

पॉवर सिस्टम ऑपरेशन कार्पोरेशन लिमिटेड

(पावरसिस्ट की पूर्ण व्यापकित प्राप्त सहायक कंपनी)



उत्तरी क्षेत्रीय भार प्रेषण केंद्र

CIN: U40105DL2009GO1188682

Power Supply Position in Northern Region for 08.10.2015
Date of Reporting : 09.10.2015

I. Regional Availability/Demand:

Demand Met	Evening Peak (20:00 Hrs) MW			Demand Met	Off Peak (03:00 Hrs) MW			Day Energy (Net MU)	
	Shortage	Requirement	Freq* (Hz)		Shortage	Requirement	Freq* (Hz)	Demand Met	Shortage
45648	2904	48552	50.09	39255	2516	41770	50.09	998.9	56.99

* 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:

State	State's Control Area Generation (Net MU)				Drawal Schedule (Net MU)	Actual Drawal (Net MU)	UI (Net MU)	Consumption (Net MU)	Shortages* (MU)	UI (OD:(+ve), UD: (-ve))
	Thermal	Hydro	Renewable/others \$	Total						
Punjab	82.48	12.07		94.55	66.46	66.39	-0.08	160.94	0.00	
Haryana	67.03	0.65		67.68	89.82	88.95	-0.87	156.63	0.00	
Rajasthan	129.14	0.00	4.33	133.46	67.49	66.72	-0.77	200.18	0.00	
Delhi	15.65			15.65	78.42	77.20	-1.22	92.85	0.04	
UP	146.58	11.20		157.78	124.70	125.61	0.91	283.39	47.93	
Uttarakhand		16.60		16.60	18.81	20.44	1.63	37.05	0.00	
HP		9.92		9.92	14.38	15.15	0.77	25.06	0.00	
J & K		11.81	0.00	11.81	25.35	26.44	1.09	38.24	9.03	
Chandigarh				0.00	4.62	4.62	0.27	4.62	0.00	
Total	440.87	62.24	4.33	507.44	490.05	491.51	1.73	998.94	56.99	

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

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

State	Evening Peak (20:00 Hrs) MW				Off Peak (03:00 Hrs) MW				# Max(hourly) Demand Met of Day (MW)	UI (OD:(+ve), UD/Import: (+ve), UD/Export: (-ve))
	Demand Met	Shortage	UI	STOA/PX transaction	Demand Met	Shortage	UI	STOA/PX transaction		
Punjab	7120	0	-139	38	6119	0	155	-7	7245	
Haryana	7898	0	-48	263	5428	0	22	286	7898	
Rajasthan	8663	0	-192	498	8762	0	-34	945	9240	
Delhi	4301	0	-15	195	3663	0	84	60	4301	
UP	12580	2440	-160	233	11465	2265	-135	505	12855	
Uttarakhand	1790	0	52	217	1388	0	108	203	1865	
HP	1220	0	-11	-563	856	0	58	122	1303	
J&K	1856	464	36	19	1421	251	180	-80	1865	
Chandigarh	220	0	-16	0	153	0	25	0	232	
Total	45648	2904	-493	899	39255	2516	463	2033	45648	

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

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III. Regional Entities :

