

पॉवर सिस्टम ऑपरेशन कार्पोरेशन लिमिटेड

(पारशिद की पूर्ण स्वामित्व प्राप्त सहायक कंपनी)

उत्तरी क्षेत्रीय भार प्रेषण केंद्र

CIN: U40105DL2009GO1188682

Power Supply Position in Northern Region for 16.09.2016
Date of Reporting : 17.09.2016



I. Regional Availability/Demand:

Table with columns: Demand Met, Shortage, Requirement, Freq (Hz) for Evening Peak (20:00 Hrs) MW and Off Peak (03:00 Hrs) MW, and Day Energy (Net MU).

* 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:

Table showing State's Control Area Generation (Net MU) with columns: Thermal, Hydro, Renewable/others \$, Total, Drawal Schedule (Net MU), Actual Drawal (Net MU), UI (Net MU), Consumption (Net MU), Shortages * (MU).

* Shortage furnished by the respective constituent \$ Others include UP Co-generation and JK Diesel

II. B. State's Demand Met in MWs:

Table showing State's Demand Met in MWs with columns: Demand Met, Shortage, UI, STOA/PX transaction, Demand Met, Shortage, UI, STOA/PX transaction, Maximum Demand Met (MW) and Time(Hrs), Shortage (MW).

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

Diversity is: 1.05

III. Regional Entities :

Large table with columns: Station/Constituent, Inst. Capacity (Effective) MW, Declared Capacity(MW), Peak MW (Gross), Off Peak MW (Gross), Energy (Net MU), Average Sentout(MW), Schedule Net MU, UI Net MU.

