GRID REPORT

October 2001

SYSTEM OPERATION REPORT OF NORTHERN REGION FOR THE MONTH OF OCTOBER, 2001

A. SUMMARY REPORT:

I Important events:

(a) Commissioning of new units /lines/transformers during the month.

LILO work of 400 kV Singrauli-Kanpur ckt. I at Allahabad S/Stn. completed on 21:04 hrs. of 27.10.2001.

(b) Major problems / constraints affecting grid operation including major grid disturbances.

The average system frequency during the month of October 2001, was 49.62 Hz and frequency remained between 49.0 & 50.5 Hz for 79.91 % of time. The system voltage condition was satisfactory.

There was no transmission constraint during the month .

There was no major grid disturbance in the region during September 2001.

(c) Important decisions taken during the month in various meeting / other forums.

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II. CENTRAL GENERATING STATIONS SHARE vs DRAWAL OF ALL CONSTITUENTS DURING OCTOBER 2001

(All figs. in MU)

Sl. No.	State/UT/ System	NTPC (Excl. BTPS, Tanda & FGPS) Entitlement	Actual	NHPC Entitlement	Actual	NPC (Excl. RAPS-A) Entitlement	Actual	BBMB Entitlement	Actual	TOTALS Entitlement	Actual
1	Chandigarh	43.79	31.77	4.27	4.27	4.53	1.24	45.89	44.84	98.49	82.12
2	Delhi	896.96	824.38	37.59	37.60	47.31	7.64	0.00	0.00	981.87	869.62
3	Haryana	406.77	422.34	46.42	46.42	40.05	74.20	204.95	205.82	698.18	748.77
4	H.P.	66.86	74.99	18.61	18.62	8.43	28.87	20.70	20.75	114.60	143.23
5	J & K	221.68	256.33	84.82	84.82	41.97	68.93	0.00	0.00	348.47	410.09
6	Punjab	414.06	402.19	73.57	73.57	45.82	32.39	291.41	292.61	824.86	800.76
7	Rajasthan	525.73	575.83	28.15	28.15	209.04	179.96	184.72	185.15	947.65	969.09
8	U.P.	1480.79	1509.60	58.93	58.93	96.87	100.78	0.00	0.00	1636.59	1669.31
9	MP / N.F.F.	0.00	3.02	0.00	0.00	0.00	0.00	14.88	13.38	14.88	16.40
10	Bihar	0.00	0.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.93
11	Trans. Losses	104.34	104.33	5.84	5.83	9.37	9.37	38.01	38.01	157.56	157.54
12	Others	70.10	25.37	0.00	0.00	0.00	0.00	0.00	0.00	70.10	25.37
	Total	**4231.08**	**4231.08**	**358.21**	**358.21**	**503.38**	**503.38**	**800.56**	**800.56**	**5893.23**	**5893.23**

III. INTER REGIONAL EXCHANGES IN *MU* AND PEAK *MW*

		Energy (MU)	Peak MW
a.	Import over HVDC Back to Back at Vindhyachal	41.57	500
b.	M.P. to Rajasthan(Ujjain - Kota)	0.00	0
c.	Eastern region to Northern region (Import)	150.94	260
d.	Export over HVDC Back to Back at Vindhyachal	15.48	450
e.	220 KV Auraiya -Malanpur	13.86	25
f.	Northern region to Bihar (Export)	0.84	5
g.	Tanakpur to Mahendranagar(NEPAL) (Export)	6.75	11

IV. FREQUENCY PROFILE

a. Maximum frequency	51.16	Hz	at	1434	hours on	26.10.2001
Minimum frequency	48.12	Hz	at	1414	hours on	08.10.2001
Average frequency	49.62	Hz				

b. Frequency distribution in %

Hz	< 48.0	48.0-49.0	49.0-49.5	49.5-50.5	50.5-51.0	> 51.0
%	0.00	14.87	26.13	53.78	5.07	0.15

c. Frequency Variation Index

Monthly Average	4.75
Maximum	14.85
Minimum	1.47

V. POWER SUPPLY POSITION IN NORTHERN REGION

a. Average Energy/day (Net)

State / U.T.	Availability MU/Day	Requirement MU/Day	Shortage MU/Day	Shortage %
Chandigarh	2.65	2.68	0.03	1.12
Delhi	48.21	49.54	1.33	2.68
Haryana	48.16	49.89	1.73	3.47
H.P.	8.46	8.46	0.00	0.00
J & K	14.38	16.18	1.80	11.12
Punjab	71.26	75.76	4.50	5.94
Rajasthan	66.82	66.90	0.08	0.12
U.P.	122.15	132.27	10.12	7.65
N.F.F./Rail	1.25	1.25	0.00	0.00
Total	**383.34**	**402.93**	**19.59**	**4.86**

b. Peak MW

State / U.T.	MAX. Availability MW	MAX. Requirement MW	Shortage MW		Shortage %	
			ARITH-METICAL	AT MAXM. REQT HR	ARITH-METICAL	AT MAXM. REQT HR
	A	B	C=B-A	D	(C/B)*100	(D/B)*100
Chandigarh	145	147	2	5	1.36	3.40
Delhi	2509	2814	305	395	10.84	14.04
Haryana	2762	2762	0	0	0.00	0.00
H.P. *	504	504	0	0	0.00	0.00
J & K *	791	1066	275	275	25.80	25.80
Punjab	3927	4084	157	300	3.84	7.35
Rajasthan	3524	3524	0	0	0.00	0.00
U.P.	6420	7200	780	780	10.83	10.83
N.F.F./Rail	62	62	0	0	0.00	0.00
Region	**20346**	**21545**	**1199**	**1416**	**5.57**	**6.57**

Diversity Factor = **1.07**

* Approximate and Estimated

B. DETAILED REPORT

I. 1. INSTALLED / EFFECTIVE CAPACITY AT THE END OF OCTOBER 2001

-	STATION	INSTALLED CAPACITY (MW)		EFFECTIVE CAPACITY	
1	**CENTRAL SECTOR**				
A	**NTPC**				
(a)	Badarpur TPS	3x100+2x210	720.00	3x95+2x210	705.00
(b)	Singrauli STPS	5x200+2x500	2000.00	5x200+2x500	2000.00
(c)	Rihand STPS	2x500	1000.00	2x500	1000.00
(d)	Dadri NCTPS	4x210	840.00	4x210	840.00
(e)	Unchahar TPS	2x210 + 2x210	840.00	2x210 + 2x210	840.00
(f)	Tanda TPS	4x110	440.00	4x110	440.00
(g)	Anta GPS	3x88.71+1x153.20	419.33	3x88.71+1x153.20	419.33
(h)	Auraiya GPS	4x111.19+2x109.30	663.36	4x111.19+2x109.30	663.36

