

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	520	520	11.52	480	
	Guru Nanak Dev TPS(Bhatinda) (2*110+2*120)	460	0	90	0.92	38	
	Guru Hargobind Singh TPS(L.mbt) (2*210+2*250)	920	203	205	4.51	188	
	Goindwal(GVK) (2*270)	540	0	0	0.00	0	
	Rajpura (2*700)	1400	1320	920	28.02	1167	
	Talwandi Saboo (3*660)	1980	910	616	18.10	754	
	Thermal (Total)	6560	2953	2351	63.07	2628	
	Total Hydro	1000	593	463	11.80	492	
	Wind Power	0	0	0	0.00	0	
	Biomass	288	37	37	0.90	37	
	Solar	560	0	0	0.37	15	
	Renewable(Total)	848	37	37	1.26	53	
	Total Punjab	8408	3583	2851	76.12	3172	
	Haryana	Panipat TPS (2*210+2*250)	920	748	763	17.70	737
		DCRTPP (Yamuna nagar) (2*300)	600	506	464	11.04	460
Faridabad GPS (NTPC)(2*137.75+1*1156)		432	0	0	0.00	0	
RGTPP (khedar) (IPP) (2*600)		1200	839	748	18.78	783	
Magnum Diesel (IPP)		25	0	0	0.00	0	
Jhajjar(CLP) (2*660)		1320	0	0	0.00	0	
Thermal (Total)		4497	2093	1975	47.52	1980	
Total Hydro		62	37	22	0.81	34	
Wind Power		0	0	0	0.00	0	
Biomass		40	0	0	0.00	0	
Solar		0	0	0	0.00	0	
Renewable(Total)		40	0	0	0.00	0	
Total Haryana		4599	2130	1997	48.33	2014	
Rajasthan		kota TPS (2*110+2*195+3*210)	1240	511	674	14.11	588
		suratgarh TPS (6*250)	1500	0	0	0.00	0
	Chabra TPS (4*250)	1000	735	735	18.07	753	
	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	122	128	2.89	121	
	RAPS A (NPC) (1*100+1*200)	300	169	169	4.20	175	
	Barsingsar (NLC) (2*125)	250	204	113	3.21	134	
	Giral LTPS (2*125)	250	0	0	0.00	0	
	Rajwest LTPS (IPP) (8*135)	1080	644	509	15.55	648	
	VS LIGNITE LTPS (IPP) (1*135)	135	0	0	0.00	0	
	Kalisindh Thermal(2*600)	1200	405	409	9.85	410	
	Kawai(Adani) (2*660)	1320	1200	908	25.31	1055	
	Thermal (Total)	8876	3990	3645	93.19	3883	
	Total Hydro	550	231	165	4.95	206	
	Wind power	4017	385	682	8.03	335	
	Biomass	99	21	21	0.58	24	
	Solar	1295	1	0	0.21	9	
	Renewable/Others (Total)	5411	407	703	8.83	368	
Total Rajasthan	14837	4628	4513	106.97	4457		
UP	Anpara TPS (3*210+2*500)	1630	1079	921	23.40	975	
	Obra TPS (2*50+2*94+5*200)	1194	265	274	6.20	258	
	Paricha TPS (2*110+2*220+2*250)	1160	667	905	17.40	725	
	Panki TPS (2*105)	210	135	113	3.00	125	
	Harduaganj TPS (1*60+1*105+2*250)	665	741	519	10.90	454	
	Tanda TPS (NTPC) (4*110)	440	385	371	8.27	345	
	Roza TPS (IPP) (4*300)	1200	253	1107	24.00	1000	
	Anpara-C (IPP) (2*600)	1200	1035	990	23.40	975	
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	253	364	6.70	279	
	Anpara-D(2*500)	1000	409	857	17.10	713	
	Lalitpur TPS(3*660)	1980	857	932	20.00	833	
	Bara(2*660)	1320	0	0	0.00	0	
	Thermal (Total)	12449	6079	7353	160.37	6682	
	Vishnuparyag HPS (IPP)(4*110)	440	256	261	6.70	279	
	Alaknada(4*82.5)	330	84	163	3.00	125	
	Other Hydro	527	264	247	6.10	254	
	Cogeneration	981	50	50	1.20	50	
	Wind Power	0	0	0	0.00	0	
	Biomass	26	0	0	0.00	0	
	Solar	102	0	0	0.00	0	
	Renewable(Total)	128	0	0	0.00	0	
Total UP	14855	6733	8074	177.37	7391		
Uttarakhand	Other Hydro	1250	623	467	16.86	702	
	Total Gas	225	156	162	3.78	157	
	Wind Power	0	0	0	0.00	0	
	Biomass	127	0	0	0.00	0	
	Solar	20	0	0	0.00	0	
	Small Hydro (< 25 MW)	180	0	0	0.00	0	
	Renewable(Total)	327	0	0	0.00	0	
	Total Uttarakhand	1802	779	629	20.63	860	
Delhi	Rajghat TPS (2*67.5)	135	0	0	0.00	0	
	Delhi Gas Turbine (6x30 + 3x34)	282	74	74	1.86	77	
	Pragati Gas Turbine (2x104+ 1x122)	330	147	150	3.65	152	
	Rithala GPS (3*36)	95	0	0	0.00	0	
	Bawana GPS (4*216+2*253)	1370	251	250	6.05	252	
	Badarpur TPS (NTPC) (3*95+2*210)	705	310	329	7.11	296	
	Thermal (Total)	2917	782	804	18.67	778	
	Wind Power	0	0	0	0.00	0	
	Biomass	16	0	0	0.00	0	
	Solar	2	0	0	0.00	0	
	Renewable(Total)	18	0	0	0.00	0	
Total Delhi	2935	782	804	18.67	778		