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	880	880	20.71	863
	Guru Nanak Dev TPS(Bhatinda) (2*110+2*120)	460	180	180	4.23	176
	Guru Hargobind Singh TPS(L.mbi) (2*210+2*250)	920	592	591	13.92	580
	Goindwal(GVK) (2*270)	540	0	0	-0.03	-1
	Rajpura (2*700)	1400	1320	1320	31.16	1298
	Talwandi Saboo (3*660)	1980	1228	616	23.11	963
	Thermal (Total)	6560	4200	3587	93.09	3879
	Total Hydro	1000	764	757	17.95	748
	Wind Power	0	0	0	0.00	0
	Biomass	73	0	0	0.00	0
	Solar	494	0	0	0.00	0
	Renewable(Total)	567	0	0	0.00	0
	Total Punjab	8127	4964	4344	111.04	4627
	Haryana	Panipat TPS (2*210+2*250)	920	201	207	4.96
DCRTPP (Yamuna naagar) (2*300)		600	553	558	11.79	491
Faridabad GPS (NTPC)(2*137.75+1*156)		432	355	320	7.57	315
RGTPP (khedar) (IPP) (2*600)		1200	973	875	20.60	859
Magnum Diesel (IPP)		25	0	0	0.00	0
Jhajjar(CLP) (2*660)		1320	0	0	0.00	0
Thermal (Total)		4497	2082	1960	44.92	1872
Total Hydro		62	41	34	0.89	37
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	2123	1994	45.81	1909
Rajasthan		kota TPS (2*110+2*195+3*210)	1240	921	929	22.52
	suratgarh TPS (6*250)	1500	902	907	21.36	890
	Chabra TPS (4*250)	1000	576	606	15.54	647
	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	105	106	2.64	110
	RAPS A (NPC) (1*100+1*200)	300	164	166	4.15	173
	Barsingar (NLC) (2*125)	250	227	227	5.32	222
	Giral LTPS (2*125)	250	0	0	0.00	0
	Rajwest LTPS (IPP) (8*135)	1080	761	834	19.39	808
	VS LIGNITE LTPS (IPP) (1*135)	135	0	0	0.00	0
	Kalisindh Thermal(2*600)	1200	0	0	0.00	0
	Kawai(Adani) (2*660)	1320	1237	1230	29.33	1222
	Thermal (Total)	8876	4893	5005	120.24	5010
	Total Hydro	550	45	25	1.18	49
	Wind power	4017	94	276	5.09	212
	Biomass	99	23	23	0.56	23
	Solar	1295	0	0	0.09	4
	Renewable/Others (Total)	5411	117	299	5.74	239
	Total Rajasthan	14837	5055	5329	127.16	5298
UP	Anpara TPS (3*210+2*500)	1630	858	918	20.60	858
	Obra TPS (2*50+2*94+5*200)	1194	320	194	5.60	233
	Paricha TPS (2*110+2*220+2*250)	1160	801	824	19.00	792
	Panki TPS (2*105)	210	153	151	3.60	150
	Harduaganj TPS (1*60+1*105+2*250)	665	433	438	10.40	433
	Tanda TPS (NTPC) (4*110)	440	370	355	8.62	359
	Roza TPS (IPP) (4*300)	1200	1076	1094	26.20	1092
	Anpara-C (IPP) (2*600)	1200	801	918	20.90	871
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	277	324	7.30	304
	Anpara-D(2*500)	1000	349	366	7.60	317
	Lalitpur TPS(3*660)	1980	407	492	10.30	429
	Bara(2*660)	1320	549	551	13.20	550
	Thermal (Total)	12449	6394	6625	153.32	6389
	Vishnuparyag HPS (IPP)(4*110)	440	435	435	10.50	438
	Alaknanda(4*82.5)	330	281	331	7.00	292
	Other Hydro	527	289	273	6.40	267
	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	7449	7714	178.42	7434	
Uttarakhand	Other Hydro	1250	859	824	17.62	734
	Total Gas	225	66	163	2.69	112
	Wind Power	0	0	0	0.00	0
	Biomass	100	0	0	0.00	0
	Solar	20	0	0	0.00	0
	Small Hydro (< 25 MW)	150	0	0	0.00	0
	Renewable(Total)	270	0	0	0.00	0
	Total Uttarakhand	1745	925	987	20.31	846
Delhi	Rajghat TPS (2*67.5)	135	0	0	0.00	0
	Delhi Gas Turbine (6x30 + 3x34)	282	73	74	1.84	76
	Pragati Gas Turbine (2x104+ 1x122)	330	267	266	6.51	271
	Rithala GPS (3*36)	95	0	0	0.00	0
	Bawana GPS (4*216+2*253)	1370	253	254	6.07	253
	Badarpur TPS (NTPC) (3*95+2*210)	705	330	330	7.14	298
	Thermal (Total)	2917	924	924	21.55	898
	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	924	924	21.55	898	
HP	Baspa HPS (IPP) (3*100)	300	298	298	5.90	246
	Malana HPS (IPP) (2*43)	86	88	48	1.50	63
	Other Hydro	878	527	407	5.32	222
	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)		324	312	6.75	281
	Renewable(Total)	0	324	312	6.75	281
Total HP	1264	1237	1065	19.48	812	

J & K	Baglihar HPS (IPP) (3*150+2*150)	750	733	732	17.59	733
	Other Hydro/IPP	560	184	185	4.38	182
	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)		0	0	0.00	0
	Renewable(Total)	0	0	0	0.00	0
	Total J & K	1500	917	917	21.96	915
	Total State Control Area Generation	49862	23593	23275	545.73	22739
J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]		8334.82	9734.17	213.85	8910	
Total Regional Availability(Gross)		75099	53616	48507	1161.04	48377

IV. Total Hydro Generation:						
Regional Entities Hydro	12234	11967	5613	188.63	7860	
State Control Area Hydro	7228	4934	4824	102.98	4403	
Total Regional Hydro	19462	16900	10437	291.61	12263	

V. Total Renewable Generation:						
Regional Entities Renewable	30	0	0	0.08	3	
State Control Area Renewable	6434	441	611	12.49	521	
Total Regional Renewable	6464	441	611	12.58	524	