(i)	Dadri GPS	4x130.19+2x154.51	829.78	4x130.19+2x154.51	829.78
(j)	Faridabad GPS	2x137.75 +1x156.07	431.57	2x137.75 +1x156.07	431.57
	Sub-Total		**8184.04**		**8169.04**
B	**NHPC**				
(a)	Bairasiul	3x60	180.00	3X60	180.00
(b)	Salal Stage - I	3x115	345.00	3x115	345.00
(c)	Salal Stage - II	3x115	345.00	3x115	345.00
(d)	Tanakpur HPS	3x40	120.00	3x31.4	94.20
(e)	Chamera HPS	3x180	540.00	3x180	540.00
(f)	URI	4x120	480.00	4x120	480.00
	Sub-Total		**2010.00**		**1984.20**
C.	**NPC**				
(a)	RAPS -A	2x220	440.00	1x100+1x200	300.00
(b)	RAPS -B	2x220	440.00	2x220	440.00
(c)	NAPS	2x235	470.00	2x220	440.00
	Sub-Total		**1350.00**		**1180.00**
	Total Central Sector (A + B + C)		**11544.04**		**11333.24**
2	**BBMB**				
(a)	**Bhakra Complex**				
	(i) Bhakra (L)	5x108	540.00	5x108	540.00
	(ii) Bhakra (R)	5x157	785.00	5x157	785.00
	(iii) Ganguwal	1x29.25+1x27.63+1X26.7	83.58	1x29.25+1x27.63+1X26.7	83.58
	(iv) Kotla	1x29.25+1x24.2+1x28.12	81.57	1x29.25+1x24.2+1x28.12	81.57
	Sub-Total		**1490.15**		**1490.15**

(b)	Dehar	6x165	990.00	6x165	990.00
(c)	Pong	4x60 + 2x66	372.00	4x60 + 2x66	372.00
	Total BBMB		**2852.15**		**2852.15**
3	**CHANDIGARH**				
(a)	Diesel Gen Sets		2.00		1.40
4	**DELHI**				
	THERMAL				
(a)	Indra Prastha	3x62.5+1x60	247.50	3x62.5+1x60	247.50
(b)	Rajghat	1x15+2x67.5	150.00	1x14+2x67.5	149.00
(c)	Gas Turbines	6x30+3x34	282.00	6x30+3x34	282.00
	Total DELHI		**679.50**		**678.50**
5	**HARYANA**				
	HYDRO				
(a)	Western Yamuna Canal (WYC)	6x8	48.00	6x8	48.00
	Total Hydro		**48.00**		**48.00**
	THERMAL				
(b)	Faridabad (New)	3x60	180.00	3x55	165.00
(c)	Panipat	4x110+2x210	860.00	4x110+2x210	860.00
	Total Thermal		**1040.00**		**1025.00**
(d)	Magnum Diesel (IPP)	4x6.3	25.20	4x6.3	25.20
	Total Haryana		**1113.20**		**1098.20**
6	**HIMACHAL PRADESH**				
	HYDRO				
(a)	Giri	2x30.00	60.00	2x30.00	60.00
(b)	Bassi	4x15.00	60.00	4x15.00	60.00

(c)	Binwa	2x 3.00	6.00	2x 3.00	6.00
(d)	Rongtong	4x 0.50	2.00	4x 0.50	2.00
(e)	Andhra	3x 5.65	16.95	3x 5.65	16.95
(f)	Micro Hydel+Killar+Thirot		9.22		8.52
(g)	Nogli	2x 0.25+4x0.50	2.50	2x 0.25+4x0.50	2.50
(h)	Bhabha (H)	3x40.00	120.00	3x40.00	120.00
(i)	Baner (H)	3x 4.00	12.00	3x 4.00	12.00
(j)	Gaj (H)	3x 3.50	10.50	3x 3.50	10.50
(k)	Sal -2	1x 2	2.00	1x 2	2.00
(l)	Gumma	.	3.00	3	3.00
(m)	Ghanvi	2x11.25	22.50	2x11.25	22.50
(n)	Diesel Gen. Sets		0.13		0.13
(o)	Malana(IPP)	2x43	86.00	2x43	86.00
	Total HP		**412.80**		**412.10**
7	**J & K**				
	HYDRO				
(a)	Lower Jhelum	3x35.0	105.00	3x35.0	105.00
(b)	Upper Sindh	2x11.30+1x35.0	57.60	2x11.30+1x35.0	57.60
(c)	Ganderbal	2x3+2x4.5	15.00	2x3+2x4.5	15.00
(d)	Mohra	2x4.5	9.00	2x4.5	9.00
(e)	Chenani	5x4.66 +2X1.0	25.30	5x4.66 +2X1.0	25.30
(f)	Stakna	2x2.0 +3x1.25 +2.0	9.75	2x2.0 +3x1.25 +2.0	9.75
(g)	Small Hydel		3.54		3.54
	Total Hydro		**225.19**		**225.19**
	J & K (Contd.)				
	GAS TURBINES				
(h)	Pampore GT St - I	3x25.0	75.00	3x25.0	75.00
	Pampore GT St - II	4x25.0	100.00	4x25.0	100.00
	Total Gas		175.00		175.00

(I)	Diesel Gen. Sets		8.94		7.18
	Total J & K		**409.13**		**407.37**
8	**PUNJAB**				
	HYDRO				
(a)	Jogindernagar/ Shanan	4x15+1x50	110.00	4x15+1x50	110.00
(b)	Upper Behari Doab Canal (UBDC)	3x15+3x15	90.00	3x15+3x15	90.00
(c)	Mukerian	6x15+6x19.5	207.00	6x15+6x19.5	207.00
(d)	Anandpur Sahib (APS)	4x33.5	134.00	4x33.5	134.00
(e)	Ranjit Sagar HPS	4x150	600.00	4x150	600.00
(f)	Small Hydel		4.10		4.10
	Total Hydro		1145.10		1145.10
	THERMAL				
(g)	Guru Nanak Dev TPS (Bhatinda)	4x110	440.00	4x110	440.00
(h)	Guru Gobind Singh TPS (Ropar)	6x210	1260.00	6x210	1260.00
(i)	Lehra Mohabbat TPS	2x210	420.00	2x210	420.00
(j)	Jhalkeri Rice Straw Fired	1x10	10.00	1x10	10.00
	Total Thermal		2130.00		2130.00
	Total Punjab		**3275.10**		**3275.10**
9	**RAJASTHAN**				
	HYDRO				
(a)	Mahi Bajaj Sagar	2x25+2x45	140.00	2x25+2x45	140.00
(b)	Rana Pratap Sagar (RPS)	4x43	172.00	4x43	172.00
(c)	Jawahar Sagar (JS)	3x33	99.00	3x33	99.00
(d)	Anoopgarh	6x1.5	9.00	6x1.5	9.00
(e)	Small Hydro		14.32		14.32