HP	Baspa HPS (IPP) (3*100)	300	113	62	2.45	102
	Malana HPS (IPP) (2*43)	86	40	15	0.63	26
	Other Hydro	372	157	170	3.69	154
	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	146	139	3.42	143
	Renewable(Total)	486	146	139	3.42	143
	Total HP	1244	457	386	10.19	425
	J & K	Baglihar HPS (IPP) (3*150+3*150)	900	410	439	10.25
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
Renewable(Total)		98	0	0	0.00	0
Total J & K		1398	548	532	13	542
Total State Control Area Generation		50078	19640	19786	471.30	19638
J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]		9251	9607	239.24	9968	
Total Regional Availability(Gross)	75315	46618	39457	993.94	41414	

IV. Total Hydro Generation:

Regional Entities Hydro	12234	10168	2830	112.21	4676
State Control Area Hydro	7163	3249	2868	73.42	3217
Total Regional Hydro	19397	13416	5698	185.64	7892

V. Total Renewable Generation:

Regional Entities Renewable	30	0	0	0.06	3
State Control Area Renewable	7356	590	880	13.51	563
Total Regional Renewable	7386	590	880	13.58	566

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)	-100	-250	0	250	0.00	4.27	-4.27
765 KV Gwalior-Agra (D/C)	2279	2448	2765	0	58.58	0.00	58.58
400 KV Zerda-Kankroli	181	140	208	0	3.78	0.00	3.78
400 KV Zerda-Bhinmal	229	138	247	0	4.26	0.00	4.26
220 KV Auraiya-Malanpur	-50	-43	0	61	0.00	0.94	-0.94
220 KV Badod-Kota/Morak	185	150	206	0	3.95	0.00	3.95
Mundra-Mohindergerh(HVDC Bipole)	1998	2002	2005	0.00	48.39	0.00	48.39
400 KV Vindhychal - Rihand	0	0	0	0	0.00	0.00	0.00
765 kV Phagi-Gwalior (D/C)	1118	1230	1489	0	31.52	0.00	31.52
Sub Total WR	5840	5815			150.47	5.21	145.27
Pusauli Bypass/HVDC	150	150	150	0	3.61	0.00	3.61
400 KV MZP- GKP (D/C)	478	653	877	0	15.90	0.00	15.90
400 KV Patna-Balia(D/C) X 2	630	623	757	0	15.81	0.00	15.81
400 KV B Sharif-Balia (D/C)	157	241	344	0	5.72	0.00	5.72
765 KV Gaya-Balia	291	382	415	0	8.04	0.00	8.04
765 KV Gaya-Varanasi (D/C)	652	665	868	0	16.92	0.00	16.92
220 KV Pusauli-Sahupuri	0	0	0	0	0.00	0.00	0.00
132 KV K'nasa-Sahupuri	-24	-28	0	36	0.00	0.61	-0.61
132 KV Son Ngr-Rihand	-31	-30	0	32	0.00	0.00	0.00
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	7	33	178	7	2.03	0.00	2.03
400 KV Barh -GKP (D/C)	470	468	496	0	10.43	0.00	10.43
400 kV B Sharif - Varanasi (D/C)	168	168	301	0	5.02	0.00	5.02
Sub Total ER	2948	3325			83.47	0.61	82.86
+/- 800 KV BiswanathChariali-Agra	463	467	480	0.00	11.11	0.00	11.11
Sub Total NER	463	467			11.11	0.00	11.11
Total IR Exch	9251	9607			245.06	5.82	239.24

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
47.34	3.27	50.61	16.94	9.66	12.44	15.22	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
79.99	148.45	228.43	93.97	145.27	239.24	13.99	-3.18	10.80

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	-30	0	0	30	0	0	-0.14

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	2.35	27.69	65.78	25.24	6.71	0.06	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						
50.22	6.03	49.82	18.10	50.03	0.035	0.053	50.23	50.00	34.22

