

# 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 12.11.2016

Date of Reporting : 13.11.2016



### 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
39056	480	39536	50.10	30219	714	30933	0.00	816.7	11.22

\* 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	40.42	9.42	0.18	50.02	42.28	41.93	-0.35	91.95	0.00
Haryana	29.13	0.52	0.00	29.65	78.65	77.95	-0.70	107.60	0.00
Rajasthan	103.88	5.51	11.37	120.75	75.98	80.11	4.13	200.86	0.74
Delhi	14.32		0.00	14.32	39.82	40.10	0.29	54.42	0.02
UP	165.94	6.76	0.00	172.69	87.68	87.60	-0.08	260.29	0.00
Uttarakhand		8.16	0.00	12.62	19.15	19.41	0.26	32.03	0.00
HP		4.04	2.12	6.16	17.72	18.37	0.64	24.53	0.00
J & K		6.96	0.00	6.96	33.34	34.90	1.56	41.86	10.46
Chandigarh				0.00	3.24	3.17	-0.07	3.17	0.00
<b>Total</b>	<b>353.68</b>	<b>41.36</b>	<b>13.67</b>	<b>413.17</b>	<b>397.87</b>	<b>403.54</b>	<b>5.68</b>	<b>816.71</b>	<b>11.22</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	4346	0	-39	-349	3314	0	129	-349	4388	8:00	0
Haryana	5797	0	-56	47	3213	0	12	-247	5797	19:00	0
Rajasthan	8870	0	148	574	8203	0	233	584	9566	8:00	596
Delhi	2772	0	111	-324	1613	0	30	-610	2795	12:00	0
UP	12383	0	-180	-208	10352	320	-50	129	12383	19:00	0
Uttarakhand	1585	0	-118	128	1086	0	31	306	1632	18:00	0
HP	1213	0	-6	-122	773	0	27	326	1303	9:00	0
J&K	1921	480	50	425	1576	394	20	351	2000	8:00	500
Chandigarh	171	0	-39	-31	88	0	11	-30	171	19:00	0
<b>Total</b>	<b>39056</b>	<b>480</b>	<b>-129</b>	<b>140</b>	<b>30219</b>	<b>714</b>	<b>444</b>	<b>460</b>	<b>39056</b>	<b>19:00</b>	<b>480</b>