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 (OG:(+ve), UG: (-ve))	
								Net MU	Net MU
A. NTPC									
Singrauli STPS (5*200+2*500)	2000	1690	1850	1828	41.10	1712	40.56	0.54	
Rihand I STPS (2*500)	1000	840	925	921	20.24	843	20.02	0.22	
Rihand II STPS (2*500)	1000	943	1019	1025	22.68	945	22.18	0.50	
Rihand III STPS (2*500)	1000	480	478	520	11.54	481	11.43	0.11	
Dadri I STPS (4*210)	840	800	635	457	12.59	525	12.81	-0.22	
Dadri II STPS (2*490)	980	970	940	832	20.21	842	21.00	-0.79	
Uncharhar I TPS (2*210)	420	200	208	204	4.27	178	4.63	-0.36	
Uncharhar II TPS (2*210)	420	400	424	382	8.33	347	9.02	-0.69	
Uncharhar III TPS (1*220)	210	200	211	195	4.08	170	4.38	-0.30	
ISTPP (Jhajjar) (3*500)	1500	1436	992	655	17.08	712	17.83	-0.75	
Dadri GPS (4*130.19+2*154.51)	830	675	354	294	7.97	332	8.27	-0.30	
Anta GPS (3*88.71+1*153.2)	419	397	0	0	0.00	0	0.00	0.00	
Auraiya GPS (4*111.19+2*109.30)	663	538	266	277	6.25	261	6.43	-0.18	
Dadri Solar	5	1	0	0	0.02	1	0.02	0.00	
Uncharhar Solar	10	3	0	0	0.03	1	0.06	-0.03	
Singrauli Solar	15	3	0	0	0.04	2	0.08	-0.04	
KHEP	800	845	747	0	6.17	257	5.91	0.26	
Sub Total (A)	12112	10422	9049	7590	183	7609	185	-2	
B. NPC									
NAPS (2*220)	440	209	210	209	4.23	176	5.02	-0.79	
RAPS- B (2*220)	440	397	437	439	9.49	395	9.53	-0.04	
RAPS- C (2*220)	440	206	229	229	4.80	200	4.94	-0.14	
Sub Total (B)	1320	812	876	877	18.52	772	19.49	-0.97	
C. NHPC									
Chamera I HPS (3*180)	540	537	543	0	4.81	200	4.60	0.21	
Chamera II HPS (3*100)	300	300	304	0	2.93	122	2.81	0.12	
Chamera III HPS (3*77)	231	229	226	0	1.96	81	1.80	0.15	
Bairasuli HPS(3*60)	180	179	180	0	1.05	44	0.96	0.09	
Saikal-HPS (6*115)	690	257	460	220	6.98	291	6.18	0.80	
Tanakpur-HPS (3*40)	94	55	54	50	1.46	61	1.33	0.13	
Uri-I HPS (4*120)	480	337	305	341	8.73	364	8.07	0.65	
Uri-II HPS (4*60)	240	193	194	193	4.80	200	4.62	0.18	
Dhauliganga-HPS (4*70)	280	280	282	0	2.70	113	2.46	0.24	
Dulhasti-HPS (3*130)	390	386	391	133	7.29	304	7.10	0.19	
Sewa-II HPS (3*40)	120	119	124	0	1.16	48	0.90	0.26	
Parbati 3 (4*130)	520	260	260	0	0.81	34	0.78	0.03	
Sub Total (C)	4065	3132	3324	937	45	1861	42	3	
D.SJVNL									
NJPC (6*250)	1500	1605	1405	0	15.04	627	14.78	0.26	
Rampur HEP (6*68.67)	412	360	377	0	4.17	174	4.00	0.17	
Sub Total (D)	1912	1965	1782	0	19.21	800	18.78	0.43	
E. THDC									
Tehri HPS (4*250)	1000	1080	910	0	10.32	430	10.17	0.16	
Koteshwar HPS (4*100)	400	129	304	90	3.20	133	3.10	0.10	
Sub Total (E)	1400	1209	1214	90	13.52	563	13.27	0.25	
F. BBMB									
Bhakra HPS (2*108+3*126+5*157)	1379	811	1198	493	19.43	810	19.46	-0.03	
Dehar HPS (6*165)	990	285	660	165	6.92	288	6.85	0.07	
Pong HPS (6*66)	396	270	318	192	6.39	266	6.47	-0.08	
Sub Total (F)	2765	1366	2176	850	32.74	1364	32.78	-0.03	
G. IPP(s)/JV(s)									
ALLAIN DUHANGAN HPS(IPP) (2*96)	192	0	63	36	1.05	44	0.97	0.08	
KARCHAM WANGTOO HPS(IPP) (4*250)	1000	0	780	210	8.10	338	7.96	0.14	
Malana Stg-II HPS (2*50)	100	0	105	25	0.64	27	0.60	0.04	
Shree Cement TPS (2*150)	300	0	141	300	5.65	235	6.36	-0.72	
Budhil HPS(IPP) (2*35)	70	0	38	0	0.05	2	0.52	-0.46	
Sub Total (G)	1662	0	1127	572	15.49	645	16.41	-0.92	
H. Total Regional Entities (A-G)	25237	18906	19547	10915	326.76	13615	326.97	-0.21	

