



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	200	3.86	161	
	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	0.09	4	
	Goindwal(GVK) (2*270)	540	246	210	5.31	221	
	Rajpura (2*700)	1400	660	660	15.30	637	
	Talwandi Saboo (3*660)	1980	827	616	22.48	937	
	<b>Thermal (Total)</b>	<b>6560</b>	<b>1893</b>	<b>1686</b>	<b>47.05</b>	<b>1960</b>	
	Total Hydro	1000	480	225	10.09	420	
	Wind Power	0	0	0	0.00	0	
	Biomass	303	0	0	0.12	5	
	Solar	859	0	0	0.06	2	
	<b>Renewable(Total)</b>	<b>1162</b>	<b>0</b>	<b>0</b>	<b>0.18</b>	<b>7</b>	
	<b>Total Punjab</b>	<b>8722</b>	<b>2373</b>	<b>1911</b>	<b>57.32</b>	<b>2388</b>	
	Haryana	Panipat TPS (2*210+2*250)	920	409	577	12.26	511
		DCRTPP (Yamuna nagar) (2*300)	600	466	470	11.59	483
Faridabad GPS (NTPC)(2*137.75+1*156)		432	0	0	0.00	0	
RGTPP (kheadar) (IPP) (2*600)		1200	385	384	10.13	422	
Magnum Diesel (IPP)		25	0	0	0.00	0	
Jhajjar(CLP) (2*660)		1320	818	742	23.24	968	
<b>Thermal (Total)</b>		<b>4497</b>	<b>2078</b>	<b>2173</b>	<b>57.21</b>	<b>2384</b>	
Total Hydro		62	3	3	0.10	4	
Wind Power		0	0	0	0.00	0	
Biomass		106	0	0	0.00	0	
Solar		50	0	0	0.00	0	
<b>Renewable(Total)</b>		<b>156</b>	<b>0</b>	<b>0</b>	<b>0.00</b>	<b>0</b>	
<b>Total Haryana</b>		<b>4715</b>	<b>2081</b>	<b>2176</b>	<b>57.32</b>	<b>2388</b>	
Rajasthan		kota TPS (2*110+2*195+3*210)	1240	937	944	23.47	978
		suratgarh TPS (6*250)	1500	538	539	13.31	554
	Chabra TPS (4*250)	1000	454	587	11.83	493	
	Chabra TPS (1*660)	660	0	0	0.00	0	
	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	85	87	1.71	71	
	RAPS A (NPC) (1*100+1*200)	300	177	207	4.47	186	
	Barsingar (NLC) (2*125)	250	113	113	2.57	107	
	Giral LTPS (2*125)	250	0	0	0.00	0	
	Rajwest LTPS (IPP) (8*135)	1080	841	676	17.94	748	
	VS LIGNITE LTPS (IPP) (1*135)	135	0	0	0.00	0	
	Kalsindh Thermal(2*600)	1200	903	753	21.73	906	
	Kawal(Adani) (2*660)	1320	1004	1195	25.34	1056	
	<b>Thermal (Total)</b>	<b>9536</b>	<b>5052</b>	<b>5101</b>	<b>122.36</b>	<b>5098</b>	
	Total Hydro	550	189	115	4.38	182	
	Wind power	4292	139	61	2.52	105	
	Biomass	102	13	13	0.31	13	
	Solar	1995	0	0	2.91	121	
	Renewable/Others (Total)	6389	152	74	5.75	240	
	<b>Total Rajasthan</b>	<b>16475</b>	<b>5393</b>	<b>5290</b>	<b>132.49</b>	<b>5520</b>	
	UP	Anpara TPS (3*210+2*500)	1630	1350	1066	31.44	1310
Obra TPS (2*50+2*94+5*200)		1194	446	385	10.18	424	
Paricha TPS (2*110+2*220+2*250)		1160	449	432	10.69	445	
Panki TPS (2*105)		210	0	0	0.00	0	
Harduaqanj TPS (1*60+1*105+2*250)		665	223	158	4.47	186	
Tanda TPS (NTPC) (4*110)		440	387	270	7.62	318	
Roza TPS (IPP) (4*300)		1200	573	617	13.68	570	
Anpara-C (IPP) (2*600)		1200	1105	749	25.36	1057	
Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)		450	0	0	0.00	0	
Anpara-D(2*500)		1000	447	327	10.83	451	
Lalitpur TPS(3*660)		1980	1839	1112	30.01	1250	
Bara(2*660)		1320	1021	736	21.59	900	
<b>Thermal (Total)</b>		<b>12449</b>	<b>7840</b>	<b>5852</b>	<b>165.88</b>	<b>6912</b>	
Vishnuparvag_HPS (IPP)(4*110)		440	87	87	2.10	88	
Alaknanda(4*82.5)		330	82	82	1.51	63	
Other Hydro		527	188	46	3.61	151	
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>9047</b>	<b>6917</b>	<b>193.50</b>	<b>8062</b>		
Uttarakhand	Other Hydro	1250	619	306	10.18	424	
	Total Gas	450	54	71	1.45	60	
	Wind Power	0	0	0	0.00	0	
	Biomass	127	0	0	0.00	0	
	Solar	100	0	0	0.38	16	
	Small Hydro (< 25 MW)	180	0	0	0.00	0	
	<b>Renewable(Total)</b>	<b>407</b>	<b>0</b>	<b>0</b>	<b>0.38</b>	<b>16</b>	
	<b>Total Uttarakhand</b>	<b>2107</b>	<b>673</b>	<b>377</b>	<b>12.02</b>	<b>501</b>	
Delhi	Rajghat TPS (2*67.5)	135	0	0	0.00	0	
	Delhi Gas Turbine (6x30 + 3x34)	282	40	40	0.93	39	
	Pragati Gas Turbine (2x104+ 1x122)	330	258	272	6.46	269	
	Rithala GPS (3*36)	95	0	0	0.00	0	
	Bawana GPS (4*216+2*253)	1370	249	248	6.05	252	
	Badarpur TPS (NTPC) (3*95+2*210)	705	0	0	0.00	0	
	<b>Thermal (Total)</b>	<b>2917</b>	<b>547</b>	<b>560</b>	<b>13.45</b>	<b>560</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>547</b>	<b>560</b>	<b>13.45</b>	<b>560</b>		

