



	<b>Renewable(Total)</b>	<b>848</b>	<b>0</b>	<b>0</b>	<b>1.05</b>	<b>44</b>	
	<b>Total Punjab</b>	<b>8408</b>	<b>2706</b>	<b>2162</b>	<b>61.19</b>	<b>2550</b>	
Haryana	Panipat TPS (2*210+2*250)	920	198	203	4.91	205	
	DCRTPP (Yamuna nagar) (2*300)	600	549	459	11.64	485	
	Faridabad GPS (NTPC)(2*137.75+1*156)	432	166	157	3.91	163	
	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	1147	738	21.99	916	
	<b>Thermal (Total)</b>	<b>4497</b>	<b>2060</b>	<b>1557</b>	<b>42.44</b>	<b>1769</b>	
	Total Hydro	62	8	9	0.40	17	
	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>2068</b>	<b>1566</b>	<b>42.84</b>	<b>1785</b>	
	Rajasthan	kota TPS (2*110+2*195+3*210)	1240	1161	787	24.56	1023
suratgarh TPS (6*250)		1500	456	406	10.55	439	
Chabra TPS (4*250)		1000	689	593	16.03	668	
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	186	185	4.31	180	
RAPS A (NPC) (1*100+1*200)		300	167	168	4.17	174	
Barsingsar (NLC) (2*125)		250	98	99	2.25	94	
Giral LTPS (2*125)		250	0	0	0.00	0	
Rajwest LTPS (IPP) (8*135)		1080	823	771	18.54	772	
VS LIGNITE LTPS (IPP) (1*135)		135	0	0	0.00	0	
Kalisindh Thermal(2*600)		1200	782	764	18.45	769	
Kawai(Adani) (2*660)		1320	454	454	10.80	450	
<b>Thermal (Total)</b>		<b>8876</b>	<b>4816</b>	<b>4227</b>	<b>109.65</b>	<b>4569</b>	
Total Hydro		550	195	173	4.77	199	
Wind power		4017	132	329	4.60	191	
Biomass		99	12	12	0.30	12	
Solar		1295	0	0	2.48	103	
Renewable/Others (Total)		5411	144	341	7.37	307	
<b>Total Rajasthan</b>		<b>14837</b>	<b>5155</b>	<b>4741</b>	<b>121.79</b>	<b>5075</b>	
UP		Anpara TPS (3*210+2*500)	1630	1164	811	27.00	1125
		Obra TPS (2*50+2*94+5*200)	1194	320	270	7.30	304
	Paricha TPS (2*110+2*220+2*250)	1160	839	575	17.40	725	
	Panki TPS (2*105)	210	0	0	0.00	0	
	Harduaganj TPS (1*60+1*105+2*250)	665	216	410	10.40	433	
	Tanda TPS (NTPC) (4*110)	440	275	207	6.16	257	
	Roza TPS (IPP) (4*300)	1200	1080	730	23.00	958	
	Anpara-C (IPP) (2*600)	1200	1067	639	20.90	871	
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	81	58	1.70	71	
