>7189</b>	<b>174.69</b>	<b>7279</b>	
Uttarakhand	Other Hydro	1250	622	357	10.36	432
	Total Gas	225	179	182	4.28	178
	Wind Power	0	0	0	0.00	0
	Biomass	127	0	0	0.00	0
	Solar	20	0	0	0.05	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>0.05</b>	<b>2</b>
	<b>Total Uttarakhand</b>	<b>1802</b>	<b>801</b>	<b>539</b>	<b>14.69</b>	<b>612</b>
Delhi	Rajghat TPS (2*67.5)	135	0	0	0.00	0
	Delhi Gas Turbine (6x30 + 3x34)	282	76	77	1.86	78
	Pragati Gas Turbine (2x104+ 1x122)	330	153	157	3.77	157
	Rithala GPS (3*36)	95	0	0	0.00	0
	Bawana GPS (4*216+2*253)	1370	-5	-5	-0.11	-5
	Badarpur TPS (NTPC) (3*95+2*210)	705	166	165	3.58	149
	<b>Thermal (Total)</b>	<b>2917</b>	<b>391</b>	<b>394</b>	<b>9.10</b>	<b>379</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>391</b>	<b>394</b>	<b>9.10</b>	<b>379</b>	

<b>HP</b>	Baspa HPS (IPP) (3*100)	300	95	32	1.79	75
	Malana HPS (IPP) (2*43)	86	46	0	0.45	19
	Other Hydro	372	128	121	2.94	123
	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	117	108	2.67	111
	<b>Renewable(Total)</b>	<b>486</b>	<b>117</b>	<b>108</b>	<b>2.67</b>	<b>111</b>
	<b>Total HP</b>	<b>1244</b>	<b>387</b>	<b>261</b>	<b>7.86</b>	<b>327</b>
	<b>J &amp; K</b>	Baglihar HPS (IPP) (3*150+3*150)	900	291	291	6.98
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>429</b>	<b>384</b>	<b>10</b>	<b>406</b>	
<b>Total State Control Area Generation</b>		<b>50078</b>	<b>17643</b>	<b>17695</b>	<b>421.59</b>	<b>17566</b>
<b>J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]</b>		<b>6847</b>	<b>8115</b>	<b>175.84</b>	<b>7327</b>	
<b>Total Regional Availability(Gross)</b>		<b>75315</b>	<b>41786</b>	<b>34119</b>	<b>845.12</b>	<b>35213</b>

**IV. Total Hydro Generation:**

<b>Regional Entities Hydro</b>	<b>12234</b>	<b>9704</b>	<b>1231</b>	<b>81.24</b>	<b>3385</b>
<b>State Control Area Hydro</b>	<b>7163</b>	<b>2627</b>	<b>2179</b>	<b>55.21</b>	<b>2481</b>
<b>Total Regional Hydro</b>	<b>19397</b>	<b>12331</b>	<b>3410</b>	<b>136.44</b>	<b>5866</b>