HP	Baspa HPS (IPP) (3*100)	300	29	0	1.28	53
	Malana HPS (IPP) (2*43)	86	34	0	0.15	6
	Other Hydro (>25MW)	372	107	41	2.18	91
	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	111	44	1.75	73
	<b>Renewable(Total)</b>	<b>486</b>	<b>111</b>	<b>44</b>	<b>1.75</b>	<b>73</b>
	<b>Total HP</b>	<b>1244</b>	<b>281</b>	<b>85</b>	<b>5.36</b>	<b>223</b>
	<b>Total J &amp; K</b>	<b>1398</b>	<b>216</b>	<b>197</b>	<b>5</b>	<b>207</b>
J & K	Baglihar HPS (IPP) (3*150+3*150)	900	148	148	3.55	148
	Other Hydro/IPP(including 98 MW Small Hydro)	308	68	49	1.42	59
	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>216</b>	<b>197</b>	<b>5</b>	<b>207</b>
	<b>Total State Control Area Generation</b>	<b>52451</b>	<b>20611</b>	<b>17513</b>	<b>476.41</b>	<b>19850</b>
J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]		4682	5646	162.95	6789	
<b>Total Regional Availability(Gross)</b>	<b>78288</b>	<b>42001</b>	<b>32206</b>	<b>905.42</b>	<b>37726</b>	

**IV. Total Hydro Generation:**

Regional Entities Hydro	12234	8238	723	72.25	3002
State Control Area Hydro	7468	2199	1217	40.54	1839
<b>Total Regional Hydro</b>	<b>19702</b>	<b>10437</b>	<b>1940</b>	<b>112.79</b>	<b>4841</b>

**V. Total Renewable Generation:**

Regional Entities Renewable	30	0	0	0.13	5
State Control Area Renewable	8844	263	118	8.06	336
<b>Total Regional Renewable</b>	<b>8874</b>	<b>263</b>	<b>118</b>	<b>8.19</b>	<b>341</b>