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

Diversity is 1.03

UI [OD:(+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
<b>A. NTPC</b>								
Singrauli STPS (5*200+2*500)	2000	1739	1698	1974	41.73	1739	41.50	0.23
Rihand I STPS (2*500)	1000	943	761	726	18.27	761	18.25	0.02
Rihand II STPS (2*500)	1000	963	753	826	18.99	791	18.87	0.11
Rihand III STPS (2*500)	1000	963	856	823	19.03	793	18.99	0.04
Dadri I STPS (4*210)	840	815	204	159	4.18	174	4.27	-0.09
Dadri II STPS (2*490)	980	980	434	344	9.45	394	10.01	-0.57
Unchahar I TPS (2*210)	420	355	313	277	7.21	300	7.55	-0.34
Unchahar II TPS (2*210)	420	402	295	295	7.61	317	8.04	-0.43
Unchahar III TPS (1*210)	210	201	150	140	3.76	157	4.01	-0.25
ISTPP (Jhajjhar) (3*500)	1500	1401	604	751	15.09	629	15.55	-0.46
Dadri GPS (4*130.19+2*154.51)	830	799	405	348	8.97	374	9.31	-0.34
Anta GPS (3*88.71+1*153.2)	419	404	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	0.02	1	0.02	0.00
Unchahar Solar(10)	10	2	0	0	0.04	2	0.04	-0.01
Singrauli Solar(15)	15	2	0	0	0.06	2	0.04	0.01
KHEP(4*200)	800	860	851	0	3.48	145	3.30	0.18
<b>Sub Total (A)</b>	<b>12112</b>	<b>11453</b>	<b>7324</b>	<b>6663</b>	<b>158</b>	<b>6578</b>	<b>160</b>	<b>-1.90</b>
<b>B. NPC</b>								
NAPS (2*220)	440	404	441	444	9.70	404	9.70	0.01
RAPS- B (2*220)	440	384	426	429	9.18	382	9.22	-0.04
RAPS- C (2*220)	440	220	232	235	5.03	209	5.28	-0.25
<b>Sub Total (B)</b>	<b>1320</b>	<b>1008</b>	<b>1099</b>	<b>1108</b>	<b>23.91</b>	<b>996</b>	<b>24.19</b>	<b>-0.28</b>
<b>C. NHPC</b>								
Chamera I HPS (3*180)	540	540	186	0	2.22	93	2.00	0.22
Chamera II HPS (3*100)	300	301	264	0	1.48	62	1.40	0.08
Chamera III HPS (3*77)	231	231	159	0	0.81	34	0.75	0.06
Bairasuli HPS(3*60)	180	179	177	0	0.57	24	0.56	0.01
Salal-HPS (6*115)	690	127	300	224	3.64	152	3.06	0.59
Tanakpur-HPS (3*31.4)	94	35	39	38	1.00	42	0.83	0.16
Uri-I HPS (4*120)	480	73	231	25	2.03	84	1.74	0.28
Uri-II HPS (4*60)	240	53	121	78	1.34	56	1.28	0.06
Dhauliganga-HPS (4*70)	280	280	281	0	1.37	57	1.26	0.11
Dulhasti-HPS (3*130)	390	383	385	14	3.74	156	3.50	0.24
Sewa-II HPS (3*40)	120	119	119	0	0.32	14	0.36	-0.04
Parbati 3 (4*130)	520	220	225	0	0.68	29	0.66	0.02
<b>Sub Total (C)</b>	<b>4065</b>	<b>2540</b>	<b>2487</b>	<b>379</b>	<b>19</b>	<b>800</b>	<b>17</b>	<b>1.79</b>
<b>D.SJVNL</b>								
NJPC (6*250)	1500	1605	1588	0	9.29	387	9.50	-0.21
Rampur HEP (6*68.67)	412	442	449	0	2.66	111	2.64	0.02
<b>Sub Total (D)</b>	<b>1912</b>	<b>2047</b>	<b>2037</b>	<b>0</b>	<b>11.95</b>	<b>498</b>	<b>12.14</b>	<b>-0.20</b>
<b>E. THDC</b>								
Tehri HPS (4*250)	1000	1075	1063	0	6.52	272	6.30	0.22
Koteshwar HPS (4*100)	400	100	94	90	2.40	100	2.40	0.00
<b>Sub Total (E)</b>	<b>1400</b>	<b>1175</b>	<b>1157</b>	<b>90</b>	<b>8.92</b>	<b>372</b>	<b>8.70</b>	<b>0.22</b>
<b>F. BBMB</b>								
Bhakra HPS (2*108+3*126+5*157)	1379	536	1104	400	13.42	559	12.88	0.54
Dehar HPS (6*165)	990	168	495	145	4.09	170	4.03	0.06
Pong HPS (6*66)	396	195	330	66	4.76	198	4.68	0.08
<b>Sub Total (F)</b>	<b>2765</b>	<b>899</b>	<b>1929</b>	<b>611</b>	<b>22.26</b>	<b>928</b>	<b>21.58</b>	<b>0.68</b>
<b>G. IPP(s)/JV(s)</b>								
ALLAIN DUHANGAN HPS(IPP) (2*96)	192	0	89	0	0.67	28	0.64	0.03
KARCHAM WANGTOO HPS(IPP) (4*250)	1000	0	825	0	5.04	210	4.98	0.06
Malana Stg-II HPS (2*50)	100	0	0	0	0.37	15	0.34	0.02
Shree Cement TPS (2*150)	300	0	-1	-1	-0.03	-1	0.00	-0.03
Budhil HPS(IPP) (2*35)	70	0	38	0	0.23	9	0.23	0.00
<b>Sub Total (G)</b>	<b>1662</b>	<b>0</b>	<b>951</b>	<b>-1</b>	<b>6.27</b>	<b>261</b>	<b>6.19</b>	<b>0.08</b>
