



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	0	-0.13	-5
	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	-0.07	-3
	Goindwal(GVK) (2*270)	540	0	0	-0.03	-1
	Rajpura (2*700)	1400	660	660	23.35	973
	Talwandi Saboo (3*660)	1980	616	616	13.61	567
	<b>Thermal (Total)</b>	<b>6560</b>	<b>1276</b>	<b>1276</b>	<b>36.71</b>	<b>1529</b>
	Total Hydro	1000	393	347	8.63	359
	Wind Power	0	0	0	0.00	0
	Biomass	288	7	7	0.16	7
	Solar	560	0	0	0.04	2
	<b>Renewable(Total)</b>	<b>848</b>	<b>7</b>	<b>7</b>	<b>0.20</b>	<b>8</b>
	<b>Total Punjab</b>	<b>8408</b>	<b>1676</b>	<b>1630</b>	<b>45.53</b>	<b>1897</b>
	Haryana	Panipat TPS (2*210+2*250)	920	0	0	0.00
DCRTPP (Yamuna nagar) (2*300)		600	458	468	11.17	465
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	739	740	18.08	753
<b>Thermal (Total)</b>		<b>4497</b>	<b>1197</b>	<b>1208</b>	<b>29.25</b>	<b>1219</b>
Total Hydro		62	15	33	0.57	24
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>1212</b>	<b>1241</b>	<b>29.81</b>	<b>1242</b>
Rajasthan		kota TPS (2*110+2*195+3*210)	1240	861	742	19.77
	suratgarh TPS (6*250)	1500	575	575	14.51	604
	Chabra TPS (4*250)	1000	869	882	21.48	895
	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	160	160	3.97	165
	RAPS A (NPC) (1*100+1*200)	300	168	168	4.19	174
	Barsingsar (NLC) (2*125)	250	218	227	5.21	217
	Giral LTPS (2*125)	250	0	0	0.00	0
	Rajwest LTPS (IPP) (8*135)	1080	798	816	18.64	777
	VS LIGNITE LTPS (IPP) (1*135)	135	0	0	0.00	0
	Kalisindh Thermal(2*600)	1200	493	410	11.43	476
	Kawai(Adani) (2*660)	1320	604	602	13.90	579
	<b>Thermal (Total)</b>	<b>8876</b>	<b>4746</b>	<b>4582</b>	<b>113.08</b>	<b>4712</b>
	Total Hydro	550	171	132	4.14	173
	Wind power	4017	325	341	6.50	271
	Biomass	99	20	20	0.49	20
	Solar	1295	0	0	0.00	0
	Renewable/Others (Total)	5411	345	361	6.98	291
<b>Total Rajasthan</b>	<b>14837</b>	<b>5262</b>	<b>5075</b>	<b>124.21</b>	<b>5175</b>	
UP	Anpara TPS (3*210+2*500)	1630	1237	1223	28.71	1196
	Obra TPS (2*50+2*94+5*200)	1194	283	292	6.70	279
	Paricha TPS (2*110+2*220+2*250)	1160	826	571	17.70	738
	Panki TPS (2*105)	210	113	135	3.00	125
	Harduaganj TPS (1*60+1*105+2*250)	665	432	303	9.60	400
	Tanda TPS (NTPC) (4*110)	440	288	210	6.42	267
	Roza TPS (IPP) (4*300)	1200	833	554	18.38	766
	Anpara-C (IPP) (2*600)	1200	981	1013	23.61	984
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	404	282	8.44	351
	Anpara-D(2*500)	1000	452	455	10.90	454
	Lalitpur TPS(3*660)	1980	0	598	2.84	119
	Bara(2*660)	1320	574	573	13.61	567
	<b>Thermal (Total)</b>	<b>12449</b>	<b>6423</b>	<b>6209</b>	<b>149.90</b>	<b>6246</b>
	Vishnuparyag HPS (IPP)(4*110)	440	122	117	2.78	116
	Alaknada(4*82.5)	330	83	80	1.76	73
	Other Hydro	527	237	73	3.68	153
	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>7065</b>	<b>6679</b>	<b>162.91</b>	<b>6788</b>
	Uttarakhand	Other Hydro	1250	617	243	7.94
Total Gas		225	137	177	3.20	133
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>754</b>	<b>420</b>	<b>11.19</b>	<b>466</b>
Delhi	Rajghat TPS (2*67.5)	135	0	0	0.00	0
	Delhi Gas Turbine (6x30 + 3x34)	282	76	76	1.92	80
	Pragati Gas Turbine (2x104+ 1x122)	330	263	265	6.39	266
	Rithala GPS (3*36)	95	0	0	0.00	0
	Bawana GPS (4*216+2*253)	1370	250	280	6.03	251
	Badarpur TPS (NTPC) (3*95+2*210)	705	0	0	0.00	0
	<b>Thermal (Total)</b>	<b>2917</b>	<b>589</b>	<b>620</b>	<b>14.34</b>	<b>598</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>589</b>	<b>620</b>	<b>14.34</b>	<b>598</b>	