**VI(A). Inter Regional Exchange [Import (+ve)/Export (-ve)] [Linkwise]**

Element	Peak(19:00 Hrs)	Off Peak(03:00 Hrs)	Maximum Interchange (MW)		Energy (MU)		Net Energy MU
	MW	MW	Import	Export	Import	Export	
Vindhychal(HVDC B/B)	250	250	250	0	5.89	0.00	5.89
765 KV Gwalior-Agra (D/C)	-1476	-1285	2176	0	35.34	0.00	35.34
400 KV Zerda-Kankroli	-102	-147	2	237	0.00	2.93	-2.93
400 KV Zerda-Bhimmal	-27	-45	168	193	0.00	0.29	-0.29
220 KV Auraiya-Malanpur	-84	-104	0	193	0.00	3.01	-3.01
220 KV Badod-Kota/Morak	-64	-106	0	85	0.00	1.78	-1.78
Mundra-Mohindergarh(HVDC Bipole)	1002	1098	2009	0	28.62	0.00	28.62
400 KV RAPPCC-Sujalpur	170	180	233	0	4.55	0.00	4.55
400 KV Vindhychal-Rihand	875	812	0	970	0.00	21.69	-21.69
765 kv Phagi-Gwalior (D/C)	442	836	773	14	17.57	0.00	17.57
+/- 800 kV HVDC Champa-Kurushetra	1800	2000	2200	0	46.27	0	46.27
<b>Sub Total WR</b>	<b>2786</b>	<b>3489</b>			<b>138.24</b>	<b>29.70</b>	<b>108.54</b>
400 kV Sasaram - Varanasi	178	181	187	0	3.58	0.00	3.58
400 kV Sasaram - Allahabad	57	59	93	26	1.29	0.00	1.29
400 kV MZP- GKP (D/C)	110	231	491	0	6.73	0.00	6.73
400 kV Patna-Balia(D/C) X 2	632	781	868	0	17.98	0.00	17.98
400 kV B'Sharif-Balia (D/C)	2	34	162	0	1.80	0.00	1.80
765 KV Gaya-Balia	174	143	260	0	2.68	0.00	2.68
765 KV Gaya-Varanasi (D/C)	-82	-114	394	0	5.58	0.00	5.58
220 KV Pusauli-Sahupuri	140	97	141	0	2.77	0.00	2.77
132 KV K'nasa-Sahupuri	0	0	0	0	0.00	0.00	0.00
132 KV Son Ngr-Rihand	0	0	0	0	0.00	0.47	-0.47
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	172	137	166	190	0.98	0.00	0.98
400 kV Motihari -GKP (D/C)	-242	-168	0	242	0.00	4.36	-4.36
400 kV B'Sharif - Varanasi (D/C)	155	76	172	155	0.63	0.00	0.63
+/- 800 KV HVDC Alipurduar-Agra	0	0	0	0	0.00	0.00	0.00
<b>Sub Total ER</b>	<b>1296</b>	<b>1457</b>			<b>44.02</b>	<b>4.83</b>	<b>39.19</b>
+/- 800 KV HVDC BiswanathChariali-Agra	600	700	700	0.00	15.22	0.00	15.22
<b>Sub Total NER</b>	<b>600</b>	<b>700</b>			<b>15.22</b>	<b>0.00</b>	<b>15.22</b>
<b>Total IR Exch</b>	<b>4682</b>	<b>5646</b>			<b>197.48</b>	<b>34.53</b>	<b>162.95</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
43.71	0.37	44.08	-1.50	-35.04	-2.05	6.72	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
40.53	124.36	164.89	54.41	108.54	162.95	13.87	-15.82	-1.95

**VI(C). Inter National Exchange with Nepal [Import (+ve)/Export (-ve)] [Linkwise]**

Element	Peak(19:00 Hrs)	Off Peak(03:00 Hrs)	Maximum Interchange (MW)		Energy (MU)		Net Energy MU
	MW	MW	Import	Export	Import	Export	
132 KV Tanakpur - Mahendarnagar	18	10	0	18	0	1	-0.81

**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	14.42	69.59	77.64	6.02	2.22	0.05	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)	
50.21	18.01	49.76	22.08	49.97	0.052	0.064	50.06	49.85	22.36

