

# 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 11.11.2016

Date of Reporting : 12.11.2016



### 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
40360	449	40809	50.10	30160	672	30832	50.04	841.7	10.23

\* 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	44.06	9.51	1.23	54.80	42.53	42.27	-0.27	97.07	0.00
Haryana	29.01	0.55	0.00	29.57	82.54	81.11	-1.43	110.67	0.00
Rajasthan	114.90	5.20	19.60	139.70	67.19	68.84	1.65	208.55	0.99
Delhi	14.01		0.00	14.01	42.94	42.92	-0.02	56.93	0.01
UP	169.40		0.00	179.24	91.63	91.59	-0.04	270.82	0.00
Uttarakhand		8.41	0.00	12.85	19.97	20.31	0.34	33.15	0.00
HP		4.50	2.12	6.62	17.17	17.82	0.65	24.43	0.05
J & K		6.96	0.00	6.96	34.32	29.77	-4.55	36.73	9.18
Chandigarh				0.00	3.26	3.31	0.05	3.31	0.00
<b>Total</b>	<b>371.38</b>	<b>44.96</b>	<b>22.96</b>	<b>443.74</b>	<b>401.55</b>	<b>397.93</b>	<b>-3.62</b>	<b>841.67</b>	<b>10.23</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	4466	0	-117	-349	3137	0	-39	-349	4653	8:00	0
Haryana	5909	0	-288	58	3260	0	-85	-238	5909	19:00	0
Rajasthan	8799	0	73	594	8362	0	-1	594	10189	8:00	0
Delhi	2874	0	72	-188	1606	0	4	-546	3011	12:00	2
UP	13417	0	-8	-204	10455	320	-1	129	13417	19:00	0
Uttarakhand	1694	0	-98	190	1091	0	7	273	1697	18:00	0
HP	1251	6	28	-218	753	0	0	307	1329	8:00	0
J&K	1774	443	-83	425	1406	352	-167	351	1775	8:00	444
Chandigarh	176	0	-33	-30	91	0	4	-30	178	18:00	0
<b>Total</b>	<b>40360</b>	<b>449</b>	<b>-453</b>	<b>277</b>	<b>30160</b>	<b>672</b>	<b>-279</b>	<b>491</b>	<b>40360</b>	<b>19:00</b>	<b>449</b>