HP	Baspa HPS (IPP) (3*100)	300	29	0	1.46	61
	Malana HPS (IPP) (2*43)	86	44	0	0.33	14
	Other Hydro	372	120	53	2.52	105
	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	89	80	1.96	82
	<b>Renewable(Total)</b>	<b>486</b>	<b>89</b>	<b>80</b>	<b>1.96</b>	<b>82</b>
	<b>Total HP</b>	<b>1244</b>	<b>282</b>	<b>133</b>	<b>6.27</b>	<b>261</b>
	J & K	Baglihar HPS (IPP) (3*150+3*150)	900	293	143	4.33
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>296</b>
<b>Total State Control Area Generation</b>		<b>50078</b>	<b>17271</b>	<b>16033</b>	<b>401.36</b>	<b>16724</b>
<b>J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]</b>		<b>6207</b>	<b>5949</b>	<b>170.94</b>	<b>7122</b>	
<b>Total Regional Availability(Gross)</b>	<b>75315</b>	<b>41008</b>	<b>30317</b>	<b>821.93</b>	<b>34247</b>	

IV. Total Hydro Generation:

Regional Entities Hydro	12234	9469	1026	69.87	2911
State Control Area Hydro	7163	2488	1571	42.86	1921
<b>Total Regional Hydro</b>	<b>19397</b>	<b>11957</b>	<b>2597</b>	<b>112.73</b>	<b>4832</b>

V. Total Renewable Generation:

Regional Entities Renewable	30	0	0	0.10	4
State Control Area Renewable	7356	440	447	9.19	383
<b>Total Regional Renewable</b>	<b>7386</b>	<b>440</b>	<b>447</b>	<b>9.29</b>	<b>387</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	12.19	-12.19
765 KV Gwalior-Agra (D/C)	1532	1318	2193	0	43.77	0.00	43.77
400 KV Zerda-Kankroli	-73	-44	57	131	0.00	1.02	-1.02
400 KV Zerda-Bhinmal	-47	27	209	125	0.77	0.00	0.77
220 KV Auraiya-Malanpur	-111	-127	0	131	0.00	2.40	-2.40
220 KV Badod-Kota/Morak	-52	-33	29	107	0.00	0.90	-0.90
Mundra-Mohindergarh(HVDC Bipole)	1799	1299	1805	0.00	37.91	0.00	37.91
400 KV RAPP- Sujalpur	0	0	0	0	0.00	0.00	0.00
400 KV Vindhychal-Rihand	150	190	260	0	5.11	0.00	5.11
765 kV Phagi-Gwalior (D/C)	1166	1195	1655	0	33.54	0.00	33.54
<b>Sub Total WR</b>	<b>3864</b>	<b>3325</b>			<b>121.10</b>	<b>16.50</b>	<b>104.59</b>
400 kV Sasaram - Varanasi	0	0	0	0	0.00	0.00	0.00
400 kV Sasaram - Allahabad	147	146	150	0	3.66	0.00	3.66
400 KV MZP- GKP (D/C)	115	109	290	115	2.21	0.00	2.21
400 KV Patna-Balia(D/C) X 2	519	610	743	0	14.90	0.00	14.90
400 KV B'Sharif-Balia (D/C)	85	35	108	42	0.78	0.00	0.78
765 KV Gaya-Balia	123	225	231	0	4.87	0.00	4.87
765 KV Gaya-Varanasi (D/C)	149	366	592	0	9.90	0.00	9.90
220 KV Pusaui-Sahupuri	154	174	230	0	4.50	0.00	4.50
132 KV K'nasa-Sahupuri	0	-22	0	26	0.00	-0.44	0.44
132 KV Son Ngr-Rihand	-40	-34	0	42	0.00	-0.83	0.83
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	-228	-165	37	241	0.00	2.85	-2.85
400 KV Barh -GKP (D/C)	492	474	562	0	11.30	0.00	11.30
400 kV B'Sharif - Varanasi (D/C)	157	48	73	157	0.00	0.86	-0.86
<b>Sub Total ER</b>	<b>1673</b>	<b>1966</b>			<b>52.11</b>	<b>2.44</b>	<b>49.66</b>
+/- 800 KV Biswanath Charialli-Agra	670	658	678	0.00	16.68	0.00	16.68
<b>Sub Total NER</b>	<b>670</b>	<b>658</b>			<b>16.68</b>	<b>0.00</b>	<b>16.68</b>
<b>Total IR Exch</b>	<b>6207</b>	<b>5949</b>			<b>189.89</b>	<b>18.95</b>	<b>170.94</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
43.76	1.50	45.26	0.29	-6.88	2.16	16.19	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
47.70	113.26	160.97	66.34	104.59	170.94	18.64	-8.67	9.97