## VIII(A). Voltage profile 400 kV

Station	Voltage Level (kV)	Maximum		Minimum		Voltage (in % of Time)				Voltage Deviation Index
		Voltage(KV)	Time	Voltage (KV)	Time	<380 kV	<390 kV	>420 kV	>430 kV	
Rihand	400	408	0:45	402	22:48	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	416	2:02	396	18:11	0.0	0.0	0.0	0.0	0.0
Bareilly(PG)400kV	400	418	2:01	402	18:13	0.0	0.0	0.0	0.0	0.0
Kanpur	400	422	2:03	408	18:10	0.0	0.0	0.9	0.0	0.9
Dadri	400	426	1:59	414	11:12	0.0	0.0	42.5	0.0	42.5
Ballabgarh	400	424	2:01	410	6:44	0.0	0.0	15.3	0.0	15.3
Bawana	400	426	2:01	412	18:29	0.0	0.0	39.7	0.0	39.7
Bassi	400	422	16:02	396	6:24	0.0	0.0	3.0	0.0	3.0
Hissar	400	418	17:02	400	6:33	0.0	0.0	0.0	0.0	0.0
Moga	400	419	20:45	399	7:15	0.0	0.0	0.0	0.0	0.0
Abdullapur	400	429	13:25	412	6:54	0.0	0.0	62.2	0.0	62.2
Nalagarh	400	429	13:26	412	6:53	0.0	0.0	64.9	0.0	64.9
Kishenpur	400	419	21:59	399	12:30	0.0	0.0	0.0	0.0	0.0
Wagoora	400	405	10:09	366	12:30	15.2	95.0	0.0	0.0	15.2
Amritsar	400	426	23:56	409	7:15	0.0	0.0	21.8	0.0	21.8
Kashipur	400	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Hamirpur	400	420	13:26	401	7:18	0.0	0.0	0.0	0.0	0.0
Rishikesh	400	0	0:00	0	0:00	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 Deviation Index
		Voltage(KV)	Time	Voltage (KV)	Time	<728 kV	<742 kV	>800 kV	>820 kV	
Fatehpur	765	780	2:00	753	10:44	0.0	0.0	0.0	0.0	0.0
Balia	765	786	2:01	753	19:53	0.0	0.0	0.0	0.0	0.0
Moga	765	800	16:04	759	6:42	0.0	0.0	0.0	0.0	0.0
Agra	765	799	2:03	771	6:32	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	805	16:01	777	6:10	0.0	0.0	14.4	0.0	14.4
Unnao	765	774	2:01	746	18:11	0.0	0.0	0.0	0.0	0.0
Lucknow	765	795	2:03	767	10:41	0.0	0.0	0.0	0.0	0.0
Meerut	765	809	17:01	777	6:29	0.0	0.0	13.0	0.0	13.0
Jhatikara	765	805	16:01	771	6:18	0.0	0.0	12.0	0.0	12.0
Bareilly 765 kV	765	798	2:03	767	18:12	0.0	0.0	0.0	0.0	0.0
Anta	765	789	13:04	767	6:13	0.0	0.0	0.0	0.0	0.0
Phagi	765	796	16:01	764	6:35	0.0	0.0	0.0	0.0	0.0

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	500.42	1114.30	489.82	729.18	151.66	490.73
Pong	426.72	384.05	411.23	534.70	408.98	464.36	74.95	321.31
Tehri	829.79	740.04	812.45	851.28	811.05	823.28	38.85	243.00
Koteshwar	612.50	598.50	610.52	4.82	611.11	5.20	243.00	243.05
Chamera-I	760.00	748.75	758.39	0.00	0.00	0.00	47.00	44.36
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	505.86	3.04	505.82	2.90	42.43	184.32

\* 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	-799	0	0	-503	0	0	-16.79	-0.20	-16.99
Delhi	-788	-458	0	-616	35	0	-16.74	-1.39	-18.13
Haryana	-900	156	0	-892	118	0	-27.32	2.20	-25.13
HP	397	104	0	373	45	0	12.15	-1.41	10.74
J&K	793	59	0	793	198	0	18.67	0.24	18.90
CHD	-30	15	0	-30	30	0	-0.36	-0.01	-0.38
Rajasthan	-101	265	0	-101	-785	0	2.15	5.09	7.24
UP	29	-36	0	-107	-66	0	-11.26	-1.49	-12.75
Uttarakhand	219	129	0	219	307	0	5.41	3.18	8.59
Total	-1181	234	0	-864	-119	0	-34.10	6.20	-27.90

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-503	-901	0	-202	0	0
Delhi	-566	-789	482	-590	0	0
Haryana	-753	-1527	161	-235	0	0
HP	678	373	104	-827	0	0
J&K	793	763	287	-496	0	0
CHD	0	-30	30	-46	0	0
Rajasthan	279	-101	1036	-785	0	0
UP	29	-1133	-36	-72	0	0
Uttarakhand	249	219	509	-145	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	0.00%
ER	0.00%
Simultaneous	0.00%

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

WR	0.00%
ER	0.00%
Simultaneous	0.00%

(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	1	16
Haryana	1	18
Rajasthan	1	15
Delhi	4	48
UP	1	20
Uttarakhand	0	12
HP	1	17
J & K	5	43
Chandigarh	4	23

**XIII. System Constraints:**

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

**XV. Weather Conditions For 24.12.2017 :**

**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 : 24.12.2017

पारी प्रमारी अभियंता / SHIFT CHARGE ENGINEER