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	408	2:30	403	14:30	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	416	6:22	398	14:40	0.0	0.0	0.0	0.0	0.0
Bareilly(PG)400kV	400	404	11:03	404	11:03	0.0	0.0	0.0	0.0	0.0
Kanpur	400	417	21:56	402	14:51	0.0	0.0	0.0	0.0	0.0
Dadri	400	417	3:58	397	14:51	0.0	0.0	0.0	0.0	0.0
Ballabgarh	400	423	3:58	400	14:51	0.0	0.0	6.6	0.0	6.6
Bawana	400	419	3:57	399	14:43	0.0	0.0	0.0	0.0	0.0
Bassi	400	420	3:58	395	14:51	0.0	0.0	0.0	0.0	0.0
Hissar	400	416	2:30	397	14:43	0.0	0.0	0.0	0.0	0.0
Moga	400	417	1:22	401	18:29	0.0	0.0	0.0	0.0	0.0
Abdullapur	400	427	2:53	406	18:39	0.0	0.0	19.5	0.0	19.5
Nalagarh	400	433	4:05	408	18:34	0.0	0.0	41.1	6.0	41.1
Kishenpur	400	424	3:58	400	18:28	0.0	0.0	13.8	0.0	13.8
Wagoora	400	412	3:31	379	18:27	0.8	29.5	0.0	0.0	0.8
Amritsar	400	428	4:00	407	18:55	0.0	0.0	26.2	0.0	26.2
Kashipur	400	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Hamirpur	400	418	21:43	407	15:13	0.0	0.0	0.0	0.0	0.0
Rishikesh	400	413	22:00	391	14:44	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	780	22:00	748	14:45	0.0	0.0	0.0	0.0	0.0
Balia	765	784	22:02	758	14:41	0.0	0.0	0.0	0.0	0.0
Moga	765	793	1:13	763	14:50	0.0	0.0	0.0	0.0	0.0
Agra	765	788	21:58	757	14:45	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	799	3:59	766	14:30	0.0	0.0	0.0	0.0	0.0
Unnao	765	766	22:00	735	14:51	0.0	3.5	0.0	0.0	0.0
Lucknow	765	789	22:02	754	14:49	0.0	0.0	0.0	0.0	0.0
Meerut	765	773	0:00	773	0:00	0.0	0.0	0.0	0.0	0.0
Jhatikara	765	785	17:01	781	16:35	0.0	0.0	0.0	0.0	0.0
Bareilly 765 kV	765	794	22:01	755	14:48	0.0	0.0	0.0	0.0	0.0
Anta	765	789	2:35	763	12:17	0.0	0.0	0.0	0.0	0.0
Phagi	765	794	2:53	762	14:49	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 ³ /s)	Usage (m ³ /s)
Bhakra	513.59	445.62	501.82	1166.44	510.69	1575.10	301.72	650.92
Pong	426.72	384.05	416.01	718.14	420.24	902.94	99.87	256.10
Tehri	829.79	740.04	824.65	1100.58	820.75	1023.38	142.74	135.00
Koteswar	612.50	598.50	609.20	4.19	610.94	4.95	135.00	140.05
Chamera-I	760.00	748.75	757.88	0.00	0.00	0.00	101.83	99.19
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	516.65	3.68	513.55	4.02	93.92	137.02

* 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	239	0	0	386	2	0	7.46	2.11	9.57
Delhi	57	26	0	105	132	0	3.11	3.05	6.16
Haryana	499	-5	0	512	291	0	11.39	4.43	15.81
HP	-54	-61	0	-133	-399	0	-2.36	-2.64	-5.00
J&K	-38	-151	0	-38	0	0	0.28	-1.02	-0.74
CHD	0	0	0	0	0	-10	0.00	0.48	0.48
Rajasthan	-5	588	0	-7	597	0	-0.13	14.16	14.04
UP	730	1176	0	803	-100	0	16.69	5.26	21.95
Uttarakhand	36	250	0	36	226	0	0.86	7.35	8.22
Total	1464	1823	0	1664	749	-10	37.30	33.19	70.48

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	386	205	396	0	0	0
Delhi	264	48	281	6	0	0
Haryana	656	136	321	-136	0	0
HP	-54	-133	258	-598	0	0
J&K	61	-38	0	-202	0	0
CHD	0	0	0	0	79	-20
Rajasthan	-5	-7	601	577	0	0
UP	803	593	1176	-100	0	0
Uttarakhand	36	36	541	152	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	1.39%
Simultaneous	2.43%

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

WR	3.82%
ER	12.50%
Simultaneous	21.18%

(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	2	21
Delhi	3	20
UP	2	18
Uttarakhand	2	22
HP	4	27
J & K	1	14
Chandigarh	4	30

XIII. System Constraints:**XIV. Grid Disturbance / Any Other Significant Event:****XV. Weather Conditions For 10.10.2016 :**
Normal**XVI. Synchronisation of new generating units :****XVII. Synchronisation of new 220 / 400 / 765 KV lines and energising of bus / /substation :**
Power flow on 400kV Mainpuri-Orai and 400kV Orai-Parichha started at 2342Hrs of 10.10.16**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.