	Total Hydro		434.32		434.32
	THERMAL				
(f)	Kota TPS	2x110+3x210	850.00	2x110+3x210	850.00
(g)	Suratgarh TPS	2x250	500.00	2x250	500.00
(g)	Ramgarh GT	1x3	3.00	1x3	3.00
(i)	Ramgarh GT EXT.	1x35.5	35.50	1x35.5	35.50
	Total Thermal		1388.50		1388.50
(J)	Wind farm	2+2	4.00	2+2	4.00
	Total Rajasthan		**1826.82**		**1826.82**
10	**UP**				
	HYDRO				
(a)	Rihand	6x50.0	300.00	6x50.0	300.00
(b)	Obra	3x33.0	99.00	3x33.0	99.00
(c)	Matatilla	3x10.0	30.00	3x10.0	30.00
(d)	Khatima	3x13.8	41.40	3x13.8	41.40
(e)	Ramganga	3x66.0	198.00	3x66.0	198.00
(f)	Ganga Canal				
	Bhola	4x.375+2x.6+		4x.375+2x.6+	
	Salara	2x1.5+		2x1.5+	
	Chitwa	2x1.5+		2x1.5+	
	Nirgazni	2x2.5+		2x2.5+	
	Mohamedpur	3x3.1+		3x3.1+	
	Pathri	3x6.8	43.40	3x6.8	43.40
(g)	Yamuna (I & IV)				
	- Dhalipur	3x17.00+		3x17.00+	
	- Dhakrani	3x11.25+		3x11.25+	
	- Kulhal	3x10.00	114.75	3x10.00	114.75
(h)	Chibro	4x60.0	240.00	4x60.0	240.00
(i)	Khodri	4x30.0	120.00	4x30.0	120.00

(j)	Chilla	4x36.0	144.00	4x36.0	144.00
(k)	Maneri Bhali	3x30.0	90.00	3x30.0	90.00
(l)	Khara	3x24.0	72.00	3x24.0	72.00
(m)	Sobla & small hydro	6 +12.2	18.20	6 +12.2	18.20
	Total Hydro		1510.75		1510.75
	THERMAL				
(m)	Obra	5x50	250.00	4x40	160.00
(n)	Obra Extn. - I	3x100	300.00	3x94	282.00
(o)	Obra Extn. - II	5x200	1000.00	5x200	1000.00
(p)	Panki	1x32	32.00	1x32	32.00
(q)	Panki Extn.	2x110	220.00	2x105	210.00
(r)	Harduaganj - A	3x30	90.00	0	0.00
(s)	Harduaganj - B	2x50+2x60	220.00	1x40+2x55	150.00
(t)	Harduaganj - C	2x60+1x110	230.00	2x60+1x105	225.00
(u)	Paricha	2x110	220.00	2x110	220.00
(v)	Anpara - A	3x210	630.00	3x210	630.00
(w)	Anpara - B	2x500	1000.00	2x500	1000.00
	Total Thermal		4192.00		3909.00
	Total UP		**5702.75**		**5419.75**
					-
	Total Region (1 to 9)		**27817.49**		**27304.63**

2. SUMMARY OF THE EFFECTIVE GENERATING CAPACITY(MW) IN THE NORTHERN REGION AT THE END OF OCTOBER 2001

Agency / Source	Hydro	Thermal	Gas/Diesel/Wind	Nuclear	Total	% of Total
NTPC	---	5825.00	2344.04	---	**8169.04**	**29.92%**
NHPC	1984.20	---	---	---	**1984.20**	**7.27%**
NPC	---	---	---	1180.00	**1180.00**	**4.32%**
BBMB	2852.15	---	---	---	**2852.15**	**10.45%**
CHANDIGARH	---	---	1.40	---	**1.40**	**0.01%**
DELHI	---	396.50	282.00	---	**678.50**	**2.48%**
HARYANA	48.00	1025.00	25.20	---	**1098.20**	**4.02%**
HIMACHAL	411.97	---	0.13	---	**412.10**	**1.51%**
J&K	225.19	---	182.18	---	**407.37**	**1.49%**
PUNJAB	1145.10	2130.00	---	---	**3275.10**	**11.99%**
RAJASTHAN	434.32	1350.00	42.50	---	**1826.82**	**6.69%**
UP	1510.75	3909.00	---	---	**5419.75**	**19.85%**
Total	**8611.68**	**14635.50**	**2877.45**	**1180.00**	**27304.63**	**100.00%**
% of TOTAL	**31.54%**	**53.60%**	**10.54%**	**4.32%**	**100.00%**	

Notes The above table doesn't take into account the shares of a state in power stations located in the neighbouring state. Details of this is as under :

(i) Haryana has one-third share in unit Nos. 2, 3, 4 at Indraprastha power stations of DVB viz. 62.5 MW.

(ii) HP has 25 % share in the Dhalipur, Dhakrani, Chibro and Khodri power houses of UPSEB viz. 111.20 MW. It also has a 20 % share in the Kulhal and Khara hydro power houses viz. 20.40 MW. However, these shares are subject to actual physical drawals over designated transmission lines.

(iii) HP has a fixed energy share every month in the Shanan power house of PSEB.

(iv) HP has 4.6 % share in Ranjit Sagar Dam project of PSEB viz.27.60 MW.

(iv) The shares of Rajasthan in Chambal and Satpura projects are as under :

CHAMBAL

PROJECTS	LOCATED	INSTALLED CAPACITY (MW)
Gandhi Sagar	M.P.	5 x 23 = 115
Rana Pratap Sagar	Rajasthan	4 x 43 = 172
Jawahar Sagar	Rajasthan	3 x 33 = 99
	Total	**386**

Rajasthan has 50 % share in these Chambal projects viz. 193 MW.

SATPURA

PROJECTS	LOCATED	INSTALLED CAPACITY (MW)
Satpura TPS	M.P.	5x62.5+200.0+3x210.0 = 1142.50

Rajasthan has 40 % share viz. 125 MW in the first five units of Satpura TPS.

If the above shares of Rajasthan are included, the regional effective generating capacity would be 27351.63 MW.

