

पाँवर सिस्टम ऑपरेशन कार्पोरेशन लिमिटेड

(पावरग्रिड की पूर्ण स्वामित्व प्राप्त सहायक कंपनी)

उत्तरी क्षेत्रीय भार प्रेषण केंद्र

CIN: U40105DL2009GOI188682

Power Supply Position in Northern Region for 31.12.2016

Date of Reporting : 01.01.2017



I. Regional Availability/Demand:

Table with 9 columns: Demand Met, Shortage, Requirement, Freq* (Hz), Demand Met, Shortage, Requirement, Freq* (Hz), Demand Met, Shortage. Rows for Evening Peak (19:00 Hrs) MW and Off Peak (03:00 Hrs) MW.

* 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:

UI (OD:(+ve), UD:(-ve))

Table with 7 columns: State, Thermal, Hydro, Renewable/others \$, Total, Drawal Schedule (Net MU), Actual Drawal (Net MU), UI (Net MU), Consumption (Net MU), Shortages* (MU). Rows for Punjab, Haryana, Rajasthan, Delhi, UP, Uttarakhand, HP, J & K, Chandigarh, Total.

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

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

UI/OA/PX (OD/Import: (+ve), UD/Export: (-ve))

Table with 11 columns: State, Demand Met, Shortage, UI, STO/PA transaction, Demand Met, Shortage, UI, STO/PA transaction, Maximum Demand Met (MW) and Time(Hrs), Shortage (MW). Rows for Punjab, Haryana, Rajasthan, Delhi, UP, Uttarakhand, HP, J&K, Chandigarh, Total.

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

III. Regional Entities :

Diversity is 1.02

UI (OG:(+ve), UG:(-ve))

Main table with 10 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. Rows for A. NTPC, B. NPC, C. NHPC, D. SJVNL, E. THDC, F. BBMB, G. IPP(s)/JV(s), H. Total Regional Entities (A-G).

I. State Entities

Table with 7 columns: Station, Effective Installed Capacity (MW), Peak MW, Off Peak MW, Energy(MU), Average(Sentout MW). Rows for Punjab: Guru Gobind Singh TPS (Ropar), Guru Nanak Dev TPS(Bhatinda), Guru Hargobind Singh TPS(L.mbt), Goidwal(GVK).