**V. Total Renewable Generation:**

<b>Regional Entities Renewable</b>	<b>30</b>	<b>0</b>	<b>0</b>	<b>0.06</b>	<b>2</b>
<b>State Control Area Renewable</b>	<b>7356</b>	<b>235</b>	<b>473</b>	<b>10.98</b>	<b>458</b>
<b>Total Regional Renewable</b>	<b>7386</b>	<b>235</b>	<b>473</b>	<b>11.04</b>	<b>460</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	-300	50	500	0.07	10.92	-10.85
765 KV Gwalior-Agra (D/C)	2083	2216	2538	0	47.88	0.00	47.88
400 KV Zerda-Kankroli	116	-26	135	63	0.36	0.00	0.36
400 KV Zerda-Bhinmal	174	38	209	11	2.00	0.00	2.00
220 KV Auraiya-Malanpur	-18	-50	0	70	0.00	1.15	-1.15
220 KV Badod-Kota/Morak	-29	-46	0	94	0.00	1.12	-1.12
Mundra-Mohindergarh(HVDC Bipole)	1702	2299	2306	0.00	49.99	0.00	49.99
400 KV Vindhyachal - Rihand	0	0	0	0	0.00	0.00	0.00
765 kV Phagi-Gwalior (D/C)	1065	1246	1359	0	28.03	0.00	28.03
<b>Sub Total WR</b>	<b>4593</b>	<b>5377</b>			<b>128.33</b>	<b>13.19</b>	<b>115.14</b>
Pusauli Bypass/HVDC	10	80	298	277	7.15	5.66	1.49
400 KV MZP- GKP (D/C)	8	344	363	0	5.90	0.00	5.90
400 KV Patna-Balia(D/C) X 2	430	366	586	0	11.35	0.00	11.35
400 KV B'Sharif-Balia (D/C)	64	126	164	0	2.27	0.00	2.27
765 KV Gaya-Balia	330	315	358	0	6.46	0.00	6.46
765 KV Gaya-Varanasi (D/C)	412	502	502	0	9.23	0.00	9.23
220 KV Pusauli-Sahupuri	225	205	225	0	4.54	0.00	4.54
132 KV K'nasa-Sahupuri	-26	-28	0	30	0.00	0.61	-0.61
132 KV Son Ngr-Rihand	-40	-30	0	45	0.00	0.94	-0.94
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	-280	-162	0	291	0.00	3.80	-3.80
400 KV Barh -GKP (D/C)	420	360	448	0	9.37	0.00	9.37
400 kV B'Sharif - Varanasi (D/C)	25	-6	55	99	0.04	0.00	0.04
<b>Sub Total ER</b>	<b>1578</b>	<b>2072</b>			<b>56.31</b>	<b>11.01</b>	<b>45.30</b>
+/- 800 KV BiswanathCharialli-Agra	676	666	683	0.00	15.41	0.00	15.41
<b>Sub Total NER</b>	<b>676</b>	<b>666</b>			<b>15.41</b>	<b>0.00</b>	<b>15.41</b>
<b>Total IR Exch</b>	<b>6847</b>	<b>8115</b>			<b>200.04</b>	<b>24.20</b>	<b>175.84</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
79.51	0.00	79.51	0.00	0.00	0.00	0.00	0.00	0.00

Total IR Schedule (MU)			Total IR Actual (MU)			Net IR UI (MU)		
Through ER	Through WR Incls Mndra	Total	Through ER(including NER)	Through WR	Total	Through ER (including NER)	Through WR	Total
79.51	132.42	211.93	60.70	115.14	175.84	-18.81	-17.28	-36.09

**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	-31	0	0	31	0	0	-0.13

**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	2.57	43.88	73.04	19.17	5.30	0.03	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)		
50.20	14.02	49.83	5.11	50.01	0.033	0.057	0.00	0.00	26.96