3. BREAKUP OF EFFECTIVE HYDRO CAPACITY (MW) IN NORTHERN REGION AS ON 31.10.2001

Agency / Source	Run-of -the -river	Reservoir	Total
NHPC	1444.20	540.00	1984.20
BBMB	1155.15	1697.00	2852.15
DELHI	0.00	0.00	0.00
HARYANA	48.00	0.00	48.00
HP	411.97	0.00	411.97
J&K	225.19	0.00	225.19
PUNJAB	545.10	600.00	1145.10
RAJASTHAN	262.32	172.00	434.32
UP	1012.75	498.00	1510.75
Total	5104.68	3507.00	8611.68

4. Generation Addition/ Deletion During The Month

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II. SALIENT FEATURES OF SYSTEM CONDITIONS

1. Effective Generation Capacity at the end of month

Constituent	Effective Capacity		Increase	
	October 2001	**October 2000**	MW	%
Chandigarh	1.40	1.40	0.00	0.00
Delhi	678.50	678.50	0.00	0.00
Haryana	1098.20	888.20	210.00	23.64
H.P.	412.10	303.60	108.50	35.74
J & K	407.37	407.37	0.00	0.00

Punjab	3275.10	2975.10	300.00	10.08
Rajasthan	1826.82	1826.82	0.00	0.00
U.P.	5419.75	5419.75	0.00	0.00
NTPC	8169.04	8169.04	0.00	0.00
NHPC	1984.20	1984.20	0.00	0.00
NPC	1180.00	960.00	220.00	22.92
BBMB	2852.15	2821.15	31.00	1.10
Total	27304.63	26435.13	869.50	3.29

2. Power Supply Position

State/UT	October 2001			October 2000			Percentage increase over 2000	
	Energy(MU/day)			Energy(MU/day)				
	Demand met	Reqt.	%Shortage	Demand met	Reqt.	%Shortage	Demand met	Reqt.
Chandigarh	2.65	2.68	1.12	2.60	2.60	0.00	1.92	3.08
Delhi	48.21	49.54	2.68	48.00	49.48	2.99	0.44	0.12
Haryana	48.16	49.89	3.47	47.30	48.64	2.75	1.82	2.57
HP	8.46	8.46	0.00	8.04	8.04	0.00	5.22	5.22
J&K	14.38	16.18	11.12	14.63	15.69	6.76	-1.71	3.12
Punjab	71.26	75.76	5.94	67.78	72.28	6.23	5.13	4.81
Rajasthan	66.82	66.90	0.12	63.79	65.37	2.42	4.75	2.34
UP	122.15	132.27	7.65	113.58	129.97	12.61	7.55	1.77
NFF/Rail	1.25	1.25	0.00	0.14	0.14	0.00	792.86	792.86
REGION	383.34	402.93	4.86	365.86	392.21	6.72	4.78	2.73

Frequency Regime	October 2001	October 2000
Average (Hz)	49.62	49.30
Above 50.5 Hz (%)	5.22	5.82
Above 50.2 Hz (%)	19.32	12.29
Below 49.5 Hz (%)	35.00	61.32
Below 49.0 Hz (%)	14.87	35.00
Below 48.5 Hz (%)	2.84	14.93

3. Peak Power Supply Position

State/UT	October 2001			October 2000			Percentage increase over 2000	
	Peak (MW)			Peak (MW)				
	Demand met	Reqt.	%Shortage	Demand met	Reqt.	%Shortage	Demand met	Reqt.

Chandigarh	145	147	1.36	158	158	0.00	-8.23	-6.96
Delhi	2509	2814	10.84	2548	2807	9.23	-1.53	0.25
Haryana	2762	2762	0.00	2709	2709	0.00	1.96	1.96
HP	504	504	0.00	541	541	0.00	-6.84	-6.84
J&K	791	1066	25.80	872	1015	14.09	-9.29	5.02
Punjab	3927	4084	3.84	3726	4137	9.93	5.39	-1.28
Rajasthan	3524	3524	0.00	3306	3307	0.03	6.59	6.56
UP	6420	7200	10.83	6119	7211	15.14	4.92	-0.15
NFF/Rail	62	62	0.00	9	9	0.00	588.89	588.89
REGION	20346	21545	5.57	19372	21316	9.12	5.03	1.07

III. FREQUENCY PROFILE DURING OCTOBER 2001

DATE	Average	MAX.		MIN.		Std dev	Frequency
	Hz	Hz	Time	Hz	Time	Hz	Var. Index(FVI)
1	49.71	50.76	21.33	48.24	11.33	0.50	3.35
2	50.04	51.12	6.02	48.20	18.35	0.48	2.30
3	49.30	50.52	8.01	48.16	18.36	0.59	8.41
4	49.40	50.32	4.42	48.20	18.30	0.37	4.99
5	49.48	50.48	3.33	48.20	22.04	0.51	5.28
6	49.11	50.28	7.55	48.16	18.14	0.39	9.43
7	49.34	50.44	17.06	48.16	22.10	0.44	6.26
8	49.13	50.76	17.05	48.12	14.14	0.42	9.27
9	49.27	50.36	8.57	48.16	18.38	0.45	7.44
10	49.17	50.76	18.06	48.16	21.06	0.44	8.75
11	49.28	51.04	18.04	48.20	18.41	0.45	7.15
12	49.13	50.32	18.05	48.20	10.57	0.48	9.79
13	48.85	50.56	16.04	48.16	17.12	0.40	14.85
14	49.41	51.00	18.00	48.20	0.28	0.54	6.44
15	49.65	50.80	21.53	48.24	12.14	0.53	4.06
16	49.93	50.88	5.02	48.24	18.24	0.45	2.08

17	49.61	50.64	3.44	48.28	18.29	0.45	3.52
18	49.56	50.76	13.04	48.20	18.17	0.45	3.97
19	49.68	50.64	7.35	48.24	18.12	0.50	3.56
20	49.91	50.92	4.00	48.56	22.27	0.53	2.90
21	49.66	50.76	14.27	48.44	5.33	0.43	3.03
22	49.76	50.80	18.02	48.56	17.41	0.47	2.83
23	49.84	50.76	15.01	48.68	5.35	0.43	2.12
24	49.80	50.92	8.07	48.56	5.54	0.41	2.09
25	49.88	50.84	8.20	48.64	19.21	0.42	1.95
26	50.22	51.16	14.34	49.08	18.16	0.37	1.82
27	50.19	51.00	2.46	48.44	22.28	0.40	2.00
28	50.08	51.16	14.55	48.48	18.26	0.41	1.76
29	50.14	51.04	13.00	48.20	18.15	0.40	1.76
30	49.87	51.04	13.00	48.16	17.42	0.50	2.65
31	49.95	50.84	15.00	48.92	18.21	0.38	1.47
Monthly	**49.62**	**51.16**		**48.12**		**0.58**	**4.75**

Note : $$\mathrm{FVI} = \frac{10\sum (F-50)^2}{24 \times 60 \times 6}$$ where F = frequency measured at 10 second interval