	Anpara-D(2*500)	1000	513	654	14.90	621	
	Lalitpur TPS(3*660)	1980	0	0	0.30	13	
	Bara(2*660)	1320	874	723	20.30	846	
	<b>Thermal (Total)</b>	<b>12449</b>	<b>6429</b>	<b>5077</b>	<b>149.36</b>	<b>6223</b>	
	Vishnupurvaq HPS (IPP)(4*110)	440	0	0	0.00	0	
	Alakananda(4*82.5)	330	0	0	0.00	0	
	Other Hydro	527	215	189	4.40	183	
	Cogeneration	981	800	800	19.20	800	
	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>7444</b>	<b>6066</b>	<b>172.96</b>	<b>7207</b>		
Uttarakhand	Other Hydro	1250	536	171	7.15	298	
	Total Gas	225	283	281	6.50	271	
	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>819</b>	<b>452</b>	<b>13.70</b>	<b>571</b>	
	Rajghat TPS (2*67.5)	135	0	0	0.00	0	
	Delhi Gas Turbine (6x30 + 3x34)	282	79	79	1.88	78	
Prahati Gas Turbine (2x104+ 1x122)	330	263	263	6.39	266		
Rithala GPS (3*36)	95	0	0	0.00	0		
Bawana GPS (4*216+2*253)	1370	248	280	6.20	258		
Badarpur TPS (NTPC) (3*95+2*210)	705	-4	-4	-0.16	-6		
<b>Thermal (Total)</b>	<b>2917</b>	<b>587</b>	<b>618</b>	<b>14.31</b>	<b>596</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>618</b>	<b>14.31</b>	<b>596</b>		
HP	Baspa HPS (IPP) (3*100)	300	0	28	1.36	57	
	Malana HPS (IPP) (2*43)	86	31	0	0.33	14	
	Other Hydro	372	61	38	1.96	82	
	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	61	51	1.24	52	
	<b>Renewable(Total)</b>	<b>486</b>	<b>61</b>	<b>51</b>	<b>1.24</b>	<b>52</b>	
	<b>Total HP</b>	<b>1244</b>	<b>153</b>	<b>117</b>	<b>4.89</b>	<b>204</b>	
	J & K	Baglihar HPS (IPP) (3*150+3*150)	900	144	148	2.17	90
Other Hydro/IPP(including 98 MW Small Hydro)		308	110	140	1.37	57	
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>254</b>	<b>288</b>	<b>4</b>	<b>147</b>	
<b>Total State Control Area Generation</b>		<b>50078</b>	<b>19186</b>	<b>16011</b>	<b>435.23</b>	<b>18134</b>	
J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]		<b>7007</b>	<b>5977</b>	<b>176.22</b>	<b>7342</b>		
<b>Total Regional Availability(Gross)</b>	<b>75315</b>	<b>43720</b>	<b>30000</b>	<b>864.66</b>	<b>36027</b>		