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

Diversity is 1.04

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

### III. Regional Entities :

Entity	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
A. NTPC	Singrauli STPS (5*200+2*500)	2000	1833	1980	1987	44.01	1834	43.75	0.26
	Rihand I STPS (2*500)	1000	943	850	728	19.05	794	18.64	0.41
	Rihand II STPS (2*500)	1000	963	859	739	19.25	802	18.79	0.46
	Rihand III STPS (2*500)	1000	963	821	766	19.06	794	18.90	0.16
	Dadri I STPS (4*210)	840	815	198	169	4.36	182	4.39	-0.03
	Dadri II STPS (2*490)	980	980	392	352	9.27	386	10.17	-0.90
	Unchahar I TPS (2*210)	420	355	367	349	7.95	331	8.41	-0.45
	Unchahar II TPS (2*210)	420	402	358	344	8.38	349	8.89	-0.51
	Unchahar III TPS (1*210)	210	201	155	143	3.81	159	4.13	-0.33
	ISTPP (Jhajjar) (3*500)	1500	1425	759	315	15.60	650	15.86	-0.26
	Dadri GPS (4*130.19+2*154.51)	830	800	280	415	9.11	379	9.52	-0.41
	Anta GPS (3*88.71+1*153.2)	419	398	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	0.02	0.00
	Unchahar Solar(10)	10	2	0	0	0.03	1	0.04	-0.01
	Singrauli Solar(15)	15	2	0	0	0.00	0	0.04	-0.03
	KHEP(4*200)	800	860	852	651	3.54	148	3.30	0.24
<b>Sub Total (A)</b>	<b>12112</b>	<b>11566</b>	<b>7871</b>	<b>6958</b>	<b>163</b>	<b>6809</b>	<b>165</b>	<b>-1.42</b>	
B. NPC	NAPS (2*220)	440	404	440	440	9.64	402	9.70	-0.05
	RAPS- B (2*220)	440	383	425	425	9.14	381	9.19	-0.05
	RAPS- C (2*220)	440	220	234	234	4.92	205	5.28	-0.36
	<b>Sub Total (B)</b>	<b>1320</b>	<b>1007</b>	<b>1099</b>	<b>1099</b>	<b>23.70</b>	<b>988</b>	<b>24.17</b>	<b>-0.47</b>
C. NHPC	Chamera I HPS (3*180)	540	540	180	0	2.24	93	2.00	0.24
	Chamera II HPS (3*100)	300	301	263	0	1.50	63	1.40	0.10
	Chamera III HPS (3*77)	231	231	226	0	0.82	34	0.75	0.07
	Bairasuli HPS(3*60)	180	179	179	0	0.63	26	0.60	0.03
	Salal-HPS (6*115)	690	122	303	224	3.60	150	2.92	0.68
	Tanakpur-HPS (3*31.4)	94	35	35	54	1.00	42	0.83	0.17
	Uri-I HPS (4*120)	480	78	230	25	2.06	86	1.87	0.20
	Uri-II HPS (4*60)	240	54	39	80	1.35	56	1.29	0.06
	Dhauliganga-HPS (4*70)	280	280	283	0	1.37	57	1.26	0.11
	Dulhasti-HPS (3*130)	390	383	401	0	4.74	198	4.50	0.24
	Sewa-II HPS (3*40)	120	119	121	0	0.32	13	0.36	-0.05
	Parbati 3 (4*130)	520	260	263	0	0.68	28	0.65	0.03
	<b>Sub Total (C)</b>	<b>4065</b>	<b>2580</b>	<b>2523</b>	<b>383</b>	<b>20</b>	<b>846</b>	<b>18</b>	<b>1.89</b>
	D.SJVNL	NJPC (6*250)	1500	1605	1592	0	9.39	391	9.50
Rampur HEP (6*88.67)		412	442	444	0	2.70	112	2.64	0.05
<b>Sub Total (D)</b>		<b>1912</b>	<b>2047</b>	<b>2036</b>	<b>0</b>	<b>12.09</b>	<b>504</b>	<b>12.14</b>	<b>-0.06</b>
E. THDC	Tehri HPS (4*250)	1000	1075	1055	0	6.10	254	5.90	0.20
	Koteshwar HPS (4*100)	400	97	97	91	2.36	98	2.34	0.02
	<b>Sub Total (E)</b>	<b>1400</b>	<b>1172</b>	<b>1150</b>	<b>91</b>	<b>8.46</b>	<b>352</b>	<b>8.24</b>	<b>0.22</b>
F. BBMB	Bhakra HPS (2*108+3*126+5*157)	1379	532	1058	400	13.11	546	12.76	0.35
	Dehar HPS (6*165)	990	165	495	145	4.05	169	3.96	0.09
	Pong HPS (6*66)	396	212	330	66	5.11	213	5.09	0.02
	<b>Sub Total (F)</b>	<b>2765</b>	<b>909</b>	<b>1883</b>	<b>611</b>	<b>22.27</b>	<b>928</b>	<b>21.81</b>	<b>0.47</b>
G. IPP(s)/JV(s)	ALLAIN DUHANGAN HPS(IPP) (2*96)	192	0	69	0	0.70	29	0.67	0.03
	KARCHAM WANGTOO HPS(IPP) (4*250)	1000	0	825	0	5.08	212	4.98	0.10
	Malana Stg-II HPS (2*50)	100	0	0	0	0.35	15	0.33	0.02
	Shree Cement TPS (2*150)	300	0	0	0	0.00	0	0.00	0.00
	Budhil HPS(IPP) (2*35)	70	0	38	0	0.22	9	0.23	0.00
<b>Sub Total (G)</b>	<b>1662</b>	<b>0</b>	<b>932</b>	<b>0</b>	<b>6.36</b>	<b>265</b>	<b>6.21</b>	<b>0.15</b>	
<b>H. Total Regional Entities (A-G)</b>	<b>25237</b>	<b>19281</b>	<b>17494</b>	<b>9142</b>	<b>256.61</b>	<b>10692</b>	<b>255.83</b>	<b>0.78</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	180	170	4.02	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	0	0	-0.08	-3	