IV. VOLTAGE PROFILE DURING OCTOBER 2001

Date	Kanpur (400 KV)		Dadri (400 KV)		Jaipur (400 KV)		Moga (400 KV)		B.T.P.S.(220 KV)	
	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
1	411	384	412	368	420	383	410	385	210	179
2	411	397	414	392	422	398	412	385	214	202
3	408	391	412	388	422	389	410	381	214	192
4	406	384	410	376	422	387	412	385	213	190
5	404	388	410	380	420	394	412	383	214	194
6	408	397	410	384	414	392	412	382	213	195
7	406	391	410	386	418	392	409	384	212	200
8	411	392	410	378	416	387	410	388	212	192
9	401	382	408	379	416	387	413	382	212	190
10	400	379	402	376	416	381	410	380	207	189
11	408	382	410	384	425	398	408	386	210	192
12	413	389	414	392	427	400	413	392	213	195
13	410	386	410	382	427	402	415	387	215	195
14	411	389	408	380	422	394	415	386	213	198
15	412	392	408	380	422	394	410	382	213	196
16	409	397	410	380	422	394	412	380	215	197
17	406	395	411	388	422	392	408	378	214	196
18	408	389	414	387	420	394	412	378	214	197
19	404	386	411	381	420	400	408	389	215	195
20	408	393	415	386	420	394	407	381	215	196
21	408	397	408	380	422	396	410	383	214	201
22	407	397	408	382	422	392	406	382	214	198
23	405	390	406	380	418	394	404	382	214	198
24	403	395	408	386	418	394	406	385	214	198
25	402	384	412	378	416	396	410	388	212	200
26	411	395	412	392	422	400	408	387	214	206
27	408	389	414	384	425	385	408	382	215	200
28	408	391	412	386	422	394	404	383	215	200
29	406	382	412	382	420	389	404	381	215	195
30	406	386	406	378	418	389	404	382	214	195
31	402	391	404	380	414	391	408	384	212	194
Month	**413**	**379**	**415**	**368**	**427**	**381**	**415**	**378**	**215**	**179**

V. PERFORMANCE OF GENERATING STATIONS DURING OCTOBER 2001

S.No.	Power Station	Effective Capacity MW	Energy Generated		Cumulative from 01.04.2001	
			Gross MU	Ex Bus MU	Gross MU	Ex-bus MU
1	**CENTRAL SECTOR**					
A	**NTPC (Thermal)**					
(a)	Badarpur TPS	705.00	464.34	423.39	3159.60	2868.28
(b)	Singrauli STPS	2000.00	1444.56	1353.95	8669.08	8080.82
(c)	Rihand STPS	1000.00	433.12	399.76	4139.02	3805.45
(d)	Dadri NCTPS	840.00	612.42	564.48	3845.65	3531.21
(e)	Unchahar-I TPS	420.00	236.02	215.41	1761.27	1595.09
(f)	Unchahar-II TPS	420.00	303.60	277.65	1944.93	1758.52
(g)	Tanda TPS	440.00	238.08	208.30	1096.12	959.10
(h)	Anta GPS	419.33	271.93	267.89	1830.39	1791.41
(i)	Auraiya GPS	663.36	446.27	440.90	3001.23	2960.70
(j)	Dadri GPS	829.78	558.53	546.26	3468.43	3376.20
(k)	Faridabad GPS	431.57	278.25	271.56	1774.50	1728.89
	Total NTPC	**8169.04**	**5287.10**	**4969.52**	**34690.20**	**32455.66**
B	**NHPC**					
(a)	Bairasiul	180.00	25.46	24.32	452.46	436.63
(b)	Salal	690.00	154.76	153.15	2438.42	2417.61
(c)	Tanakpur HPS	94.20	38.16	37.82	323.84	320.40
(d)	Chamera HPS	540.00	70.01	69.33	1619.69	1615.96
(e)	Uri HPS	480.00	81.83	80.61	1362.64	1348.25
	Total NHPC	**1984.20**	**370.21**	**365.23**	**6197.05**	**6138.85**
C	**NPC**					
(a)	RAPS -A	300.00	132.98	121.86	805.64	736.29
(b)	RAPS -B	440.00	255.12	231.38	1627.64	1471.60
(c)	NAPS	440.00	302.66	272.01	1798.82	1614.94
	Total NPC	**1180.00**	**690.76**	**625.25**	**4232.09**	**3822.82**

2	**JOINTLY OWNED (BBMB)**					
(a)	Bhakra Complex	1465.15	492.59	490.42	3249.42	3233.39
(b)	Dehar	990.00	171.20	171.20	2348.65	2342.71
(c)	Pong	366.00	138.93	138.93	719.19	715.23
	Total BBMB	**2821.15**	**802.72**	**800.55**	**6317.26**	**6291.33**
3	**DELHI**					
(a)	Indra Prastha	247.50	81.55	71.76	503.17	442.79
(b)	Rajghat	149.00	68.75	61.19	301.84	268.63
(c)	Gas Turbines	282.00	79.65	77.26	727.67	705.84
	Total DELHI	**678.50**	**229.95**	**210.21**	**1532.67**	**1417.26**
4	**HARYANA**					
(a)	WYC	48.00	22.96	22.73	148.65	147.16
(b)	Faridabad (New)	165.00	59.76	51.69	447.16	386.79
(c)	Panipat	860.00	396.88	349.26	2309.34	2032.22
(d)	Magnum Diesel(IPP)	25.20	11.23	11.12	54.99	54.54
	Total Haryana	**1098.20**	**490.83**	**434.79**	**2960.14**	**2620.71**

contd/-

5	**HP**					
(a)	Giri	60.00	10.36	10.30	144.48	143.87
(b)	Bassi	60.00	12.20	12.16	207.59	206.94
(c)	Binwa	6.00	1.71	1.70	12.43	12.36
(d)	Rongtong	15.02	2.32	2.29	16.40	16.21
	(+Nogli+Micro+Thirot+Sal-2)		0.00	0.00		
(e)	Andhra	16.95	3.92	3.91	47.40	47.22
(f)	Bhabha (H)	120.00	30.71	30.63	381.04	380.24
(g)	Baner (H)	12.00	1.77	1.76	23.79	23.72
(h)	Gaj (H)	10.50	2.03	2.02	31.55	31.38
(i)	Gumma	3.00	0.72	0.71	5.98	5.94
(j)	Ghanvi	22.50	5.84	5.83	23.49	23.41
(k)	Malana (IPP)	86.00	71.57	71.30	131.55	131.55
	Total HP	**411.97**	**143.15**	**142.61**	**1025.71**	**1022.85**
6	**J & K**					

