

# पॉवर सिस्टम ऑपरेशन कार्पोरेशन लिमिटेड

(भारत सरकार का उद्यम)

## उत्तरी क्षेत्रीय भार प्रेषण केंद्र

CIN: U40105DL2009GOI188682

Power Supply Position in Northern Region for 20.01.2017

Date of Reporting : 21.01.2017



### 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
43901	806	44706	49.98	30322	410	30732	49.99	908.67	18.26

\* 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	51.91	7.67	0.35	59.93	38.21	44.21	6.00	104.14	0.00
Haryana	53.94	0.32	0.00	54.26	69.72	70.85	1.13	125.11	5.43
Rajasthan	119.20	4.10	27.83	151.13	53.76	58.68	4.92	209.81	0.00
Delhi	10.45		0.00	10.45	58.13	57.49	-0.65	67.94	0.02
UP	189.07	6.01	0.00	195.08	96.58	97.15	0.56	292.22	1.49
Uttarakhand		8.76	0.00	13.53	22.46	22.34	-0.12	35.87	0.66
HP		4.91	1.09	4.91	21.50	22.01	0.51	26.92	0.00
J & K		3.66	0.00	3.66	40.09	39.02	-1.07	42.68	10.67
Chandigarh				0.00	3.88	3.97	0.08	3.97	0.00
<b>Total</b>	<b>424.57</b>	<b>35.42</b>	<b>29.27</b>	<b>492.95</b>	<b>404.35</b>	<b>415.72</b>	<b>11.37</b>	<b>908.67</b>	<b>18.26</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	5729	0	51	-1029	3377	0	425	-541	5729	19:00	0
Haryana	6557	159	97	-290	3553	0	332	-513	6647	7:00	0
Rajasthan	9372	0	203	215	7234	0	916	301	9762	9:00	0
Delhi	3334	0	-184	-55	1571	0	53	-706	3973	12:00	0
UP	13575	0	-290	-200	10902	0	127	113	13575	19:00	0
Uttarakhand	1814	145	153	90	1227	0	-8	429	2003	8:00	0
HP	1302	0	60	255	722	0	-35	559	1425	9:00	0
J&K	2006	502	97	889	1638	410	-30	719	2006	19:00	502
Chandigarh	212	0	15	0	98	0	1	0	238	9:00	0
<b>Total</b>	<b>43901</b>	<b>806</b>	<b>201</b>	<b>-126</b>	<b>30322</b>	<b>410</b>	<b>1781</b>	<b>360</b>	<b>43901</b>	<b>19:00</b>	<b>806</b>