	Goindwal(GVK) (2*270)	540	0	0	-0.02	-1	
	Rajpura (2*700)	1400	920	660	23.29	970	
	Talwandi Saboo (3*660)	1980	616	616	16.87	703	
	<b>Thermal (Total)</b>	<b>6560</b>	<b>1716</b>	<b>1446</b>	<b>44.06</b>	<b>1836</b>	
	Total Hydro	1000	409	358	9.51	396	
	Wind Power	0	0	0	0.00	0	
	Biomass	288	44	44	1.05	44	
	Solar	560	0	0	0.18	8	
	<b>Renewable(Total)</b>	<b>848</b>	<b>44</b>	<b>44</b>	<b>1.23</b>	<b>51</b>	
	<b>Total Punjab</b>	<b>8408</b>	<b>2169</b>	<b>1848</b>	<b>54.80</b>	<b>2283</b>	
	Haryana	Panipat TPS (2*210+2*250)	920	210	202	4.99	208
		DCRTPP (Yamuna nagar) (2*300)	600	546	463	11.69	487
Faridabad GPS (NTPC)(2*137.75+1*1156)		432	0	0	0.00	0	
RGTPP (khedar) (IPP) (2*600)		1200	0	754	8.48	353	
Magnum Diesel (IPP)		25	0	0	0.00	0	
Jhajjar(CLP) (2*660)		1320	504	0	3.86	161	
<b>Thermal (Total)</b>		<b>4497</b>	<b>1260</b>	<b>1419</b>	<b>29.01</b>	<b>1209</b>	
Total Hydro		62	18	17	0.55	23	
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>1278</b>	<b>1436</b>	<b>29.57</b>	<b>1232</b>	
Rajasthan		kota TPS (2*110+2*195+3*210)	1240	863	913	21.10	879
		suratgarh TPS (6*250)	1500	673	769	17.20	717
	Chabra TPS (4*250)	1000	775	808	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	119	111	3.60	150	
	RAPS A (NPC) (1*100+1*200)	300	162	167	4.10	171	
	Barsingsar (NLC) (2*125)	250	225	227	5.30	221	
	Giral LTPS (2*125)	250	0	0	0.00	0	
	Rajwest LTPS (IPP) (8*135)	1080	812	673	18.00	750	
	VS LIGNITE LTPS (IPP) (1*135)	135	0	0	0.00	0	
	Kalisindh Thermal(2*600)	1200	580	314	11.60	483	
	Kawai(Adani) (2*660)	1320	603	531	13.70	571	
	<b>Thermal (Total)</b>	<b>8876</b>	<b>4812</b>	<b>4513</b>	<b>114.90</b>	<b>4788</b>	
	Total Hydro	550	220	213	5.20	217	
	Wind power	4017	302	1353	16.40	683	
	Biomass	99	21	21	0.49	21	
	Solar	1295	7	0	2.71	113	
	Renewable/Others (Total)	5411	330	1374	19.60	817	
<b>Total Rajasthan</b>	<b>14837</b>	<b>5362</b>	<b>6100</b>	<b>139.70</b>	<b>5821</b>		
UP	Anpara TPS (3*210+2*500)	1630	1229	1218	29.24	1218	
	Obra TPS (2*50+2*94+5*200)	1194	312	315	7.35	306	
	Paricha TPS (2*110+2*220+2*250)	1160	817	311	17.53	731	
	Panki TPS (2*105)	210	144	117	3.00	125	
	Harduaganj TPS (1*60+1*105+2*250)	665	432	582	9.51	396	
	Tanda TPS (NTPC) (4*110)	440	284	302	6.75	281	
	Roza TPS (IPP) (4*300)	1200	1103	897	25.74	1072	
	Anpara-C (IPP) (2*600)	1200	1030	1004	24.00	1000	
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	404	282	8.63	360	
	Anpara-D(2*500)	1000	384	428	10.08	420	
	Lalitpur TPS(3*660)	1980	561	540	13.21	551	
	Bara(2*660)	1320	573	0	9.55	398	
	<b>Thermal (Total)</b>	<b>12449</b>	<b>7273</b>	<b>5996</b>	<b>164.60</b>	<b>6858</b>	
	Vishnuparyag HPS (IPP)(4*110)	440	122	127	2.98	124	
	Alaknada(4*82.5)	330	80	80	1.88	78	
	Other Hydro	527	210	238	4.99	208	
	Cogeneration	981	200	200	4.80	200	
	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>7885</b>	<b>6641</b>	<b>179.24</b>	<b>7468</b>	
	Uttarakhand	Other Hydro	1250	597	234	8.41	350
Total Gas		225	180	185	4.39	183	
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>777</b>	<b>419</b>	<b>12.85</b>	<b>535</b>	
Delhi	Rajghat TPS (2*67.5)	135	0	0	0.00	0	
	Delhi Gas Turbine (6x30 + 3x34)	282	78	78	1.91	80	
	Pragati Gas Turbine (2x104+ 1x122)	330	260	264	6.40	266	
	Rithala GPS (3*36)	95	0	0	0.00	0	
	Bawana GPS (4*216+2*253)	1370	253	252	5.84	243	
	Badarpur TPS (NTPC) (3*95+2*210)	705	-4	-4	-0.13	-6	
	<b>Thermal (Total)</b>	<b>2917</b>	<b>587</b>	<b>590</b>	<b>14.01</b>	<b>584</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>587</b>	<b>590</b>	<b>14.01</b>	<b>584</b>		