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	0	0	0	25	0	0	-0.04

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	4.58	46.11	70.41	0.00	6.27	0.39	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						
50.24	18.03	49.81	19.34	50.01	0.041	0.063	0.00	0.00	29.59

## 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	0:17	404	5:39	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	418	1:01	403	17:26	0.0	0.0	0.0	0.0	0.0
Bareilly(PG)400kV	400	422	0:55	402	12:14	0.0	0.0	12.6	0.0	12.6
Kanpur	400	419	0:53	404	9:14	0.0	0.0	0.0	0.0	0.0
Dadri	400	429	0:59	406	12:13	0.0	0.0	28.4	0.0	28.4
Ballabgarh	400	437	0:56	410	11:39	0.0	0.0	61.5	18.3	61.5
Bawana	400	430	1:02	409	12:12	0.0	0.0	46.4	0.0	46.4
Bassi	400	0	0:00	0	0:00	100.0	100.0	0.0	0.0	100.0
Hissar	400	423	0:58	401	11:37	0.0	0.0	18.3	0.0	18.3
Moga	400	426	2:00	404	9:36	0.0	0.0	23.4	0.0	23.4
Abdullapur	400	426	1:01	404	12:10	0.0	0.0	25.9	0.0	25.9
Nalagarh	400	436	2:30	407	11:39	0.0	0.0	55.2	17.4	55.2
Kishenpur	400	423	2:22	390	9:37	0.0	0.0	14.0	0.0	14.0
Wagoora	400	398	2:22	361	9:38	43.9	77.2	0.0	0.0	43.9
Amritsar	400	434	2:58	406	11:24	0.0	0.0	40.9	14.4	40.9
Kashipur	400	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Hamirpur	400	429	2:00	399	11:37	0.0	0.0	45.3	0.0	45.3
Rishikesh	400	419	0:58	395	12:48	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	2:03	744	9:08	0.0	0.0	0.0	0.0	0.0
Balia	765	791	1:01	766	17:39	0.0	0.0	0.0	0.0	0.0
Moga	765	804	0:47	769	12:12	0.0	0.0	12.5	0.0	12.5
Agra	765	792	15:03	752	9:14	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	810	21:33	776	9:06	0.0	0.0	21.3	0.0	21.3
Unnao	765	772	0:59	744	12:13	0.0	0.0	0.0	0.0	0.0
Lucknow	765	801	1:01	773	12:13	0.0	0.0	1.0	0.0	1.0
Meerut	765	808	15:03	761	9:14	0.0	0.0	1.2	0.0	1.2
Jhatikara	765	812	2:23	771	9:15	0.0	0.0	25.5	0.0	25.5
Bareilly 765 kV	765	796	0:59	761	12:13	0.0	0.0	0.0	0.0	0.0
Anta	765	802	20:26	768	9:08	0.0	0.0	4.4	0.0	4.4
Phagi	765	808	21:36	764	10:36	0.0	0.0	12.3	0.0	12.3

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	497.21	983.40	508.16	1455.60	193.72	358.01
Pong	426.72	384.05	413.06	600.05	417.37	768.49	59.61	270.62
Tehri	829.79	740.04	820.55	1013.00	820.05	1003.00	44.54	144.00
Koteswar	612.50	598.50	610.67	4.95	610.68	4.95	144.00	144.66
Chamera-I	760.00	748.75	759.68	0.00	0.00	0.00	55.31	53.56
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	511.61	2.55	508.26	4.10	57.66	128.48

\*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	-350	1	0	-350	0	0	-11.04	0.01	-11.02
Delhi	-132	-635	0	-311	-137	0	-7.12	-4.03	-11.14
Haryana	-611	258	0	-315	290	0	-10.12	5.27	-4.85
HP	194	79	0	71	-154	0	4.24	-0.23	4.01
J&K	350	0	0	443	-15	0	9.48	-0.09	9.40
CHD	-30	0	0	-30	0	0	-0.36	-0.03	-0.39
Rajasthan	201	485	0	201	482	0	9.41	16.94	26.34
UP	114	0	0	-105	-100	0	-6.03	-0.93	-6.96
Uttarakhand	146	60	0	178	30	0	3.71	3.84	7.55
Total	-119	248	0	-217	396	0	-7.83	20.75	12.92

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-350	-613	13	-11	0	0
Delhi	-113	-502	212	-636	0	0
Haryana	-315	-630	321	-444	0	0
HP	243	71	273	-606	0	0
J&K	443	347	0	-15	0	0
CHD	0	-30	0	0	0	-25
Rajasthan	659	201	1652	475	0	0
UP	176	-664	0	-100	0	0
Uttarakhand	178	146	429	-106	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	10
Haryana	0	12
Rajasthan	0	12
Delhi	2	16
UP	1	13
Uttarakhand	2	19
HP	4	41
J & K	5	37
Chandigarh	4	38

**XIII. System Constraints:****XIV. Grid Disturbance / Any Other Significant Event:****XV. Weather Conditions For 14.11.2016 :**  
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.