<b>H. Total Regional Entities (A-G)</b>	<b>25237</b>	<b>19123</b>	<b>16983</b>	<b>8851</b>	<b>250.37</b>	<b>10432</b>	<b>249.98</b>	<b>0.39</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	0	170	2.30	96	
	Guru Nanak Dev TPS(Bhatinda) (2*110+2*120)	460	0	0	-0.03	-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	820	760	22.72	947	
	Talwandi Saboo (3*660)	1980	616	616	15.52	647	
	<b>Thermal (Total)</b>	<b>6560</b>	<b>1436</b>	<b>1546</b>	<b>40.42</b>	<b>1684</b>	
	Total Hydro	1000	410	346	9.42	393	
	Wind Power	0	0	0	0.00	0	
	Biomass	288	6	6	0.15	6	
	Solar	560	2	2	0.04	2	
	<b>Renewable(Total)</b>	<b>848</b>	<b>8</b>	<b>8</b>	<b>0.18</b>	<b>8</b>	
	<b>Total Punjab</b>	<b>8408</b>	<b>1854</b>	<b>1900</b>	<b>50.02</b>	<b>2084</b>	
	Haryana	Panipat TPS (2*210+2*250)	920	0	198	0.64	27
		DCRTPP (Yamuna nagar) (2*300)	600	460	481	11.43	476
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	744	475	17.06	711	
<b>Thermal (Total)</b>		<b>4497</b>	<b>1204</b>	<b>1154</b>	<b>29.13</b>	<b>1214</b>	
Total Hydro		62	12	11	0.52	22	
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>1216</b>	<b>1165</b>	<b>29.65</b>	<b>1235</b>	
Rajasthan		kota TPS (2*110+2*195+3*210)	1240	715	723	17.23	718
		suratgarh TPS (6*250)	1500	679	687	15.80	658
	Chabra TPS (4*250)	1000	905	859	19.33	805	
	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	158	159	3.94	164	
	RAPS A (NPC) (1*100+1*200)	300	166	166	4.11	171	
	Barsingar (NLC) (2*125)	250	226	225	5.31	221	
	Giral LTPS (2*125)	250	0	0	0.00	0	
	Rajwest LTPS (IPP) (8*135)	1080	821	817	18.78	783	
	VS LIGNITE LTPS (IPP) (1*135)	135	0	0	0.00	0	
	Kalisindh Thermal(2*600)	1200	510	506	12.62	526	
	Kawai(Adani) (2*660)	1320	0	601	6.76	282	
	<b>Thermal (Total)</b>	<b>8876</b>	<b>4180</b>	<b>4743</b>	<b>103.88</b>	<b>4328</b>	
	Total Hydro	550	271	191	5.51	229	
	Wind power	4017	769	318	10.83	451	
	Biomass	99	18	18	0.44	18	
	Solar	1295	2	0	0.10	4	
	Renewable/Others (Total)	5411	789	336	11.37	474	
<b>Total Rajasthan</b>	<b>14837</b>	<b>5240</b>	<b>5270</b>	<b>120.75</b>	<b>5031</b>		
UP	Anpara TPS (3*210+2*500)	1630	1150	1220	29.23	1218	
	Obra TPS (2*50+2*94+5*200)	1194	75	286	5.40	225	
	Paricha TPS (2*110+2*220+2*250)	1160	888	590	16.30	679	
	Panki TPS (2*105)	210	144	135	3.30	138	
	Harduaganj TPS (1*60+1*105+2*250)	665	432	311	9.00	375	
	Tanda TPS (NTPC) (4*110)	440	288	220	6.51	271	
	Roza TPS (IPP) (4*300)	1200	828	761	21.84	902	
	Anpara-C (IPP) (2*600)	1200	1044	963	24.17	1007	
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	404	281	8.04	335	
	Anpara-D(2*500)	1000	454	384	10.13	422	
	Lalitpur TPS(3*660)	1980	567	589	13.64	569	
	Bara(2*660)	1320	578	572	13.77	574	
	<b>Thermal (Total)</b>	<b>12449</b>	<b>6852</b>	<b>6312</b>	<b>161.14</b>	<b>6714</b>	
	Vishnuparyag HPS (IPP)(4*110)	440	122	117	2.85	119	
	Alaknada(4*82.5)	330	164	80	1.64	69	
	Other Hydro	527	58	36	2.26	94	
	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>7396</b>	<b>6745</b>	<b>172.69</b>	<b>7195</b>	
Uttarakhand	Other Hydro	1250	549	203	8.16	340	
	Total Gas	225	181	186	4.41	184	
	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>730</b>	<b>389</b>	<b>12.62</b>	<b>526</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	6.39	266	
	Rithala GPS (3*36)	95	0	0	0.00	0	
	Bawana GPS (4*216+2*253)	1370	253	252	6.01	250	
	Badarpur TPS (NTPC) (3*95+2*210)	705	0	0	0.00	0	
	<b>Thermal (Total)</b>	<b>2917</b>	<b>591</b>	<b>594</b>	<b>14.32</b>	<b>597</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>591</b>	<b>594</b>	<b>14.32</b>	<b>597</b>		