(a)	Lower Jhelum	105.00	0.00	0.00	209.70	207.60
(b)	Upper Sindh	57.60	0.00	0.00	120.94	119.73
(c)	Ganderbal	15.00	0.00	0.00	14.94	14.79
(d)	Mohra	9.00	0.00	0.00	0.00	0.00
(e)	Chenani	25.30	0.00	0.00	45.21	44.76
(f)	Stakna	9.75	0.00	0.00	0.00	0.00
(g)	Small Hydel	3.54	0.00	0.00	0.00	0.00
(h)	Pampore GT St - I	75.00	0.00	0.00	0.00	0.00
	Pampore GT St - II	100.00				
	Total J & K	**400.19**	**0.00**	**0.00**	**390.79**	**386.88**
7	**PUNJAB**					
(a)	Jogindernagar/	110.00	21.93	21.92	382.93	381.39
	Shanan		0.00	0.00		
(b)	UBDC	90.00	36.43	36.33	248.60	247.22
(c)	Mukerian	207.00	35.49	35.33	552.44	549.81
(d)	Anandpur Sahib (APS)	134.00	30.40	30.31	343.01	341.50
(e)	Ranjit Sagar HPS	600.00	151.11	150.84	1038.46	1035.92
(f)	Small Hydel	4.10	0.84	0.83	5.61	5.56
(g)	GNDTPS (Bhatinda)	440.00	209.55	188.49	1667.12	1505.01
(h)	GGSTPS (Ropar)	1260.00	751.57	690.73	5251.09	4817.03
(i)	Jhalkeri Rice Straw	10.00	0.00	0.00	0.00	0.00
	Fired		0.00	0.00		
(j)	Lehra Mohabbat TPS	420.00	311.96	284.72	1915.74	1740.13
	Total Punjab	**3275.10**	**1549.27**	**1439.50**	**11405.00**	**10623.56**
8	**RAJASTHAN**					
(a)	Mahi Bajaj Sagar	140.00	19.82	19.82	23.91	23.91
(b)	Rana Pratap Sagar (RPS)	172.00	29.99	29.92	75.76	75.53
(c)	Jawahar Sagar (JS)	99.00	19.72	19.57	76.58	76.25
(d)	Anoopgarh	9.00	0.54	0.54	0.79	0.79
(e)	Small Hydro	14.32	2.03	2.03	3.99	3.99
(f)	Kota TPS	850.00	629.60	570.45	3628.78	3276.87
(g)	RAMGARH GT	3.00	0.00	0.00		
(h)	RAMGARH GT EXT	35.50	18.50	18.50	119.09	119.09

(l)	Suratgarh TPS	500.00	359.23	326.75	2103.58	1908.68
(j)	Wind Farm	4.00	0.83	0.83	2.86	2.86
	Total Rajasthan	**1826.82**	**1080.25**	**988.40**	**6035.33**	**5487.96**

contd/-

9	**U.P.**					
	HYDRO					
(a)	Rihand	300.00	110.93	109.82	581.14	575.33
(b)	Obra	99.00	41.10	40.69	230.45	228.14
(c)	Matatilla	30.00	9.22	9.12	68.66	67.98
(d)	Khatima	41.40	17.74	17.57	124.13	122.88
(e)	Ramganga	198.00	0.00	0.00	103.24	102.21
(f)	Ganga Canal	43.40	9.92	9.82	95.02	94.07
(g)	Yamuna (I & IV)	114.75	36.16	35.80	344.78	341.33
(h)	Chibro	240.00	43.48	43.04	553.66	548.12
(i)	Khodri	120.00	21.02	20.80	263.65	261.01
(j)	Chilla	144.00	61.36	60.75	405.27	401.22
(k)	Maneri Bhali	90.00	55.57	55.01	226.11	223.84
(l)	Khara	72.00	25.29	25.03	241.76	239.34
	Total U.P. (Hydro)	**1492.55**	**431.78**	**427.46**	**3237.86**	**3205.48**
	THERMAL					
(m)	Obra	160.00	17.87	15.64	112.61	98.53
(n)	Obra Extn. - I	282.00	67.76	59.29	338.93	296.56
(o)	Obra Extn. - II }	1000.00	364.39	318.84	2536.50	2219.44
(p)	Panki }	32.00	0.00	0.00		
(q)	Panki Extn.	210.00	91.68	80.22	650.62	569.29
(r)	Harduaganj - A }	0.00	0.00	0.00		
(s)	Harduaganj - B	150.00	0.00	0.00		
(t)	Harduaganj - C	225.00	45.97	40.22	297.88	260.64

(u)	Paricha	220.00	87.42	76.49	544.96	476.84
(v)	Anpara - A	630.00	355.27	310.86	2425.76	2122.54
(w)	Anpara - B	1000.00	694.93	608.06	4553.80	3984.58
	Total U.P. (Thermal)	**3909.00**	**1786.98**	**1563.61**	**11461.05**	**10028.42**
	Total U.P.	**5401.55**	**2218.76**	**1991.07**	**14698.91**	**13233.90**
	Total Region	**27246.72**	**12863.00**	**11967.14**	**89485.13**	**83501.77**

Notes : 1. The ex-bus generations are either actual values or based on the following assumptions in respect of auxiliary consumption

-----Hydro and diesel/gas power stations in open cycle------1.0% Nuclear stations-----12.5%

------Gas power stations in combined cycle----------3.0%

------Coal fired power stations

IP ----12% Rajghat----11% Faridabad----13.5% Suratgarh-----10.0%

Panipat----12.0% RTP----7.5% GNDTP----10.5% Tanda----12.5%

Lehra Mohabbat----10.5% KTPS----10% UP----12.5%

2. The generation on small hydro& Sobla in U.P. and on small diesel gen. Sets in UT Chandigarh, H.P.and J&K has been neglected.

VI. CENTRAL GENERATING STATIONS SHARE vs DRAWAL OF ALL CONSTITUENTS DURING OCTOBER 2001

(All figs. in MU)

Sl. No.	State/UT/ System	Singrauli STPS		Rihand STPS		BTPS	W. Grid	VSTPS (WR)
		Entitlement	Actual	Entitlement	Actual	Actual	Actual	Actual
1	Chandigarh	7.59	7.59	6.16	4.75	0.00	0.29	0.00
2	Delhi	139.33	139.33	51.33	51.52	423.39	3.87	0.00
3	Haryana	168.82	168.82	37.68	37.82	0.00	2.77	0.00
4	H.P.	0.00	0.00	13.62	13.66	0.00	0.82	0.00
5	J & K	35.07	35.07	37.72	37.90	0.00	3.56	0.00

6	Punjab	131.78	131.78	43.10	43.31	0.00	4.21	0.00
7	Rajasthan	235.31	235.31	49.32	49.52	0.00	3.99	0.00
8	U.P.	574.41	574.41	146.97	147.41	0.00	8.79	0.00
9	MP	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Unallocated	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Bihar	0.00	0.00	0.00	0.00	0.00	0.00	0.00
12	Trans. Losses	46.17	46.17	13.86	13.86	0.00	0.99	0.00
	TOTAL	**1338.48**	**1338.48**	**399.76**	**399.76**	**423.39**	**29.28**	**0.00**