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

Element	Peak(20:00 Hrs)	Off Peak(03:00 Hrs)	Maximum Interchange (MW)		Energy (MU)		Net Energy MU
	MW	MW	Import	Export	Import	Export	
Vindhyachal(HVDC B/B)	-250	-50	500	250	0.21	3.71	-3.50
765 KV Gwalior-Agra (D/C)	2567	2940	2971	0	63.87	0.00	63.87
400 KV Zerda-Kankroli	74	147	147	66	1.14	0.00	1.14
400 KV Zerda-Bhinmal	179	107	235	17	2.79	0.00	2.79
220 KV Auraiya-Malanpur	17	-5	0	52	0.00	0.11	-0.11
220 KV Badod-Kota/Morak	61	102	102	21	1.55	0.00	1.55
Mundra-Mohindergarh(HVDC Bipole)	2002	1998	2204	0.00	48.98	0.00	48.98
400 KV Vindhyachal - Rihand	0	0	0	0	0.00	0.00	0.00
765 kV Phagi-Gwalior (D/C)	1276	1215	1394	0	28.70	0.00	28.70
Sub Total WR	5926	6454			147.25	3.82	143.43
Pusaali Bypass/HVDC	250	250	250	0	6.07	0.00	6.07
400 KV MZP- GKP (D/C)	196	452	656	0	10.52	0.00	10.52
400 KV Patna-Balia(D/C) X 2	420	582	611	0	12.48	0.00	12.48
400 KV B' Sharif-Balia (D/C)	27	136	282	0	3.18	0.00	3.18
765 KV Gaya-Balia	252	370	370	0	2.98	0.00	2.98
765 KV Gaya-Varanasi (D/C)	453	617	922	0	14.87	0.00	14.87
220 KV Pusaali-Sahupuri	0	0	0	0	0.00	0.00	0.00
132 KV K'nasa-Sahupuri	-22	-32	0	32	0.00	0.60	-0.60
132 KV Son Ngr-Rihand	-30	-36	0	44	0.00	1.00	-1.00
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	-229	-149	0	230	0.00	3.54	-3.54
400 KV Barh -GKP (D/C)	352	418	452	0	8.53	0.00	8.53
400 kV B' Sharif - Varanasi (D/C)	40	-28	123	40	0.99	0.00	0.99
Sub Total ER	1709	2580			59.61	5.14	54.48
+/- 800 KV BiswanathChariali-Agra	700	700	700	0.00	15.94	0.00	15.94
Sub Total NER	700	700			15.94	0.00	15.94
Total IR Exch	8335	9734			222.81	8.96	213.85

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
48.34	3.73	52.06	28.82	13.48	5.93	2.94	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
86.82	131.39	218.21	70.41	143.43	213.85	-16.40	12.04	-4.36

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

Element	Peak(20:00 Hrs)	Off Peak(03:00 Hrs)	Maximum Interchange (MW)		Energy (MU)		Net Energy MU
	MW	MW	Import	Export	Import	Export	
132 KV Tanakpur - Mahendarnagar	-21	0	0	26	0	0	-0.40

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	3.10	47.48	79.00	15.24	2.73	0.00	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)		
50.16	6.02	49.80	0.24	50.00	0.027	0.052	50.20	49.97	21.00