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

Diversity is 1.03

### III. Regional Entities :

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

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	1890	2060	1600	43.22	1801	42.70	0.53
Rihand I STPS (2*500)	1000	933	952	754	20.07	836	20.12	-0.05
Rihand II STPS (2*500)	1000	958	989	724	21.06	878	20.83	0.23
Rihand III STPS (2*500)	1000	963	933	707	20.99	875	20.98	0.01
Dadri I STPS (4*210)	840	815	362	266	7.95	331	8.48	-0.53
Dadri II STPS (2*490)	980	980	431	329	9.67	403	10.59	-0.92
Unchahar I TPS (2*210)	420	407	374	267	7.69	320	8.68	-1.00
Unchahar II TPS (2*210)	420	405	369	264	7.71	321	8.47	-0.76
Unchahar III TPS (1*210)	210	203	171	134	3.83	159	4.17	-0.34
ISTPP (Jhajjar) (3*500)	1500	1440	0	0	0.00	0	0.00	0.00
Dadri GPS (4*130.19+2*154.51)	830	811	151	158	3.62	151	4.03	-0.40
Anta GPS (3*88.71+1*153.2)	419	427	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	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	0.05	2	0.04	0.01
KHEP(4*200)	800	655	645	0	2.00	84	1.97	0.04
<b>Sub Total (A)</b>	<b>12112</b>	<b>11527</b>	<b>7437</b>	<b>5203</b>	<b>148</b>	<b>6164</b>	<b>151</b>	<b>-3.17</b>
<b>B. NPC</b>								
NAPS (2*220)	440	420	453	464	10.09	420	10.08	0.01
RAPS- B (2*220)	440	408	451	453	9.77	407	9.79	-0.02
RAPS- C (2*220)	440	220	239	240	4.91	205	5.28	-0.37
<b>Sub Total (B)</b>	<b>1320</b>	<b>1048</b>	<b>1143</b>	<b>1157</b>	<b>24.77</b>	<b>1032</b>	<b>25.15</b>	<b>-0.39</b>
<b>C. NHPC</b>								
Chamera I HPS (3*180)	540	540	554	0	1.79	74	1.62	0.17
Chamera II HPS (3*100)	300	301	309	0	1.03	43	0.93	0.11
Chamera III HPS (3*77)	231	154	156	0	0.50	21	0.46	0.04
Bairasuli HPS(3*60)	180	120	123	0	0.53	22	0.45	0.08
Salal-HPS (6*115)	690	76	230	62	2.25	94	1.84	0.42
Tanakpur-HPS (3*31.4)	94	20	23	19	0.57	24	0.49	0.08
Uri-I HPS (4*120)	480	105	264	80	2.68	112	2.52	0.17
Uri-II HPS (4*60)	240	61	123	39	1.51	63	1.45	0.06
Dhauliganga-HPS (4*70)	280	140	142	0	0.80	33	0.74	0.06
Dulhasti-HPS (3*130)	390	257	259	0	2.57	107	2.40	0.17
Sewa-II HPS (3*40)	120	119	83	0	0.34	14	0.36	-0.01
Parbati 3 (4*130)	520	130	133	0	0.40	17	0.39	0.01
<b>Sub Total (C)</b>	<b>4065</b>	<b>2024</b>	<b>2401</b>	<b>201</b>	<b>15</b>	<b>624</b>	<b>14</b>	<b>1.34</b>
<b>D.SJVNL</b>								
NJPC (6*250)	1500	1370	1301	0	5.88	245	6.00	-0.12
Rampur HEP (6*88.67)	412	375	372	0	1.67	70	1.65	0.02
<b>Sub Total (D)</b>	<b>1912</b>	<b>1745</b>	<b>1673</b>	<b>0</b>	<b>7.55</b>	<b>315</b>	<b>7.65</b>	<b>-0.10</b>
<b>E. THDC</b>								
Tehri HPS (4*250)	1000	968	959	0	8.50	354	8.52	-0.02
Koteshwar HPS (4*100)	400	133	395	71	3.23	135	3.20	0.03
<b>Sub Total (E)</b>	<b>1400</b>	<b>1101</b>	<b>1354</b>	<b>71</b>	<b>11.73</b>	<b>489</b>	<b>11.72</b>	<b>0.02</b>
<b>F. BBMB</b>								
Bhakra HPS (2*108+3*126+5*157)	1379	553	1023	398	13.83	576	13.28	0.55
Dehar HPS (6*165)	990	125	330	0	3.06	128	3.00	0.06
Pong HPS (6*66)	396	144	396	0	3.47	145	3.46	0.01
<b>Sub Total (F)</b>	<b>2765</b>	<b>822</b>	<b>1749</b>	<b>398</b>	<b>20.36</b>	<b>848</b>	<b>19.74</b>	<b>0.62</b>
<b>G. IPP(s)/JV(s)</b>								
ALLAIN DUHANGAN HPS(IPP) (2*96)	192	0	57	0	0.38	16	0.36	0.02
KARCHAM WANGTOO HPS(IPP) (4*250)	1000	0	630	0	3.07	128	3.32	-0.25
Malana Stg-II HPS (2*50)	100	0	0	0	0.18	7	0.17	0.01
Shree Cement TPS (2*150)	300	0	149	111	3.33	139	3.79	-0.46
Budhil HPS(IPP) (2*35)	70	0	0	0	0.18	7	0.19	-0.01
<b>Sub Total (G)</b>	<b>1662</b>	<b>0</b>	<b>836</b>	<b>111</b>	<b>7.13</b>	<b>297</b>	<b>7.83</b>	<b>-0.70</b>
<b>H. Total Regional Entities (A-G)</b>	<b>25237</b>	<b>18267</b>	<b>16592</b>	<b>7141</b>	<b>234.45</b>	<b>9769</b>	<b>236.82</b>	<b>-2.38</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	0	0	-0.14	-6
	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	462	389	9.70	404
	Goidwal(GVK) (2*270)	540	0	0	-0.02	-1