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	890	1040	22.18	924
	Guru Nanak Dev TPS(Bhatinda) (2*110+2*120)	460	200	200	4.50	187
	Guru Hargobind Singh TPS(L.mbt) (2*210+2*250)	920	797	812	19.24	802
	Goindwal(GVK)		0	0	0.00	0
	Rajpura (2*700)	1400	1176	1272	27.39	1141
	Talwandi Saboo (1*660)	660	365	344	9.18	383
	Thermal (Total)	4700	3428	3668	82.48	3437
Total Hydro	1000	511	467	12.07	503	
Total Punjab	5700	3939	4135	94.55	3940	
Haryana	Panipat TPS (4*110+2*210+2*250)	1367	664	645	14.11	588
	DCRTPP (Yamuna nagar) (2*300)	600	568	456	12.52	521
	Faridabad GPS (NTPC)	432	150	145	3.84	160
	RGTTP (khedar) (IPP) (2*600)	1200	1142	748	24.22	1009
	Magnum Diesel (IPP)	25	0	0	0.00	0
	Jhajjar(CLP) (2*660)	1320	610	369	12.35	515
	Thermal (Total)	4944	3124	2363	67.03	2793
	Total Hydro	62	27	29	0.65	27
	Total Haryana	5006	3151	2392	67.68	2820
	Rajasthan	kota TPS (2*110+2*195+3*210)	1240	897	894	20.77
suratgarh TPS (6*250)		1500	879	897	19.49	812
Chabra TPS (4*250)		1000	367	437	9.37	390
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	203	203	4.95	206
RAPS A (NPC) (1*100+1*200)		300	157	162	3.92	163
Barsingar (NLC) (2*125)		250	95	96	2.16	90
Giral LTPS (2*125)		250	81	65	1.82	76
Rajwest LTPS (IPP) (8*135)		1080	591	719	14.18	591
VS LIGNITE LTPS (IPP) (1*135)		135	0	0	0.00	0
Kalisindh Thermal(2*600)		1200	933	1040	24.05	1002
Kawati(Adani) (2*660)		1320	1149	1150	28.42	1184
Thermal (Total)		8876	5352	5663	129	5381
Total Hydro		550	0	0	0.00	0
Wind power		3214	175	43	3.59	150
Biomass		99	21	21	0.49	21
Solar		730	1	0	0.25	10
Renewable/Others (Total)		4043	197	64	4.33	180
Total Rajasthan		13469	5549	5727	133.46	5561
UP		Anpara TPS (3*210+2*500)	1630	1381	1348	32.40
	Obra TPS (2*50+2*94+5*200)	1194	465	451	10.90	454
	Paricha TPS (2*110+2*220+2*250)	1140	633	605	14.50	604
	Panki TPS (2*105)	210	63	54	1.40	58
	Haridwar TPS (1*60+1*105+2*250)	665	298	326	7.00	292
	Tanda TPS (NTPC) (4*110)	440	380	370	8.98	374
	Roza TPS (IPP) (4*300)	1200	1071	1094	26.10	1088
	Anpara-C (IPP) (2*600)	1200	1080	1089	25.90	1079
	Bajaj Energy Pvt.Ltd(IPP) TPS (10*45)	450	365	340	8.40	350
	Anpara-D(1*500)	500	0	0	0.00	0
	Lalitpur TPS(1*660)	660	392	394	8.60	358
	Thermal (Total)	9289	6128	6071	144	6007
	Vishnuparyag HPS (IPP)(4*110)	440	251	281	6.30	263
	Alakanada(4*82.5)	330	143	143	3.50	146
	Other Hydro	527	172	64	1.40	58
	Cogeneration	981	100	100	2.40	100
	Total UP	11567	6794	6659	158	6574
Uttarakhand	Total Hydro	1398	723	638	16.60	692
	Total Uttarakhand	1398	723	638	16.60	692
Delhi	Rajghat TPS (2*67.5)	135	0	0	0.00	0
	Delhi Gas Turbine (6x30 + 3x34)	282	37	38	0.85	35
	Pragati Gas Turbine (2x104+ 1x122)	330	146	149	3.56	148
	Rithala GPS (3*36)	95	0	0	0.00	0
	Bawana GPS (4*216+2*253)	1370	248	249	6.00	250
	Badarpur TPS (NTPC) (3*95+2*210)	705	248	224	5.24	218
	Thermal (Total)	2917	679	660	15.65	652
	Total Delhi	2917	679	660	15.65	652
HP	Baspa HPS (IPP) (3*100)	300	117	49	2.32	96
	Malana HPS (IPP) (2*43)	86	64	45	0.55	23
	Other Hydro	878	297	278	7.05	294
	Total HP	1264	478	372	9.92	413
J & K	Baglihar HPS (IPP) (3*150)	450	390	390	9.36	390
	Other Hydro/IPP	560	18	124	2.45	102
	Gas/Diesel/Others	190	0	0	0.00	0
	Total J & K	1200	408	514	11.81	492
Total State Control Area Generation		42521	21721	21097	507.44	21143
J. Net Inter Regional Exchange (Import +ve)/Export (-ve)]			6254	8857	182.75	7615
Total Regional Availability(Gross)		67758	47522	40869	1016.95	42373

IV. Total Hydro Generation:

Regional Entities Hydro	12234	10190	2148	126.10	5254
State Control Area Hydro	6581	2713	2508	62	2593
Total Regional Hydro	18815	12903	4656	188.34	7848