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	409	6:04	401	23:06	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	420	6:04	401	0:17	0.0	0.0	0.0	0.0	0.0
Bareilly(PG)400kV	400	420	6:04	389	13:52	0.0	0.0	0.0	0.0	0.0
Kanpur	400	419	6:05	398	19:10	0.0	0.0	0.0	0.0	0.0
Dadri	400	413	6:01	394	14:46	0.0	0.0	0.0	0.0	0.0
Ballabgarh	400	422	6:05	398	12:50	0.0	0.0	0.7	0.0	0.7
Bawana	400	419	6:02	396	19:08	0.0	0.0	0.0	0.0	0.0
Bassi	400	423	6:03	119	16:21	23.3	23.3	0.9	0.0	24.2
Hissar	400	415	6:02	391	19:09	0.0	0.0	0.0	0.0	0.0
Moga	400	419	6:04	396	19:11	0.0	0.0	0.0	0.0	0.0
Abdullapur	400	420	6:02	398	19:10	0.0	0.0	0.0	0.0	0.0
Nalagarh	400	422	6:04	400	19:13	0.0	0.0	2.1	0.0	2.1
Kishenpur	400	417	4:01	397	19:17	0.0	0.0	0.0	0.0	0.0
Wagoora	400	411	3:25	381	19:17	0.0	10.9	0.0	0.0	0.0
Amritsar	400	422	4:02	399	19:06	0.0	0.0	0.6	0.0	0.6
Kashipur	400	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Hamirpur	400	416	5:02	396	19:12	0.0	0.0	0.0	0.0	0.0
Rishikesh	400	413	6:02	382	14:21	0.0	13.2	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	791	6:05	741	19:10	0.0	0.0	0.0	0.0	0.0
Balia	765	790	6:04	754	12:36	0.0	0.0	0.0	0.0	0.0
Moga	765	811	6:04	761	19:18	0.0	0.0	21.0	0.0	21.0
Agra	765	800	6:03	753	19:12	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	789	18:00	762	12:37	0.0	0.0	0.0	0.0	0.0
Unnao	765	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Lucknow	765	794	6:04	754	12:51	0.0	0.0	0.0	0.0	0.0
Meerut	765	809	6:04	761	12:50	0.0	0.0	8.2	0.0	8.2
Jhatikara	765	800	6:01	757	12:50	0.0	0.0	0.0	0.0	0.0
Bareilly 765 kV	765	798	6:04	754	12:50	0.0	0.0	0.0	0.0	0.0
Anta	765	796	5:59	766	12:36	0.0	0.0	0.0	0.0	0.0
Phagi	765	798	6:09	631	17:20	2.2	2.2	0.0	0.0	2.2

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	503.12	1232.31	511.28	1605.30	638.88	654.06
Pong	426.72	384.05	417.72	781.19	421.45	961.02	267.08	494.30
Tehri	829.79	740.04	824.35	1086.79	821.85	1044.51	204.68	310.00
Koteshwar	612.50	598.50	610.07	4.57	610.88	5.00	310.00	293.39
Chamera-I	760.00	748.75	0.00	0.00	0.00	0.00	154.05	157.57
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	520.55	6.90	512.38	7.24	199.55	241.64

* NA: Not Available

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

State	Off- Peak Hours (03:00 Hrs)			Peak Hours (20:00 Hrs)			Day Energy (MU)		
	Bilateral (MW)	IEX (MW)	PXIL (MW)	Bilateral (MW)	IEX (MW)	PXIL (MW)	Bilateral (MU)	IEX / PXIL (MU)	Total (MU)
Punjab	804	0	0	583	60	0	19.61	0.22	19.83
Delhi	621	-337	0	644	-150	0	16.11	-2.73	13.39
Haryana	1421	150	13	1800	320	13	35.98	5.67	41.65
HP	-691	-239	0	-387	-1049	0	-11.71	-10.68	-22.39
J&K	-548	-115	0	-548	-15	0	-13.71	0.15	-13.56
CHD	0	0	0	0	-40	0	0.36	-0.10	0.26
Rajasthan	-129	482	4	-129	484	4	-3.31	11.91	8.60
UP	695	794	0	358	0	0	10.21	6.56	16.78
Uttarakhand	-188	197	0	-188	127	0	-4.52	5.83	1.31
Total	1986	932	18	2134	-263	18	49.02	16.84	65.86

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	935	576	66	0	0	0
Delhi	767	443	214	-489	0	0
Haryana	2090	1196	380	-373	14	13
HP	-387	-691	-175	-1072	0	0
J&K	-548	-618	99	-115	0	0
CHD	44	0	20	-40	0	0
Rajasthan	-129	-153	510	474	4	4
UP	712	274	1178	0	0	0
Uttarakhand	-188	-188	627	16	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	6.60%
ER	0.00%
Simultaneous	1.74%

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

WR	48.96%
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 Number of times of Non Compliance of Sign Change in UI in consecutive 12 blocks in the day(1 block = 15 min)

Punjab	3
Haryana	28
Rajasthan	4
Delhi	13
UP	2
Uttarakhand	9
HP	10
J & K	6
Chandigarh	31

XIII. System Constraints:

XIV. Grid Disturbance / Any Other Significant Event:

XV. Weather Conditions For 16.09.2016 :

XVI. Synchronisation of new generating units :

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

220kV Bhiwadi-Bawal(HVPNL) line first time charged at 1933Hrs of 16.09.2016

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.