#### IV. Total Hydro Generation:

Regional Entities Hydro	12234	8808	759	64.96	2707
State Control Area Hydro	7163	1974	1296	32.17	1613
<b>Total Regional Hydro</b>	<b>19397</b>	<b>10782</b>	<b>2056</b>	<b>97.13</b>	<b>4320</b>

#### V. Total Renewable Generation:

Regional Entities Renewable	30	0	0	0.11	5
State Control Area Renewable	7356	205	392	9.71	405
<b>Total Regional Renewable</b>	<b>7386</b>	<b>205</b>	<b>392</b>	<b>9.82</b>	<b>409</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	
765 KV Gwalior-Agra (D/C)	2153	1733	2729	0	51.52	0.00	51.52
400 KV Zerda-Kankroli	-32	-158	0	158	0.00	1.63	-1.63
400 KV Zerda-Bhinmal	87	-58	151	130	0.47	0.00	0.47
220 KV Auraiya-Malanpur	-9	-50	0	80	0.00	1.93	-1.93
220 KV Badod-Kota/Morak	-46	-47	1	96	0.00	1.29	-1.29
Mundra-Mohinderghar(HVDC Bipole)	1601	1599	1605	0.00	38.71	0.00	38.71
400 KV RAPPCC-Sujalpur	400	330	400	0	8.29	0.00	8.29
400 KV Vindhychal-Rihand	0	0	0	0	0.00	0.00	0.00
765 kV Phagi-Gwalior (D/C)	1245	1266	1617	0	33.98	0.00	33.98
<b>Sub Total WR</b>	<b>5899</b>	<b>5115</b>			<b>132.96</b>	<b>17.02</b>	<b>115.94</b>
400 kV Sasaram - Varanasi	282	-243	282	256	9.45	0.00	9.45
400 kV Sasaram - Allahabad	62	94	97	0	1.85	0.00	1.85
400 kV MZP- GKP (D/C)	219	415	436	0	7.49	0.00	7.49
400 KV Patna-Balia(D/C) X 2	703	753	1008	0	17.20	0.00	17.20
400 KV B'Sharif-Balia (D/C)	76	166	219	0	3.41	0.00	3.41
765 KV Gaya-Balia	185	224	276	0	5.31	0.00	5.31
765 KV Gaya-Varanasi (D/C)	-429	-469	736	0	13.09	0.00	13.09
220 KV Pusauli-Sahupuri	150	107	150	0	2.79	0.00	2.79
132 KV K'nasa-Sahupuri	-32	0	0	-32	0.00	0.51	-0.51
132 KV Son Ngr-Rihand	-28	-26	0	-30	0.00	0.56	-0.56
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	-112	-77	95	122	0.00	0.87	-0.87
400 KV Barh -GKP (D/C)	528	496	568	0	11.99	0.00	11.99
400 kV B'Sharif - Varanasi (D/C)	6	-79	165	29	1.70	0.00	1.70
<b>Sub Total ER</b>	<b>1610</b>	<b>1361</b>			<b>74.29</b>	<b>1.94</b>	<b>72.34</b>
+/- 800 KV BiswanathChariali-Agra	-502	-499	0	504.00	0.00	12.07	-12.07
<b>Sub Total NER</b>	<b>-502</b>	<b>-499</b>			<b>0.00</b>	<b>12.07</b>	<b>-12.07</b>
<b>Total IR Exch</b>	<b>7007</b>	<b>5977</b>			<b>207.24</b>	<b>31.03</b>	<b>176.22</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
41.91	0.92	42.83	-1.03	-9.75	8.14	1.14	0.00	0.00

Total IR Schedule (MU)			Total IR Actual (MU)			Net IR UI (MU)		
Through ER	Through WR Incls Mndra	Total	Through ER(including NER)	Through WR	Total	Through ER (including NER)	Through WR	Total
49.95	104.80	154.75	60.28	115.94	176.22	10.33	11.14	21.46

**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	

**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	1.66	10.47	50.77	64.44	15.32	9.07	0.60	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)		
50.25	0.02	49.67	9.24	50.00	0.068	0.082	0.00	0.00	35.56

**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	405	00:00	398	14:42	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	418	02:34	398	17:42	0.0	0.0	0.0	0.0	0.0
Bareilly(PG)400kV	400	424	02:02	400	14:14	0.0	0.0	11.3	0.0	11.3
Kanpur	400	420	02:00	401	12:11	0.0	0.0	0.0	0.0	0.0
Dadri	400	429	01:59	407	11:39	0.0	0.0	24.2	0.0	24.2
Ballabgarh	400	436	03:04	408	11:39	0.0	0.0	39.3	18.9	39.3
Bawana	400	431	01:54	408	12:07	0.0	0.0	34.2	4.4	34.2
Bassi	400	425	04:00	399	07:32	0.0	0.0	5.7	0.0	5.7
Hissar	400	422	01:58	395	15:30	0.0	0.0	7.2	0.0	7.2
Moga	400	423	04:01	400	15:13	0.0	0.0	11.0	0.0	11.0
Abdullapur	400	425	01:59	404	15:15	0.0	0.0	23.5	0.0	23.5
Nalagarh	400	431	02:39	410	18:18	0.0	0.0	33.4	0.2	33.4
Kishenpur	400	421	02:02	397	15:12	0.0	0.0	1.9	0.0	1.9
Wagoora	400	386	13:02	366	15:25	75.8	100.0	0.0	0.0	75.8
Amritsar	400	428	02:34	401	15:24	0.0	0.0	24.5	0.0	24.5
Kashipur	400	0	00:00	0	00:00	0.0	0.0	0.0	0.0	0.0
Hamirpur	400	425	04:29	400	15:24	0.0	0.0	20.5	0.0	20.5
Rishikesh	400	424	02:00	394	14:13	0.0	0.0	14.1	0.0	14.1