	Rajpura (2*700)	1400	1320	660	27.07	1128
	Talwandi Saboo (3*660)	1980	616	616	15.31	638
	<b>Thermal (Total)</b>	<b>6560</b>	<b>2398</b>	<b>1665</b>	<b>51.91</b>	<b>2163</b>
	Total Hydro	1000	320	207	7.67	319
	Wind Power	0	0	0	0.00	0
	Biomass	288	12	12	0.29	12
	Solar	560	0	0	0.06	2
	<b>Renewable(Total)</b>	<b>848</b>	<b>12</b>	<b>12</b>	<b>0.35</b>	<b>15</b>
	<b>Total Punjab</b>	<b>8408</b>	<b>2730</b>	<b>1884</b>	<b>59.93</b>	<b>2497</b>
Haryana	Panipat TPS (2*210+2*250)	920	231	40	4.32	180
	DCRTPP (Yamuna nagar) (2*300)	600	551	463	11.92	497
	Faridabad GPS (NTPC)(2*137.75+1*156)	432	0	0	0.00	0
	RGTPP (khedar) (IPP) (2*600)	1200	576	383	12.54	522
	Magnum Diesel (IPP)	25	0	0	0.00	0
	Jhajjar(CLP) (2*660)	1320	1221	743	25.16	1049
	<b>Thermal (Total)</b>	<b>4497</b>	<b>2579</b>	<b>1629</b>	<b>53.94</b>	<b>2248</b>
	Total Hydro	62	13	9	0.32	13
	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>2592</b>	<b>1638</b>	<b>54.26</b>	<b>2261</b>
Rajasthan	kota TPS (2*110+2*195+3*210)	1240	816	806	20.50	854
	suratgarh TPS (6*250)	1500	184	180	4.50	188
	Chabra TPS (4*250)	1000	811	738	20.10	838
	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	154	147	3.50	146
	RAPS A (NPC) (1*100+1*200)	300	190	190	4.40	183
	Barsingar (NLC) (2*125)	250	224	217	5.30	221
	Giral LTPS (2*125)	250	0	0	0.00	0
	Rajwast LTPS (IPP) (8*135)	1080	712	508	14.30	596
	VS LIGNITE LTPS (IPP) (1*135)	135	0	0	0.00	0
	Kalisindh Thermal(2*600)	1200	1132	806	23.20	967
	Kawai(Adani) (2*660)	1320	1072	819	23.40	975
	<b>Thermal (Total)</b>	<b>8876</b>	<b>5295</b>	<b>4411</b>	<b>119.20</b>	<b>4967</b>
	Total Hydro	550	235	151	4.10	171
	Wind power	4017	758	1736	30.05	1252
	Biomass	99	7	7	0.16	7
	Solar	1295	0	0	-2.38	-99
	Renewable/Others (Total)	5411	765	1743	27.83	1160
	<b>Total Rajasthan</b>	<b>14837</b>	<b>6295</b>	<b>6305</b>	<b>151.13</b>	<b>6297</b>
UP	Anpara TPS (3*210+2*500)	1630	1444	1114	31.19	1300
	Obra TPS (2*50+2*94+5*200)	1194	615	543	14.14	589
	Paricha TPS (2*110+2*220+2*250)	1160	577	577	15.94	664
	Panki TPS (2*105)	210	0	0	0.00	0