Sl. No.	State/UT/	Dadri NCTPS		Unchahar-I TPS		Unchahar-II TPS	
	System	Entitlement	Actual	Entitlement	Actual	Entitlement	Actual
1	Chandigarh	0.00	0.00	1.13	0.00	3.73	0.52
2	Delhi	481.85	422.82	9.41	9.75	22.31	1.20
3	Haryana	7.04	6.98	11.92	11.76	40.43	51.13
4	H.P.	0.00	0.00	2.32	2.39	8.20	14.75
5	J & K	0.00	0.00	6.41	6.71	28.09	55.81
6	Punjab	0.00	0.00	12.76	12.22	40.92	22.24
7	Rajasthan	15.83	15.70	8.69	9.03	34.51	76.96
8	U.P.	59.75	115.93	155.33	156.09	89.92	45.48
9	MP	0.00	2.19	0.00	0.00	0.00	0.00
10	Unallocated	0.00	0.00	0.00	0.00	0.00	0.00
11	Bihar	0.00	0.86	0.00	0.00	0.00	0.00
12	Trans. Losses	0.00	0.00	7.45	7.45	9.56	9.56
	Total	**564.47**	**564.47**	**215.42**	**215.42**	**277.65**	**277.65**

Sl. No.	State/UT/	Anta GPS		Auraiya GPS		Uri HPS	
	System	Entitlement	Actual	Entitlement	Actual	Entitlement	Actual
1	Chandigarh	4.60	4.51	6.07	2.62	0.67	0.67
2	Delhi	34.45	34.46	52.58	52.95	8.63	8.63
3	Haryana	23.17	23.18	40.88	41.13	4.31	4.31

4	H.P.	9.26	9.26	15.01	15.08	2.16	2.16
5	J & K	25.26	25.27	42.28	42.62	26.67	26.67
6	Punjab	30.72	30.73	57.08	57.47	10.79	10.79
7	Rajasthan	59.64	59.65	52.88	53.26	7.15	7.15
8	U.P.	70.09	70.12	158.54	159.28	19.34	19.34
9	MP	0.00	0.00	0.00	0.84	0.00	0.00
10	Unallocated	0.00	0.00	0.00	0.00	0.00	0.00
11	Bihar	0.00	0.00	0.00	0.07	0.00	0.00
12	Trans. Losses	10.72	10.72	15.59	15.59	0.81	0.81
	TOTAL	**267.91**	**267.91**	**440.91**	**440.91**	**80.54**	**80.54**

Sl. No.	**State/UT/**	**Dadri GPS**		**Bairasiul HPS**		**Salal HPS**	
	System	**Entitlement**	**Actual**	**Entitlement**	**Actual**	**Entitlement**	**Actual**
1	Chandigarh	4.23	1.49	0.00	0.00	0.41	0.41
2	Delhi	53.80	60.43	2.56	2.56	17.39	17.39
3	Haryana	33.22	37.90	7.10	7.10	22.48	22.48
4	H.P.	17.63	19.03	2.80	2.80	1.48	1.48
5	J & K	43.29	49.39	0.00	0.00	53.33	53.33
6	Punjab	93.50	100.23	10.83	10.83	39.81	39.81
7	Rajasthan	55.57	62.41	0.00	0.00	4.42	4.42
8	U.P.	174.93	190.01	0.00	0.00	12.21	12.21
9	MP	0.00	0.00	0.00	0.00	0.00	0.00
10	Railways	70.10	25.37	0.00	0.00	0.00	0.00
11	Bihar	0.00	0.00	0.00	0.00	0.00	0.00
12	Trans. Losses	0.00	0.00	0.97	0.97	1.53	1.53
	Total	**546.27**	**546.27**	**24.26**	**24.26**	**153.06**	**153.06**

Note :- Singrauli sentout excludes 15.477 MU supplied to Western Grid
The above figures are based on the daily energy accounts prepared by NRLDC.

Sl. No.	State/UT/ System	Tanakpur HPS		Chamera HPS		RAPS -A	RAPS -B		Tanda TPS
		Entitlement	Actual	Entitlement	Actual	Actual	Entitlement	Actual	Actual
1	Chandigarh	0.59	0.59	2.60	2.60	0.00	0.00	0.00	0.00
2	Delhi	3.79	3.79	5.22	5.22	0.00	10.97	0.00	0.00
3	Haryana	2.02	2.02	10.51	10.51	0.00	15.52	43.63	0.00
4	H.P.	1.23	1.23	10.94	10.94	0.00	0.00	18.09	0.00
5	J & K	2.22	2.22	2.60	2.60	0.00	15.29	31.98	0.00
6	Punjab	5.34	5.34	6.80	6.80	0.00	14.98	2.17	0.00
7	Rajasthan	3.47	3.47	13.11	13.11	121.86	174.63	134.04	0.00
8	U.P.	11.45	11.45	15.93	15.93	0.00	0.00	1.47	208.30
9	Unallocated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Trans. Losses	0.95	0.95	1.58	1.58	0.00	0.00	0.00	0.00
11	0thers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	**31.06**	**31.06**	**69.29**	**69.29**	**121.86**	**231.38**	**231.38**	**208.30**

Sl. No.	State/UT/	Narora APS		Bhakra HPS		Dehar HPS	Pong	F'bad GPS	ER import
	System	Entitlement	Actual	Entitlement	Actual	Actual	Actual	Actual	Actual
1	Chandigarh	4.53	1.24	45.89	44.84	0.00	0.00	0.00	10.00
2	Delhi	36.34	7.64	0.00	0.00	0.00	0.00	0.00	48.04
3	Haryana	24.53	30.57	133.07	133.94	49.86	22.02	271.56	40.84
4	H.P.	8.43	10.78	12.14	12.20	8.56	0.00	0.00	0.00
5	J & K	26.68	36.95	0.00	0.00	0.00	0.00	0.00	0.00
6	Punjab	30.84	30.22	183.60	184.81	74.78	33.02	0.00	0.00
7	Rajasthan	34.41	45.92	75.98	76.41	31.16	77.58	0.00	10.00
8	U.P.	96.87	99.31	0.00	0.00	0.00	0.00	0.00	42.06
9	N.F.F.	0.00	0.00	14.88	13.38	0.00	0.00	0.00	0.00
10	Unallocated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Trans. Losses	9.37	9.37	24.86	24.86	6.84	6.31	0.00	0.00
	Total	**272.00**	**272.00**	**490.42**	**490.42**	**171.20**	**138.93**	**271.56**	**150.94**

Note :- Tanakpur sentout excludes 6.752 MU supplied to Nepal
The above figures are based on the daily energy accounts prepared by NRLDC.