**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	02:01	739	07:32	0.0	3.4	0.0	0.0	0.0
Balia	765	791	02:36	756	17:43	0.0	0.0	0.0	0.0	0.0
Moga	765	799	02:01	761	15:25	0.0	0.0	0.0	0.0	0.0
Agra	765	792	02:01	754	07:33	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	809	01:59	767	15:25	0.0	0.0	21.0	0.0	21.0
Unnao	765	774	02:02	735	17:51	0.0	24.4	0.0	0.0	0.0
Lucknow	765	802	02:01	764	17:42	0.0	0.0	5.9	0.0	5.9
Meerut	765	812	02:01	766	07:51	0.0	0.0	10.2	0.0	10.2
Jhatikara	765	808	02:59	765	15:25	0.0	0.0	15.5	0.0	15.5
Bareilly 765 kV	765	799	02:02	756	17:52	0.0	0.0	0.0	0.0	0.0
Anta	765	800	04:00	769	12:07	0.0	0.0	0.0	0.0	0.0
Phagi	765	806	03:59	768	12:06	0.0	0.0	12.8	0.0	12.8

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	492.51	817.99	504.61	1298.95	187.29	477.70
Pong	426.72	384.05	410.36	504.32	413.98	633.63	72.15	337.45
Tehri	829.79	740.04	814.40	890.26	809.15	785.70	40.37	159.00
Koteshwar	612.50	598.50	610.01	4.56	610.85	5.00	159.00	159.46
Chamera-I	760.00	748.75	759.55	0.00	0.00	0.00	43.57	38.29

Rihand	268.22	252.98	0.00	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	0.00
Jawahar Sagar	298.70	295.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RSD	527.91	487.91	507.63	1.86	503.36	4.82	39.88	98.77	

\* 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	-464	8	0	-545	-35	0	-14.04	0.93	-13.11
Delhi	-283	-195	0	-372	-79	0	-8.88	-1.55	-10.43
Haryana	-851	242	0	-548	198	0	-15.60	5.95	-9.65
HP	332	68	0	264	-26	0	9.29	-1.17	8.12
J&K	615	118	0	611	30	0	14.90	1.33	16.23
CHD	0	0	0	0	0	0	0.00	-0.04	-0.04
Rajasthan	-7	292	0	-7	181	0	4.37	5.79	10.16
UP	116	0	0	-141	-100	0	-7.28	-1.11	-8.39
Uttarakhand	325	95	0	24	123	0	3.61	0.95	4.56
<b>Total</b>	<b>-219</b>	<b>627</b>	<b>0</b>	<b>-714</b>	<b>292</b>	<b>0</b>	<b>-13.63</b>	<b>11.09</b>	<b>-2.53</b>

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-443	-756	328	-35	0	0
Delhi	-283	-462	215	-349	0	0
Haryana	-535	-879	310	182	0	0
HP	544	240	68	-442	0	0
J&K	653	596	177	-204	0	0
CHD	0	0	15	-71	0	0
Rajasthan	448	-7	419	-131	0	0
UP	142	-820	0	-100	0	0
Uttarakhand	325	24	175	-131	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	8.33%

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

WR	17.36%
ER	0.00%
Simultaneous	15.97%

(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	14
Haryana	0	11
Rajasthan	4	46
Delhi	5	28
UP	1	23
Uttarakhand	4	32
HP	3	36
J & K	3	26
Chandigarh	3	25

**XIII. System Constraints:**

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

**XV. Weather Conditions For 12.12.2016 :**  
Dense Fog in some parts of NR.

**XVI. Synchronisation of new generating units :**

**XVII. Synchronisation of new 220 / 400 / 765 KV lines and energising of bus / substation :**  
63 MVAR Bus Reactor at Dehar first time test charge at 19:23 hrs on 12.12.2016.  
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.