	Rajpura (2*700)	1400	1320	660	25.69	1070
	Talwandi Saboo (3*660)	1980	616	616	20.29	845
	Thermal (Total)	6560	2298	1637	54.64	2277
	Total Hydro	1000	291	237	8.13	339
	Wind Power	0	0	0	0.00	0
	Biomass	288	0	0	0.29	12
	Solar	560	0	0	0.01	0
	Renewable(Total)	848	0	0	0.29	12
	Total Punjab	8408	2589	1874	63.07	2628
Haryana	Panipat TPS (2*210+2*250)	920	455	413	10.34	431
	DCRTPP (Yamuna nagar) (2*300)	600	280	231	6.08	253
	Faridabad GPS (NTPC)(2*137.75+1*156)	432	0	0	0.00	0
	RGTPP (khedar) (IPP) (2*600)	1200	519	0	3.35	140
	Magnum Diesel (IPP)	25	0	0	0.00	0
	Jhajjar(CLP) (2*660)	1320	370	374	8.92	372
	Thermal (Total)	4497	1624	1018	28.68	1195
	Total Hydro	62	17	8	0.30	12
	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	1641	1026	28.98	1208
Rajasthan	kota TPS (2*110+2*195+3*210)	1240	1141	981	25.62	1068
	suratgarh TPS (6*250)	1500	187	219	5.35	223
	Chabra TPS (4*250)	1000	910	759	20.82	867
	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	63	163	1.23	51
	RAPS A (NPC) (1*100+1*200)	300	168	170	4.25	177
	Barsingar (NLC) (2*125)	250	226	227	5.31	221
	Giral LTPS (2*125)	250	0	0	0.00	0
	Rajwest LTPS (IPP) (8*135)	1080	833	582	17.40	725
	VS LIGNITE LTPS (IPP) (1*135)	135	0	0	0.00	0
	Kalisindh Thermal(2*600)	1200	1127	819	24.17	1007
	Kawai(Adani) (2*660)	1320	619	583	14.04	585
	Thermal (Total)	8876	5274	4503	118.17	4924
	Total Hydro	550	190	236	4.98	208
	Wind power	4017	215	522	5.91	246
	Biomass	99	0	0	0.00	0
	Solar	1295	0	0	0.00	0
	Renewable/Others (Total)	5411	215	522	5.91	246
	Total Rajasthan	14837	5679	5261	129.06	5378
UP	Anpara TPS (3*210+2*500)	1630	1343	1288	31.37	1307
	Obra TPS (2*50+2*94+5*200)	1194	490	445	11.60	483
	Paricha TPS (2*110+2*220+2*250)	1160	920	654	21.60	900
	Panki TPS (2*105)	210	135	135	3.10	129
	Harduaganj TPS (1*60+1*105+2*250)	665	361	428	11.90	496
	Tanda TPS (NTPC) (4*110)	440	189	210	6.09	254
	Roza TPS (IPP) (4*300)	1200	1116	747	25.38	1057
	Anpara-C (IPP) (2*600)	1200	1080	729	24.24	1010
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	162	166	4.37	182
	Anpara-D(2*500)	1000	427	260	9.18	383
	Lalitpur TPS(3*660)	1980	0	0	0.00	0
	Bara(2*660)	1320	0	0	0.00	0
	Thermal (Total)	12449	6223	5062	148.83	6201
	Vishnuparyag HPS (IPP)(4*110)	440	83	78	1.80	75
	Alakanada(4*82.5)	330	76	0	1.26	52
	Other Hydro	527	241	93	3.88	162
	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
	Renewable(Total)	128	0	0	0.00	0
Total UP	14855	7423	6033	174.96	7290	
Uttarakhand	Other Hydro	1250	365	569	9.20	383
	Total Gas	225	298	283	6.38	266
	Wind Power	0	0	0	0.00	0
	Biomass	127	0	0	0.00	0
	Solar	20	0	0	0.04	2
	Small Hydro (< 25 MW)	180	0	0	0.00	0
	Renewable(Total)	327	0	0	0.04	2
	Total Uttarakhand	1802	663	852	15.62	651
Delhi	Rajghat TPS (2*67.5)	135	0	0	-0.01	0
	Delhi Gas Turbine (6x30 + 3x34)	282	74	71	1.45	60
	Pragati Gas Turbine (2x104+ 1x122)	330	160	163	3.92	163
	Rithala GPS (3*36)	95	0	0	0.00	0
	Bawana GPS (4*216+2*253)	1370	250	280	6.13	255
	Badarpur TPS (NTPC) (3*95+2*210)	705	-4	-4	-0.17	-7
	Thermal (Total)	2917	480	510	11.31	471
	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	480	510	11.31	471	
HP	Baspa HPS (IPP) (3*100)	300	0	0	1.11	46
	Malana HPS (IPP) (2*43)	86	0	0	0.23	10
	Other Hydro	372	180	46	2.40	100
	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	52	37	0.15	6
	Renewable(Total)	486	52	37	0.15	6
	Total HP	1244	232	84	3.90	162
	J & K	Baqilhar HPS (IPP) (3*150+3*150)	900	147	147	3.26
Other Hydro/IPP(including 98 MW Small Hydro)		308	81	21	0.99	41
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	228	168	4	177	

Total State Control Area Generation	50078	18936	15808	431.16	17965
J. Net Inter Regional Exchange [Import (+ve)/Export (-ve)]		6616.4	6702.86	189.09	7879
Total Regional Availability(Gross)	75315	42319	30255	870.79	36283

IV. Total Hydro Generation:

Regional Entities Hydro	12234	8072	603	62.89	2620
State Control Area Hydro	7163	2021	1756	37.69	1838
Total Regional Hydro	19397	10094	2359	100.58	4458

V. Total Renewable Generation:

Regional Entities Renewable	30	0	0	0.05	2
State Control Area Renewable	7356	267	559	6.40	266
Total Regional Renewable	7386	267	559	6.45	269