HP	Baspa HPS (IPP) (3*100)	300	57	28	1.63	68
	Malana HPS (IPP) (2*43)	86	40	0	0.41	17
	Other Hydro	372	113	56	2.46	103
	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	95	86	2.12	88
	<b>Renewable(Total)</b>	<b>486</b>	<b>95</b>	<b>86</b>	<b>2.12</b>	<b>88</b>
	<b>Total HP</b>	<b>1244</b>	<b>305</b>	<b>171</b>	<b>6.62</b>	<b>276</b>
	J & K	Baglihar HPS (IPP) (3*150+3*150)	900	293	143	4.19
Other Hydro/IPP(including 98 MW Small Hydro)		308	137	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>430</b>	<b>236</b>	<b>7</b>	<b>290</b>
<b>Total State Control Area Generation</b>		<b>50078</b>	<b>18793</b>	<b>17441</b>	<b>443.74</b>	<b>18489</b>
<b>J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]</b>		<b>5574</b>	<b>5926</b>	<b>166.17</b>	<b>6924</b>	
<b>Total Regional Availability(Gross)</b>	<b>75315</b>	<b>41861</b>	<b>32509</b>	<b>866.53</b>	<b>36105</b>	

IV. Total Hydro Generation:

Regional Entities Hydro	12234	9338	1736	72.80	3033
State Control Area Hydro	7163	2571	1859	47.08	2147
<b>Total Regional Hydro</b>	<b>19397</b>	<b>11909</b>	<b>3595</b>	<b>119.89</b>	<b>5180</b>