## 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	411	3:37	404	0:11	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	417	14:37	399	17:56	0.0	0.0	0.0	0.0	0.0
Bareilly(PG)400kV	400	421	16:01	403	18:12	0.0	0.0	0.1	0.0	0.1
Kanpur	400	420	2:31	405	18:12	0.0	0.0	0.0	0.0	0.0
Dadri	400	424	2:31	411	18:07	0.0	0.0	36.8	0.0	36.8
Ballabgarh	400	432	3:01	417	18:06	0.0	0.0	91.4	7.8	91.4
Bawana	400	428	2:55	412	18:13	0.0	0.0	56.8	0.0	56.8
Bassi	400	423	15:23	398	5:53	0.0	0.0	9.1	0.0	9.1
Hissar	400	422	2:55	408	5:44	0.0	0.0	6.5	0.0	6.5
Moga	400	424	1:02	410	11:12	0.0	0.0	25.7	0.0	25.7
Abdullapur	400	429	1:01	412	18:12	0.0	0.0	49.0	0.0	49.0
Nalagarh	400	434	1:04	416	18:16	0.0	0.0	84.4	21.5	84.4
Kishenpur	400	420	1:53	396	18:26	0.0	0.0	0.0	0.0	0.0
Wagoora	400	407	3:59	369	18:26	15.7	65.5	0.0	0.0	15.7
Amritsar	400	430	23:00	414	7:26	0.0	0.0	52.3	0.0	52.3
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	417	23:40	399	18:12	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	2:31	746	17:55	0.0	0.0	0.0	0.0	0.0
Balia	765	790	15:02	761	17:56	0.0	0.0	0.0	0.0	0.0
Moga	765	805	1:12	776	18:12	0.0	0.0	4.3	0.0	4.3
Agra	765	791	16:01	761	5:56	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	804	1:02	779	5:56	0.0	0.0	17.7	0.0	17.7
Unnao	765	775	15:04	747	18:08	0.0	0.0	0.0	0.0	0.0
Lucknow	765	801	15:24	769	18:13	0.0	0.0	0.9	0.0	0.9
Meerut	765	807	1:12	775	18:12	0.0	0.0	14.8	0.0	14.8
Jhatikara	765	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Bareilly 765 kV	765	795	15:39	763	18:11	0.0	0.0	0.0	0.0	0.0
Anta	765	798	15:33	770	5:55	0.0	0.0	0.0	0.0	0.0
Phagi	765	803	16:02	768	5:54	0.0	0.0	0.8	0.0	0.8

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	498.81	1041.47	509.43	1515.08	206.00	379.45
Pong	426.72	384.05	414.79	668.52	418.64	821.34	51.85	379.22
Tehri	829.79	740.04	823.05	1065.64	817.80	958.25	58.05	132.00
Koteshwar	612.50	598.50	610.54	4.70	610.45	4.69	132.00	143.05
Chamera-I	760.00	748.75	759.94	0.00	0.00	0.00	69.11	73.51
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	513.45	4.74	511.44	3.64	77.88	194.04

\* 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	-503	-684	0	-5.23	-2.59	-7.82
Delhi	4	-320	0	-97	-230	0	-1.01	-6.34	-7.35
Haryana	3	-476	0	157	-661	0	3.00	-11.67	-8.67
HP	83	0	0	-387	-242	0	-0.09	-3.18	-3.28
J&K	163	239	0	163	199	0	3.92	6.07	9.99
CHD	0	0	0	0	0	0	0.00	-0.03	-0.03
Rajasthan	-7	270	0	-7	164	0	-0.17	8.52	8.35
UP	113	1075	0	1371	2050	0	10.85	25.38	36.23
Uttarakhand	12	340	0	25	7	0	0.39	3.44	3.83
<b>Total</b>	<b>271</b>	<b>1128</b>	<b>0</b>	<b>723</b>	<b>603</b>	<b>0</b>	<b>11.66</b>	<b>19.59</b>	<b>31.25</b>

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-101	-503	0	-746	0	0
Delhi	4	-197	-69	-484	0	0
Haryana	246	-13	226	-986	0	0
HP	192	-482	0	-556	0	0
J&K	163	163	338	149	0	0
CHD	0	0	0	0	0	-30
Rajasthan	-7	-7	1136	164	0	0
UP	1469	-227	2050	-50	0	0
Uttarakhand	25	12	411	-57	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	1	18
Haryana	0	11
Rajasthan	2	16
Delhi	3	24
UP	2	18
Uttarakhand	6	53
HP	0	11
J & K	2	19
Chandigarh	3	31

**XIII. System Constraints:****XIV. Grid Disturbance / Any Other Significant Event:****XV. Weather Conditions For 30.10.2016 :**  
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.

Report for : 30.10.2016

पारी प्रभारी अभियंता / SHIFT CHARGE ENGINEER