HP	Baspa HPS (IPP) (3*100)	300	28	0	1.33	55
	Malana HPS (IPP) (2*43)	86	67	0	0.36	15
	Other Hydro	372	114	60	2.35	98
	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>304</b>	<b>146</b>	<b>6.16</b>	<b>257</b>
	J & K	Baglihar HPS (IPP) (3*150+3*150)	900	293	143	4.19
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>431</b>	<b>236</b>	<b>7</b>	<b>290</b>
<b>Total State Control Area Generation</b>	<b>50078</b>	<b>17762</b>	<b>16445</b>	<b>413.17</b>	<b>17215</b>	
<b>J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]</b>		<b>6018</b>	<b>5902</b>	<b>177.69</b>	<b>7404</b>	
<b>Total Regional Availability(Gross)</b>	<b>75315</b>	<b>40763</b>	<b>31197</b>	<b>841.23</b>	<b>35051</b>	

IV. Total Hydro Generation:

Regional Entities Hydro	12234	9375	1080	71.88	2995
State Control Area Hydro	7163	2502	1552	43.48	1998
<b>Total Regional Hydro</b>	<b>19397</b>	<b>11877</b>	<b>2632</b>	<b>115.36</b>	<b>4992</b>

V. Total Renewable Generation:

Regional Entities Renewable	30	0	0	0.11	4
State Control Area Renewable	7356	892	430	13.72	572
<b>Total Regional Renewable</b>	<b>7386</b>	<b>892</b>	<b>430</b>	<b>13.83</b>	<b>576</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	
Vindhychall(HVDC B/B)	-500	-500	0	500	0.00	12.07	-12.07
765 KV Gwalior-Agra (D/C)	1888	1790	2404	0	49.54	0.00	49.54
400 KV Zerda-Kankroli	-47	-76	25	126	0.00	1.10	-1.10
400 KV Zerda-Bhinmal	-27	-12	156	164	0.29	0.00	0.29
220 KV Auraiya-Malanpur	-87	-111	0	111	0.00	1.98	-1.98
220 KV Badod-Kota/Morak	-20	-15	30	78	0.00	0.34	-0.34
Mundra-Mohinderghar(HVDC Bipole)	1298	1298	1803	0.00	32.02	0.00	32.02
400 KV RAPPCC-Sujalpur	180	150	270	0	5.05	0.00	5.05
765 kV Phagi-Gwalior (D/C)	1225	1185	1911	0	35.24	0.00	35.24
<b>Sub Total WR</b>	<b>3910</b>	<b>3709</b>			<b>122.13</b>	<b>15.48</b>	<b>106.65</b>
400 kV Sasaram - Varanasi	0	0	0	0	0.00	0.00	0.00
400 kV Sasaram - Allahabad	-150	-150	150	0	3.46	0.00	3.46
400 KV MZP- GKP (D/C)	-13	192	364	77	3.87	0.00	3.87
400 KV Patna-Balia(D/C) X 2	486	538	697	0	14.03	0.00	14.03
400 KV B'Sharif-Balia (D/C)	-68	55	158	68	1.34	0.00	1.34
765 KV Gaya-Balia	203	248	300	0	5.90	0.00	5.90
765 KV Gaya-Varanasi (D/C)	278	394	656	0	11.32	0.00	11.32
220 KV Pusauli-Sahupuri	-199	-157	204	0	3.95	0.00	3.95
132 KV K'nasa-Sahupuri	-26	-26	0	30	0.00	0.52	-0.52
132 KV Son Ngr-Rihand	0	-37	0	40	0.00	0.66	-0.66
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	257	156	46	257	2.73	0.00	2.73
400 KV Barh -GKP (D/C)	496	440	566	0	11.06	0.00	11.06
400 kV B'Sharif - Varanasi (D/C)	144	40	144	106	0.67	0.00	0.67
<b>Sub Total ER</b>	<b>1408</b>	<b>1693</b>			<b>58.32</b>	<b>1.18</b>	<b>57.14</b>
+/- 800 KV BiswanathChariali-Agra	700	500	700	0.00	13.90	0.00	13.90
<b>Sub Total NER</b>	<b>700</b>	<b>500</b>			<b>13.90</b>	<b>0.00</b>	<b>13.90</b>
<b>Total IR Exch</b>	<b>6018</b>	<b>5902</b>			<b>194.35</b>	<b>16.66</b>	<b>177.69</b>