	Harduaqanj TPS (1*60+1*105+2*250)	665	410	412	11.39	474
	Tanda TPS (NTPC) (4*110)	440	284	276	7.88	328
	Roza TPS (IPP) (4*300)	1200	887	756	22.73	947
	Anpara-C (IPP) (2*600)	1200	1089	639	24.31	1013
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	141	141	3.84	160
	Anpara-D(2*500)	1000	0	585	8.96	373
	Lalitpur TPS(3*660)	1980	412	0	4.36	182
	Bara(2*660)	1320	1067	720	23.94	998
	<b>Thermal (Total)</b>	<b>12449</b>	<b>6926</b>	<b>5763</b>	<b>168.67</b>	<b>7028</b>
	Vishnuparyag HPS (IPP)(4*110)	440	68	68	1.70	71
	Alakanada(4*82.5)	330	77	0	1.04	43
	Other Hydro	527	185	76	3.27	136
	Cogeneration	981	850	850	20.40	850
	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>8106</b>	<b>6757</b>	<b>195.08</b>	<b>8128</b>	
Uttarakhand	Other Hydro	1250	612	297	8.76	365
	Total Gas	225	267	173	4.77	199
	Wind Power	0	0	0	0.00	0
	Biomass	127	0	0	0.00	0
	Solar	20	0	0	0.01	0
	Small Hydro (< 25 MW)	180	0	0	0.00	0
	<b>Renewable(Total)</b>	<b>327</b>	<b>0</b>	<b>0</b>	<b>0.01</b>	<b>0</b>
<b>Total Uttarakhand</b>	<b>1802</b>	<b>879</b>	<b>470</b>	<b>13.53</b>	<b>564</b>	
Delhi	Rajghat TPS (2*67.5)	135	0	0	-0.01	0
	Delhi Gas Turbine (6x30 + 3x34)	282	67	35	1.23	51
	Pragati Gas Turbine (2x104+ 1x122)	330	140	140	3.37	141
	Rithala GPS (3*36)	95	0	0	0.00	0
	Bawana GPS (4*216+2*253)	1370	251	280	6.02	251
	Badarpur TPS (NTPC) (3*95+2*210)	705	-4	-4	-0.17	-7
	<b>Thermal (Total)</b>	<b>2917</b>	<b>454</b>	<b>451</b>	<b>10.45</b>	<b>435</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>454</b>	<b>451</b>	<b>10.45</b>	<b>435</b>	
HP	Baspa HPS (IPP) (3*100)	300	53	0	0.98	41
	Malana HPS (IPP) (2*43)	86	18	0	0.18	8
	Other Hydro	372	160	56	2.67	111
	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	52	40	1.09	45
	<b>Renewable(Total)</b>	<b>486</b>	<b>52</b>	<b>40</b>	<b>1.09</b>	<b>45</b>
	<b>Total HP</b>	<b>1244</b>	<b>283</b>	<b>96</b>	<b>4.91</b>	<b>205</b>
	J & K	Baqilhar HPS (IPP) (3*150+3*150)	900	113	113	2.71
Other Hydro/IPP(including 98 MW Small Hydro)		308	80	18	0.95	40
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>193</b>	<b>131</b>	<b>4</b>	<b>153</b>