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	
Vindhychal(HVDC B/B)	-400	-400	0	400	0.00	8.77	-8.77
765 KV Gwalior-Agra (D/C)	2510	1858	2891	0	57.42	0.00	57.42
400 KV Zerda-Kankroli	-2	174	35	240	0.00	1.94	-1.94
400 KV Zerda-Bhimnal	55	-5	177	163	0.81	0.00	0.81
220 KV Auraiya-Malanpur	-62	-77	0	92	0.00	1.36	-1.36
220 KV Badod-Kota/Morak	-28	-84	21	79	0.00	1.49	-1.49
Mundra-Mohinderghar(HVDC Bipole)	2198	2198	2505	0.00	54.70	0.00	54.70
400 KV RAPPCC-Sujalpur	-400	-231	440	0	8.10	0.00	8.10
400 KV Vindhychal-Rihand	0	0	0	0	0.00	0.00	0.00
765 kV Phagi-Gwalior (D/C)	1208	1207	1616	0	32.54	0.00	32.54
Sub Total WR	5078	4640			153.58	13.57	140.01
400 kV Sasaram - Varanasi	-80	-22	116	0	0.00	1.40	-1.40
400 kV Sasaram - Allahabad	-124	-79	143	0	0.00	2.06	-2.06
400 KV MZP- GKP (D/C)	161	416	448	0	7.85	0.00	7.85
400 KV Patna-Balia(D/C) X 2	700	751	987	0	17.64	0.00	17.64
400 KV B'Sharif-Balia (D/C)	103	231	298	0	5.08	0.00	5.08
765 KV Gaya-Balia	185	230	318	0	5.98	0.00	5.98
765 KV Gaya-Varanasi (D/C)	493	552	839	0	14.94	0.00	14.94
220 KV Pusaali-Sahupuri	100	90	135	0	2.49	0.00	2.49
132 KV K'nasa-Sahupuri	0	0	0	0	0.48	0.51	-0.51
132 KV Son Ngr-Rihand	-33	-36	0	0	0.00	0.72	-0.72
132 KV Garhwa-Rihand	0	0	0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	102	144	281	0	4.35	0.00	4.35
400 KV Barh -GKP (D/C)	518	478	676	0	12.55	0.00	12.55
400 kV B'Sharif - Varanasi (D/C)	-87	-192	263	0	0.00	4.10	-4.10
Sub Total ER	2038	2563			71.35	8.80	62.07
+/- 800 KV BiswanathCharialli-Agra	-500	-500	0	500.00	0.00	12.99	-12.99
Sub Total NER	-500	-500			0.00	12.99	-12.99
Total IR Exch	6616	6703			224.92	35.36	189.09

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
45.40	0.43	45.83	-0.62	-10.43	18.44	7.95	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
63.65	127.39	191.04	49.08	140.01	189.09	-14.57	12.62	-1.95

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	-29	0	32	0	1	-0.72

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	0.05	17.26	66.51	69.94	10.34	2.73	0.00	0.00

----- Frequency (Hz) ----->				Average Frequency	Frequency Variation	Std. Dev.	Frequency in 15 Min Block		Freq Dev Index (%)
Maximum		Minimum					MAX	MIN	
Freq	Time	Freq	Time	Hz	Index	(Hz)	(Hz)		
50.21	6.02	49.75	6.39	49.97	0.062	50.07	49.86	30.06	

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	410	1:16	399	13:56	0.0	0.0	0.0	0.0	0.0
Gorakhpur	400	425	1:03	402	10:42	0.0	0.0	13.3	0.0	13.3
Bareilly(PG)400kV	400	422	0:58	401	9:49	0.0	0.0	10.8	0.0	10.8
Kanpur	400	420	1:01	399	11:08	0.0	0.0	0.0	0.0	0.0
Dadri	400	429	1:03	402	9:51	0.0	0.0	25.3	0.0	25.3
Ballabgarh	400	432	1:00	407	9:55	0.0	0.0	44.5	3.6	44.5
Bawana	400	426	0:24	401	9:52	0.0	0.0	23.2	0.0	23.2
Bassi	400	424	4:03	391	11:09	0.0	0.0	1.4	0.0	1.4
Hissar	400	422	1:02	397	9:50	0.0	0.0	1.4	0.0	1.4
Moga	400	421	1:00	399	9:38	0.0	0.0	0.9	0.0	0.9
Abdullapur	400	428	1:02	404	9:50	0.0	0.0	22.5	0.0	22.5
Nalagarh	400	430	1:01	408	9:45	0.0	0.0	53.8	0.0	53.8
Kishenpur	400	417	23:21	392	9:38	0.0	0.0	0.0	0.0	0.0
Wagoora	400	390	13:01	362	9:52	62.9	99.9	0.0	0.0	62.9
Amritsar	400	431	23:32	402	9:37	0.0	0.0	26.3	0.0	26.3
Kashipur	400	0	0:00	0	0:00	0.0	0.0	0.0	0.0	0.0
Hamirpur	400	422	23:24	402	7:49	0.0	0.0	2.0	0.0	2.0
Rishikesh	400	422	0:03	395	9:37	0.0	0.0	8.3	0.0	8.3