V(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	
Vindhychal(HVDC B/B)	150		250		250	50	4.96	0.86	4.10
765 KV Gwalior-Agra (D/C)	2551		3365		3365	0	68.05	0.00	68.05
400 KV Zerda-Kankrol	6		161		161	57	1.28	0.00	1.28
400 KV Zerda-Bhinmal	33		227		236	68	2.70	0.00	2.70
220 KV Auraiya-Malanpur	0		48		0	231	0.00	1.12	-1.12
220 KV Badoh-Kota/Morak	14		33		47	-77	0.00	0.17	-0.17
Mundra-Mohindergarh(HVDC Bipole)	2302		2113		2305	0	52.72	0.00	52.72
400 KV Vindhychal - Rihand	0		0		0	0	0.00	0.00	0.00
765 kV Phagi-Gwalior (D/C)	762		1169		1169	0	25.62	0.00	25.62
Sub Total WR	5818		7366				155.32	2.15	153.17
Pusaali Bypass/HVDC	300		300		300	0	7.20	0.00	7.20
400 KV MZP- GKP (D/C)	16		310		372	0	5.51	0.00	5.51
400 KV Patna-Balia(D/C) X 2	72		206		375	0	5.05	0.00	5.05
400 KV B'Shanif-Balia (D/C)	-114		92		128	127	0.79	0.00	0.79
765 KV Gaya-Balia	-8		103		104	24	0.64	0.00	0.64
765 KV Gaya-Fatehpur	-38		151		212	39	2.77	0.00	2.77
220 KV Pusaali-Sahupuri	202		140		202	0	3.71	0.00	3.71
132 KV K'nasa-Sahupuri	0		0		0	0	0.00	0.00	0.00
132 KV Son Ngr-Rihand	-18		-26		0	34	0.00	0.60	-0.60
132 KV Garhwa-Rihand	0		0		0	0	0.00	0.00	0.00
765 KV Sasaram - Fatehpur	-214		-5		91	214	0.00	1.01	-1.01
400 KV Barh -GKP (D/C)	238		220		282	0	5.37	0.00	5.37
Sub Total ER	436		1491				31.03	1.61	29.42
+/- 800 KV BiswanathChariali-Agra	0		0		150	0	0.15	0.00	0.15
Sub Total NEH	0		0				0.15	0.00	0.15
Total IR Exch	6254		8857				186.50	3.75	182.75

V(B). Inter Regional Schedule & Actual Exchanges [Import (+ve)/Export (-ve)] [Corridor wise]

ER	ISGS/LT Schedule (MU)		Bilateral Schedule (MU)		Power Exchange Shdi (MU)		Wheeling (MU)	
	Bhutan	Total	Through ER	Through WR	Through ER	Through WR	Through ER	Through WR
33.53	2.73	36.26	3.54	-0.61	1.46	27.58	1.29	-1.29
Total IR Schedule (MU)			Total IR Actual (MU)			Net IR UI (MU)		
Through ER	Through WR Incids Mndra	Total	Through ER	Through WR	Total	Through ER	Through WR	Total
42.55	130.11	172.66	29.42	153.17	182.60	-13.13	23.07	9.94

V(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	0		0		0	0	0	0	0.00

VI. 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	1.98	23.11	69.41	65.08	8.69	2.91	0.23	0.00

<----- Frequency (Hz) ----->				Average Frequency Hz	Frequency Variation Index	Std. Dev. (Hz)	Frequency in 15 Min Block	
Maximum		Minimum					MAX (Hz)	MIN (Hz)
Freq	Time	Freq	Time	Hz				
50.24	13.03	49.73	1.34	49.96	0.077	0.078	50.19	0.00