VI(B). Inter Regional Schedule & Actual Exchanges [Import (+ve)/Export (-ve)] [Corridor wise]

ER	ISGS/LT Schedule (MU)		Bilateral Schedule (MU)		Power Exchange Shdl (MU)		Wheeling (MU)	
	Bhutan	Total	Through ER	Through WR	Through ER	Through WR	Through ER	Through WR
43.69	1.60	45.29	0.82	-12.16	1.54	20.41	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
47.64	117.42	165.06	71.04	106.65	177.69	23.39	-10.76	12.63

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	27	0	0	-0.12

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	0.32	8.01	50.85	71.61	15.15	5.30	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	6.01	49.75	14.24	50.00	0.042	0.065	0.00	0.00	28.39

## 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	497.43	994.96	508.35	1470.42	193.60	371.60
Pong	426.72	384.05	413.25	611.20	417.57	781.19	65.98	297.41
Tehri	829.79	740.04	820.85	1020.21	815.55	913.25	44.30	143.00
Koteswar	612.50	598.50	610.53	4.82	610.76	4.95	143.00	158.64
Chamera-I	760.00	748.75	0.00	0.00	0.00	0.00	58.01	59.77
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	511.80	2.96	508.56	3.97	65.89	129.74

\* 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	0	0	-349	0	0	-11.26	-0.25	-11.52
Delhi	-132	-478	0	-229	-95	0	-6.46	-2.21	-8.67
Haryana	-625	378	0	-309	356	0	-10.12	8.73	-1.39
HP	244	82	0	72	-194	0	4.74	-0.68	4.06
J&K	351	0	0	440	-15	0	9.47	-0.24	9.23
CHD	-30	0	0	-30	0	-1	-0.36	-0.04	-0.40
Rajasthan	-7	591	0	-7	581	0	4.42	16.33	20.75
UP	129	0	0	-108	-100	0	-6.08	-1.25	-7.33
Uttarakhand	147	159	0	179	-50	0	3.72	3.92	7.64
Total	-273	733	0	-343	484	-1	-11.93	24.31	12.37

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-349	-662	0	-479	0	0
Delhi	-113	-420	336	-509	0	0
Haryana	-309	-628	399	-97	0	0
HP	293	72	264	-702	0	0
J&K	440	331	0	-15	0	0
CHD	0	-30	0	0	0	-32
Rajasthan	452	-7	1368	565	0	0
UP	176	-697	0	-100	0	0
Uttarakhand	179	147	367	-176	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	2	19
Haryana	2	16
Rajasthan	3	19
Delhi	3	30
UP	1	17
Uttarakhand	2	15
HP	3	23
J & K	2	22
Chandigarh	4	39

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

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

**XV. Weather Conditions For 12.11.2016 :**

Normal

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

1. 400kV Phagi-Heerapura-2 first time charged at 1947Hrs of 12.11.16

**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.