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	781	1:02	740	10:27	0.0	1.7	0.0	0.0	0.0
Balia	765	793	1:04	754	11:07	0.0	0.0	0.0	0.0	0.0
Moga	765	799	1:02	759	9:52	0.0	0.0	0.0	0.0	0.0

Agra	765	794	1:04	750	10:26	0.0	0.0	0.0	0.0	0.0
Bhiwani	765	809	0:27	766	9:48	0.0	0.0	18.2	0.0	18.2
Unnao	765	777	1:03	735	11:09	0.0	10.6	0.0	0.0	0.0
Lucknow	765	805	1:01	765	10:27	0.0	0.0	15.7	0.0	15.7
Meerut	765	809	0:03	760	6:54	0.0	0.0	6.2	0.0	6.2
Jhatikara	765	809	1:02	763	9:52	0.0	0.0	18.9	0.0	18.9
Bareilly 765 kV	765	798	1:02	757	9:52	0.0	0.0	0.0	0.0	0.0
Anta	765	794	4:02	760	11:08	0.0	0.0	0.0	0.0	0.0
Phagi	765	804	4:01	753	10:28	0.0	0.0	0.6	0.0	0.6

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	488.36	680.71	156.42	434.72	500.96	1140.31
Pong	426.72	384.05	408.06	435.19	46.67	306.08	411.21	534.70
Tehri	829.79	740.04	808.50	773.07	802.05	656.02	39.94	201.00
Koteshwar	612.50	598.50	610.28	4.70	610.87	4.95	201.00	194.11
Chamera-I	760.00	748.75	759.68	0.00	0.00	0.00	43.11	43.11
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	504.82	1.66	497.97	2.42	37.80	107.92

* 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	-623	2	0	-705	0	0	-22.92	0.02	-22.91
Delhi	-184	-291	0	-274	97	0	-5.75	1.93	-3.82
Haryana	-950	233	0	-651	225	0	-17.76	5.35	-12.41
HP	520	88	0	405	-14	0	12.73	-1.09	11.65
J&K	608	243	0	605	272	0	14.40	5.99	20.39
CHD	0	0	0	0	0	0	0.00	-0.02	-0.02
Rajasthan	-7	388	0	-7	338	0	8.59	8.56	17.15
UP	105	0	0	-142	377	0	-7.77	5.39	-2.38
Uttarakhand	120	-16	0	120	53	0	3.00	0.83	3.83
Total	-412	646	0	-651	1348	0	-15.47	26.96	11.49

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-618	-1457	2	0	0	0
Delhi	-139	-364	610	-291	0	0
Haryana	-616	-958	260	25	0	0
HP	663	381	88	-555	0	0
J&K	608	590	418	-118	0	0
CHD	0	0	24	-31	0	0
Rajasthan	869	-7	668	268	0	0
UP	118	-853	758	-100	0	0
Uttarakhand	151	120	175	-148	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	1.39%

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

WR	10.42%
ER	4.17%
Simultaneous	26.39%

(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	2	15
Haryana	2	15
Rajasthan	2	22
Delhi	2	20
UP	1	14
Uttarakhand	2	20
HP	3	31
J & K	2	30
Chandigarh	3	31

XIII. System Constraints:

XIV. Grid Disturbance / Any Other Significant Event:

XV. Weather Conditions For 31.12.2016 :

XVI. Synchronisation of new generating units :

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

0
0.00
0
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.

Report for : 31.12.2016

पारी प्रभारी अभियंता / SHIFT CHARGE ENGINEER