Total State Control Area Generation	50078	21532	17732	492.95	20540
J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]		8710	7914	203.98	8499
<b>Total Regional Availability(Gross)</b>	<b>75315</b>	<b>46834</b>	<b>32787</b>	<b>931.38</b>	<b>38807</b>

**IV. Total Hydro Generation:**

Regional Entities Hydro	12234	8508	670	60.25	2510
State Control Area Hydro	7163	2253	1208	35.42	1675
<b>Total Regional Hydro</b>	<b>19397</b>	<b>10761</b>	<b>1877</b>	<b>95.67</b>	<b>4185</b>

**V. Total Renewable Generation:**

Regional Entities Renewable	30	0	0	0.11	5
State Control Area Renewable	7356	829	1795	29.28	1220
<b>Total Regional Renewable</b>	<b>7386</b>	<b>829</b>	<b>1795</b>	<b>29.39</b>	<b>1225</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)	-100	-150	100	400	0.91	4.52	-3.61
765 KV Gwalior-Agra (D/C)	2404	2488	2127	0	65.53	0.00	65.53
400 KV Zerda-Kankroli	-44	-193	34	193	0.00	2.34	-2.34
400 KV Zerda-Bhimnal	-64	-138	110	175	0.00	0.92	-0.92
220 KV Auraiya-Malanpur	-68	-35	0	68	0.00	1.03	-1.03
220 KV Badod-Kota/Morak	23	6	50	10	0.50	0.00	0.50
Mundra-Mohinderghar(HVDC Bipole)	2502	1701	2505	0.00	57.18	0.00	57.18
400 KV RAPP-C-Sujalpur	290	3	342	0	5.21	0.00	5.21
400 KV Vindhychal-Rihand	0	0	0	0	0.00	0.00	0.00
765 kV Phagi-Gwalior (D/C)	1150	1013	1445	0	30.81	0.00	30.81
<b>Sub Total WR</b>	<b>6093</b>	<b>4695</b>			<b>160.14</b>	<b>8.81</b>	<b>151.33</b>
400 kV Sasaram - Varanasi	207	183	215	0	3.70	0.00	3.70
400 kV Sasaram - Allahabad	30	57	249	0	2.19	0.00	2.19
400 KV MZP- GKP (D/C)	50	324	389	21	5.75	0.00	5.75
400 KV Patna-Balia(D/C) X 2	618	678	799	0	15.98	0.00	15.98
400 KV B'Sharif-Balia (D/C)	4	142	225	0	2.91	0.00	2.91
765 KV Gaya-Balia	200	287	355	0	6.63	0.00	6.63
765 KV Gaya-Varanasi (D/C)	440	500	824	0	14.06	0.00	14.06
220 KV Pusaali-Sahupuri	120	101	128	0	2.55	0.00	2.55
132 KV K'nasa-Sahupuri	0	0	0	0	0.48	0.51	-0.51
132 KV Son Ngr-Rihand	-27	-35	0	40	0.00	0.83	-0.83
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	-102	-49	123	137	0.00	0.28	-0.28
400 KV Barh -GKP (D/C)	520	480	556	0	11.55	0.00	11.55
400 kV B'Sharif - Varanasi (D/C)	57	51	93	85	1.09	0.00	1.09
<b>Sub Total ER</b>	<b>2117</b>	<b>2719</b>			<b>66.89</b>	<b>1.62</b>	<b>64.79</b>
+/- 800 KV BiswanathCharialli-Agra	500	500	0	500.00	0.00	12.15	-12.15
<b>Sub Total NER</b>	<b>500</b>	<b>500</b>			<b>0.00</b>	<b>12.15</b>	<b>-12.15</b>
<b>Total IR Exch</b>	<b>8710</b>	<b>7914</b>			<b>227.03</b>	<b>22.57</b>	<b>203.98</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
44.64	0.35	44.99	0.76	-5.11	19.45	0.00	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
65.20	136.07	201.26	52.64	151.33	203.98	-12.55	15.27	2.72

**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	-15	-16	0	-17	0	-1	0.89

**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	6.38	54.68	74.39	14.76	4.39	0.20	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)		
50.23	6.03	49.80	11.11	50.00	0.039	50.11	49.90	25.61	

**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	409	3:45	397	11:13	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	419	2:02	402	9:42	0.0	0.0	0.0	0.0	0.0
Bareilly(PG)400kV	400	418	2:01	396	9:19	0.0	0.0	0.0	0.0	0.0
Kanpur	400	417	3:01	395	10:19	0.0	0.0	0.0	0.0	0.0
Dadri	400	428	3:43	401	9:43	0.2	0.2	23.1	0.0	23.3
Ballabgarh	400	432	2:56	402	10:17	0.0	0.0	32.9	6.9	32.9
Bawana	400	426	2:02	402	10:16	0.0	0.0	19.9	0.0	19.9
Bassi	400	424	21:59	388	11:10	0.0	0.8	3.9	0.0	3.9
Hissar	400	420	2:01	398	11:10	0.0	0.0	0.0	0.0	0.0
Moga	400	416	8:02	404	11:08	0.0	0.0	0.0	0.0	0.0
Abdullapur	400	428	3:33	411	11:08	0.0	0.0	27.9	0.0	27.9
Nalagarh	400	430	2:58	415	11:17	0.0	0.0	48.5	0.0	48.5
Kishenpur	400	417	2:01	397	11:08	0.0	0.0	0.0	0.0	0.0
Wagoora	400	394	23:10	371	12:23	40.9	98.9	0.0	0.0	40.9
Amritsar	400	426	22:00	406	11:09	0.0	0.0	11.6	0.0	11.6
Kashipur	400	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Hamirpur	400	421	2:30	405	11:23	0.0	0.0	1.6	0.0	1.6
Rishikesh	400	418	1:05	392	13:42	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)				Volta ge Deviat
		Voltage(KV)	Time	Voltage (KV)	Time	<728 kV	<742 kV	>800 kV	>820 kV	
Fatehpur	765	773	3:21	735	10:20	0.0	4.0	0.0	0.0	0.0
Balia	765	787	3:19	753	9:40	0.0	0.0	0.0	0.0	0.0
Moga	765	788	18:01	765	11:10	0.0	0.0	0.0	0.0	0.0