V. Total Renewable Generation:

Regional Entities Renewable	30	0	0	0.05	2
State Control Area Renewable	7356	469	1504	23.01	959
<b>Total Regional Renewable</b>	<b>7386</b>	<b>469</b>	<b>1504</b>	<b>23.06</b>	<b>961</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	-500	0	500	0.00	12.15	-12.15
765 KV Gwalior-Agra (D/C)	1516	1790	2275	0	46.97	0.00	46.97
400 KV Zerda-Kankroli	-157	-189	0	250	0.00	2.92	-2.92
400 KV Zerda-Bhinmal	-89	-157	81	242	0.00	1.78	-1.78
220 KV Auraiya-Malanpur	-93	-106	0	135	0.00	2.18	-2.18
220 KV Badod-Kota/Morak	-23	-52	7	52	0.00	0.54	-0.54
Mundra-Mohinderghar(HVDC Bipole)	1797	1302	2004	0.00	40.50	0.00	40.50
400 KV Vindhychal - Rihand	100	0	170	0	0.85	0.00	0.85
765 kV Phagi-Gwalior (D/C)	1003	1281	1586	0	31.62	0.00	31.62
<b>Sub Total WR</b>	<b>3554</b>	<b>3369</b>			<b>119.94</b>	<b>19.57</b>	<b>100.37</b>
400 kV Sasaram - Varanasi	0	-188	0	193	0.00	1.93	-1.93
400 kV Sasaram - Allahabad	150	150	150	0	3.52	0.00	3.52
400 KV MZP- GKP (D/C)	44	274	395	0	5.01	0.00	5.01
400 KV Patna-Balia(D/C) X 2	467	608	751	0	14.74	0.00	14.74
400 KV B'Sharif-Balia (D/C)	-45	91	163	46	1.71	0.00	1.71
765 KV Gaya-Balia	154	242	256	0	5.48	0.00	5.48
765 KV Gaya-Varanasi (D/C)	348	404	758	0	12.38	0.00	12.38
220 KV Pusauli-Sahupuri	199	157	202	0	4.02	0.00	4.02
132 KV K'nasa-Sahupuri	-28	-30	0	32	0.00	0.51	-0.51
132 KV Son Ngr-Rihand	-40	-40	0	45	0.00	0.95	-0.95
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	-222	-62	69	238	0.00	1.48	-1.48
400 KV Barh -GKP (D/C)	464	444	550	0	11.02	0.00	11.02
400 kV B'Sharif - Varanasi (D/C)	29	7	165	35	1.21	0.00	1.21
<b>Sub Total ER</b>	<b>1520</b>	<b>2057</b>			<b>59.08</b>	<b>4.87</b>	<b>54.22</b>
+/- 800 KV BiswanathChariali-Agra	500	500	500	0.00	11.59	0.00	11.59
<b>Sub Total NER</b>	<b>500</b>	<b>500</b>			<b>11.59</b>	<b>0.00</b>	<b>11.59</b>
<b>Total IR Exch</b>	<b>5574</b>	<b>5926</b>			<b>190.61</b>	<b>24.44</b>	<b>166.17</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
46.18	1.60	47.79	1.17	-12.08	6.78	17.31	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
55.74	107.02	162.76	65.81	100.37	166.17	10.07	-6.66	3.41

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	24	0	0	-28	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	0.01	5.32	55.13	78.53	13.55	2.65	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)	
50.18	Time 12.03	49.80	Time 6.44	49.99	0.034	0.058	50.14	0.00	21.47