VII. Voltage profile 400 kV

Station	Voltage Level (kV)	Maximum		Minimum		Voltage (in % of Time)			
		Voltage(KV)	Time	Voltage (KV)	Time	<380 kV	<390 kV	>420 kV	>430 kV
Rihand	400	403	01:00	398	14:49	0.0	0.0	0.0	0.0
Gorakhpur	400	415	07:04	395	14:47	0.0	0.0	0.0	0.0
Bareilly	400	409	04:01	388	14:46	0.0	0.8	0.0	0.0
Kanpur	400	412	04:01	396	14:50	0.0	0.0	0.0	0.0
Dadri	400	415	03:59	396	14:43	0.0	0.0	0.0	0.0
Ballabgarh	400	420	03:59	399	14:46	0.0	0.0	0.0	0.0
Bawana	400	417	04:02	397	14:46	0.0	0.0	0.0	0.0
Bassi	400	419	04:03	398	12:14	0.0	0.0	0.0	0.0
Hissar	400	415	03:59	396	14:46	0.0	0.0	0.0	0.0
Moga	400	418	03:57	401	11:34	0.0	0.0	0.0	0.0
Abdullapur	400	420	02:26	400	11:52	0.0	0.0	0.0	0.0
Nalagarh	400	428	03:00	404	11:11	0.0	0.0	19.0	0.0
Kishenpur	400	427	04:00	399	19:14	0.0	0.0	13.8	0.0
Wagoora	400	413	03:49	395	19:09	2.6	14.1	0.0	0.0
Amritsar	400	422	02:48	403	11:17	0.0	0.0	9.5	0.0
Kashipur	400	416	04:02	405	14:46	0.0	0.0	0.0	0.0
Hamirpur	400	0	00:00	0	00:00	0.0	0.0	0.0	0.0
Rishikesh	400	402	04:02	380	14:40	0.0	35.1	0.0	0.0

VIII. Voltage profile 765 kV

Station	Voltage Level (kV)	Maximum		Minimum		Voltage (in % of Time)			
		Voltage(KV)	Time	Voltage (KV)	Time	<728 kV	<742 kV	>800 kV	>820 kV
Fatehpur	765	768	04:02	736	14:49	0.0	4.6	0.0	0.0
Balia	765	767	07:04	736	12:20	0.0	10.4	0.0	0.0
Moga	765	795	03:59	762	14:46	0.0	0.0	0.0	0.0
Agra	765	781	04:02	746	14:45	0.0	0.0	0.0	0.0
Bhiwani	765	792	03:59	761	14:38	0.0	0.0	0.0	0.0
Unnao	765	751	04:01	723	14:49	4.3	69.8	0.0	0.0
Lucknow	765	763	04:02	733	14:46	0.0	17.2	0.0	0.0
Meerut	765	800	04:02	759	14:46	0.0	0.0	0.0	0.0
Jhatikara	765	792	04:31	761	14:44	0.0	0.0	0.0	0.0
Bareilly	765	0	00:00	9999	00:00	0.0	0.0	0.0	0.0
Anta	765	768	00:00	768	00:00	0.0	0.0	0.0	0.0
Phagi	765	782	04:06	750	11:28	0.0	0.0	0.0	0.0

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	510.86	1590.18	509.47	1515.08	347.84	551.72
Pong	426.72	384.05	420.46	902.94	416.08	718.14	79.83	369.70
Tehri	829.79	740.04	821.25	1025.00	824.55	1098.00	131.02	229.00
Koteshwar	612.50	598.50	610.74	4.94	608.51	3.98	229.00	208.00
Chamera-I	760.00	748.75	756.33	0.00	0.00	0.00	116.31	130.38
Rihand	268.22	252.98	0.00	0.00	0.00	0.00	0.00	0.00
RPS	352.80	343.81	1151.50	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	513.66	3.62	512.48	3.80	126.72	128.98

* 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	-90	83	0	-95	133	0	-1.95	2.87	0.92
Delhi	-94	156	-2	-95	289	0	-2.21	8.91	6.70
Haryana	46	240	0	46	217	0	1.10	5.33	6.43
HP	-50	172	0	-50	-513	0	-1.20	-2.13	-3.33
J&K	-46	-34	0	-46	65	0	-0.68	0.28	-0.41
CHD	0	0	0	0	0	0	0.00	0.35	0.35
Rajasthan	-5	949	2	-5	501	2	1.64	14.55	16.18
UP	208	297	0	233	0	0	5.32	6.05	11.36
Uttarakhand	148	55	0	148	69	0	3.56	1.60	5.16
Total	116	1917	0	136	761	2	5.57	37.79	43.37

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

State	Bilateral (MW)		IEX (MW)		PXIL (MW)	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Punjab	-70	-95	199	80	0	0
Delhi	-65	-105	741	-2	0	-2
Haryana	46	46	247	40	0	0
HP	-50	-50	202	-659	0	0
J&K	4	-46	140	-135	0	0
CHD	0	0	74	-20	0	0
Rajasthan	190	-5	1147	296	2	2
UP	312	155	495	0	0	0
Uttarakhand	148	148	196	-75	0	0

XI. System Constraints:

XII. Grid Disturbance / Any Other Significant Event:

XIII. Weather Conditions For 08.10.2015 :
Normal.

XIV. Synchronisation of new generating units :

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

XVI. Tripping of lines in pooling stations :

XVII. Complete generation loss in a generating station :