Agra	765	787	3:33	747	10:19	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	804	2:02	762	11:10	0.0	0.0	8.9	0.0	8.9
Unnao	765	770	23:58	726	9:43	0.4	12.3	0.0	0.0	0.4
Lucknow	765	800	3:19	760	9:40	0.0	0.0	0.0	0.0	0.0
Meerut	765	806	20:56	763	5:51	0.0	0.0	1.4	0.0	1.4
Jhatikara	765	804	2:52	758	11:10	0.0	0.0	9.4	0.0	9.4
Bareilly 765 kV	765	798	3:19	756	9:34	0.0	0.0	0.0	0.0	0.0
Anta	765	789	21:41	755	11:10	0.0	0.0	0.0	0.0	0.0
Phagi	765	800	4:01	752	10:20	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	484.23	569.03	497.56	994.96	137.22	430.84
Pong	426.72	384.05	405.96	370.28	407.66	416.46	53.38	240.41
Tehri	829.79	740.04	800.20	612.23	793.35	498.30	37.49	208.00
Koteshwar	612.50	598.50	609.67	4.39	610.69	4.92	208.00	212.78
Chamera-I	760.00	748.75	759.06	0.00	0.00	0.00	42.72	48.00
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	502.96	1.84	496.03	0.68	47.75	72.44

\* 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	-544	2	0	-618	-412	0	-18.45	-1.93	-20.38
Delhi	-94	-612	0	-275	220	0	-3.87	3.29	-0.58
Haryana	-847	334	0	-513	223	0	-15.00	6.06	-8.93
HP	482	77	0	348	-94	0	11.96	-0.25	11.71
J&K	612	107	0	608	280	0	15.51	5.10	20.61
CHD	0	0	0	0	0	0	0.00	0.33	0.33
Rajasthan	23	278	0	77	138	0	9.39	2.26	11.65
UP	113	0	0	-100	-100	0	-8.12	-1.70	-9.82
Uttarakhand	312	118	0	62	27	0	3.60	6.94	10.54
<b>Total</b>	<b>56</b>	<b>304</b>	<b>0</b>	<b>-409</b>	<b>283</b>	<b>0</b>	<b>-4.98</b>	<b>20.09</b>	<b>15.11</b>

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-534	-1264	2	-721	0	0
Delhi	-21	-288	896	-619	0	0
Haryana	-368	-847	336	-102	0	0
HP	696	189	142	-389	0	0
J&K	747	593	451	-15	0	0
CHD	0	0	77	-36	0	0
Rajasthan	1133	-7	278	-327	0	0
UP	164	-956	0	-100	0	0
Uttarakhand	312	0	666	26	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	0.69%
ER	0.00%
Simultaneous	0.69%

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

WR	30.56%
ER	0.00%
Simultaneous	24.65%

(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	2	16
Haryana	2	25
Rajasthan	1	19
Delhi	3	28
UP	0	12
Uttarakhand	1	18
HP	3	21
J & K	4	32
Chandigarh	4	46

**XIII. System Constraints:**

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

**XV. Weather Conditions For 20.01.2017 :**

XVI. Synchronisation of new generating units :

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

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 : 20.01.2017

पारी प्रभारी अभियंता / SHIFT CHARGE ENGINEER