## 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	12:52	402	5:30	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	422	13:02	403	17:56	0.0	0.0	4.3	0.0	4.3
Bareilly(PG)400kV	400	421	0:04	395	10:49	0.0	0.0	1.7	0.0	1.7
Kanpur	400	419	0:45	398	10:49	0.0	0.0	0.0	0.0	0.0
Dadri	400	425	1:58	125	10:52	2.6	2.6	25.4	0.0	28.0
Ballabgarh	400	432	0:49	404	11:21	0.0	0.0	46.6	12.7	46.6
Bawana	400	429	1:58	409	11:21	0.0	0.0	42.3	0.0	42.3
Bassi	400	425	19:42	378	10:50	0.0	0.1	5.8	0.0	5.8
Hissar	400	423	1:58	403	6:25	0.0	0.0	13.4	0.0	13.4
Moga	400	426	0:04	407	11:20	0.0	0.0	28.1	0.0	28.1
Abdullapur	400	427	21:58	408	5:47	0.0	0.0	36.3	0.0	36.3
Nalagarh	400	436	2:02	412	6:55	0.0	0.0	53.5	25.7	53.5
Kishenpur	400	423	0:05	398	6:50	0.0	0.0	12.8	0.0	12.8
Wagoora	400	408	13:04	370	18:10	15.9	64.8	0.0	0.0	15.9
Amritsar	400	434	1:57	411	11:21	0.0	0.0	48.1	18.2	48.1
Kashipur	400	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Hamirpur	400	428	23:21	407	11:20	0.0	0.0	24.0	0.0	24.0
Rishikesh	400	418	0:03	396	6:30	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	778	0:50	736	10:49	0.0	0.0	0.0	0.0	0.0
Balia	765	792	0:40	766	6:29	0.0	0.0	0.0	0.0	0.0
Moga	765	808	0:03	773	11:41	0.0	0.0	18.2	0.0	18.2
Agra	765	793	19:42	753	6:28	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	809	1:59	773	11:21	0.0	0.0	28.5	0.0	28.5
Unnao	765	773	0:48	743	10:54	0.0	0.0	0.0	0.0	0.0
Lucknow	765	803	0:50	772	10:54	0.0	0.0	2.2	0.0	2.2
Meerut	765	810	20:02	758	6:38	0.0	0.0	5.5	0.0	5.5
Jhatikara	765	808	1:58	770	11:10	0.0	0.0	21.0	0.0	21.0
Bareilly 765 kV	765	796	0:50	759	10:56	0.0	0.0	0.0	0.0	0.0
Anta	765	803	1:58	769	9:43	0.0	0.0	11.0	0.0	11.0
Phagi	765	805	20:03	710	10:52	0.1	0.1	1.3	0.0	1.4

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	497.55	994.96	508.44	1470.42	190.86	359.77
Pong	426.72	384.05	413.35	611.20	417.68	781.19	63.17	321.82
Tehri	829.79	740.04	821.00	1023.38	815.75	922.25	45.05	134.00
Koteswar	612.50	598.50	610.94	5.07	611.02	5.20	134.00	155.17
Chamera-I	760.00	748.75	0.00	0.00	0.00	0.00	56.58	60.10
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	511.91	3.07	508.74	3.89	76.90	124.14

\* 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	-349	1	0	-349	0	0	-11.26	-0.59	-11.85
Delhi	-132	-414	0	-229	41	0	-6.46	-0.83	-7.29
Haryana	-625	387	0	-309	367	0	-10.12	8.58	-1.53
HP	244	63	0	72	-290	0	4.75	-0.52	4.23
J&K	351	0	0	440	-15	0	10.46	-0.25	10.21
CHD	-30	0	0	-30	0	0	-0.36	0.07	-0.29
Rajasthan	-7	601	0	-7	601	0	4.42	17.25	21.67
UP	129	0	0	-104	-100	0	-6.68	-1.66	-8.34
Uttarakhand	147	126	0	179	11	0	3.72	4.35	8.06
Total	-273	764	0	-338	615	0	-11.54	26.40	14.86

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-349	-662	1	-606	0	0
Delhi	-113	-420	516	-692	0	0
Haryana	-309	-628	407	122	0	0
HP	293	72	258	-682	0	0
J&K	518	331	0	-15	0	0
CHD	0	-30	0	0	28	-30
Rajasthan	452	-7	1475	592	0	0
UP	182	-754	0	-100	0	0
Uttarakhand	179	147	446	-157	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	14
Haryana	2	15
Rajasthan	0	10
Delhi	2	17
UP	1	15
Uttarakhand	2	20
HP	2	18
J & K	4	25
Chandigarh	5	40

**XIII. System Constraints:****XIV. Grid Disturbance / Any Other Significant Event:**

1. Data of 400kV Vinhyachal-Rihand represents data of new 400kV Sujalpur-RAPPC-1 line for 11.11.16

**XV. Weather Conditions For 11.11.2016 :**

Normal

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

1. 400kV Sujalpur-RAPPC-1 first time charged at 1836Hrs of 11.11.16

**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.