VII. BILATERAL EXCHANGES IN THE NORTHERN REGION DURING OCTOBER 2001

	Chandigarh	Delhi	Haryana	Himachal	J & K	Punjab	Rajasthan	UP	MP	Bihar	Others	Total
Chandigarh		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
Delhi	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
Haryana	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
Himachal	0.000	0.000	0.000	0.000	0.000	3.600	0.000	0.000	0.000	0.000	0.000	**3.600**
J & K	0.000	0.000	0.000	0.000	0.000	11.080	0.000	0.000	0.000	0.000	0.000	**11.080**
Punjab	`	0.000	0.000	-3.600	-11.080	0.000	0.000	0.000	0.000	0.000	0.000	**-14.680**
Rajasthan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
UP	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
MP	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
Bihar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
Others	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	**0.000**
Total	**0.000**	**0.000**	**0.000**	**-3.600**	**-11.080**	**14.680**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

The above figures do not indicate the following shares in common projects/ bilateral agreements:

i) Harayana's share in IP station of Delhi **21.188** MU
ii) Himachal's share in Shanan power station of Punjab **5.673** MU
iii) Himachal's share in Yamuna hydro power complex of UP **29.733** MU
iv) Maruti to Harayana **20.665** MU

VIII. PROGRESS OF INSTALLATION OF SHUNT CAPACITORS IN NORTHERN REGION AS ON 31.10.2001

CONSTITUENT	REQUIREMENT AT THE END OF 2001-2002	CAPACITORS AS ON 31.10.2001	CAPACITORS ADDITION DURING		ADDITIONAL REQUIRED DURING 2001-2002
		INSTALLED	2000-2001	April 01 - Oct 01	
Chandigarh	127	96	60	3	31
Delhi	2734	2377	201	141	357
Haryana	3080	2009	368	366	1071
H.P.	335	174	46	38	161
J & K	880	147	0	0	733
Punjab	4950	4553	384	122	397
Rajasthan	3300	2367	176	10	933
U.P.	5654	4280	279	74	1374
BBMB	381	381	0	0	0
TOTAL	21441	16384	1514	754	5057

IX. HYDRAULIC DATA FOR RESERVOIRS DURING OCTOBER 2001

Item	Bhakra	Pong	Rihand	R.P.S.	Gandhi Sagar (M.P.)
Full Reservoir Level (m) (FRL) (ft)	514.50 1688.00	433.12 1421.00	268.22 880.00	352.65 1157.00	402.64 1321.00
Min. Draw Down Level (m) (MDDL) (ft)	445.62 1462.00	384.05 1260.00	252.98 830.00	342.90 1125.00	381.00 1250.00
Level on last day of (m) October 2001 (ft)	498.18 1634.46	414.35 1359.41	266.82 875.40	351.31 1152.60	384.63 1261.90
Level on last day of (m) October 2000 (ft)	498.82 1636.54	407.39 1336.57	265.21 870.10	348.33 1142.82	383.14 1257.02
Live Capacity as on (mhmt) last day of October 2001(maft)	0.47 3.82	0.43 3.46	0.50 4.05	0.13 1.02	0.05 0.44
Live Capacity as on (mhmt) last day of October 2000(maft)	0.48 3.87	0.27 2.20	0.43 3.48	0.08 0.63	0.03 0.28
Energy content as on last day of October 2001 (MU)	1800.00	625.00	975.00	235.00	180.00
Energy content as on last day of October 2000 (MU)	1860.00	420.00	845.00	144.00	90.00
Maximum level (m)	501.61	416.92	267.43	351.80	385.43

	(ft)	1645.71	1367.84	877.40	1154.19	1264.55
	(date)	01.10.2001	01.10.2001	09.10.2001	01.10.2001	01.10.2001
Minimum level (m)		498.18	414.35	266.82	351.31	384.63
	(ft)	1634.46	1359.41	875.40	1152.60	1261.90
	(date)	31.10.2001	31.10.2001	31.10.2001	31.10.2001	31.10.2001

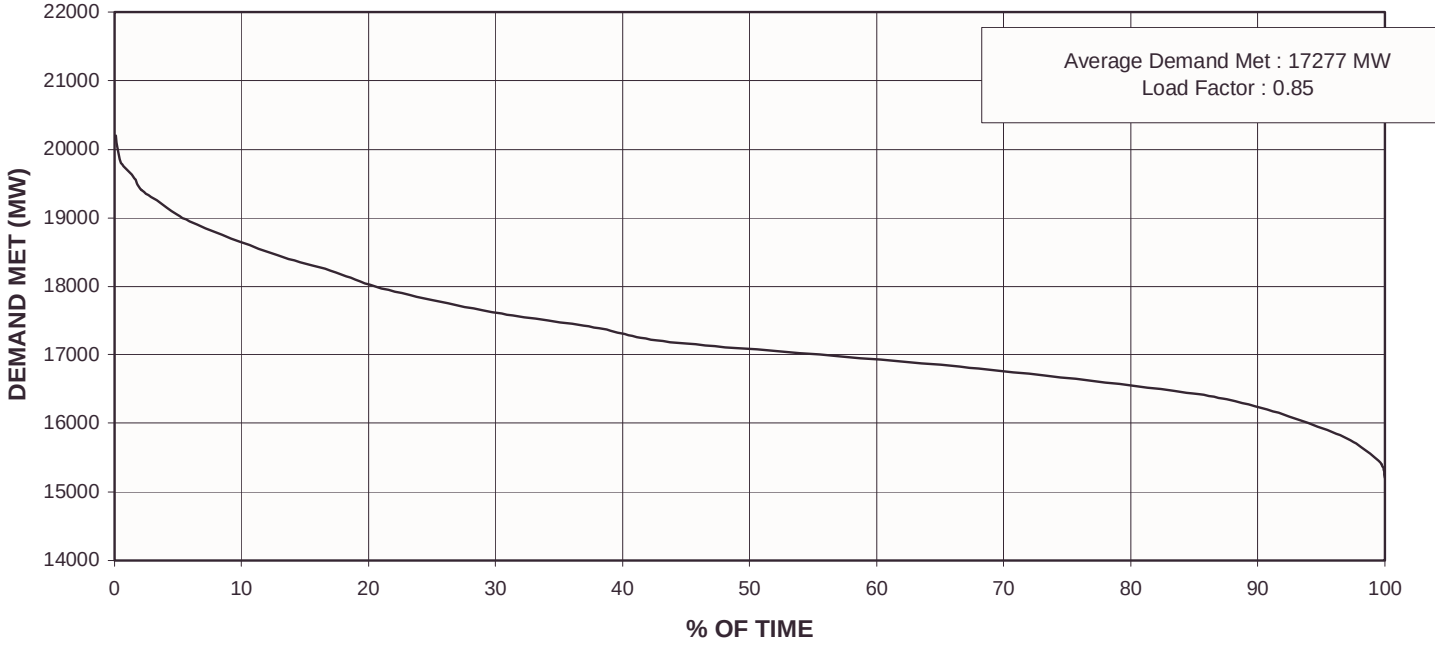
Energy content of Bhakra : **Total Energy content at Bhakra, Ganguwal and Kotla power stations**

Energy content of Rihand : **Total Energy content at Rihand & Obra power stations**

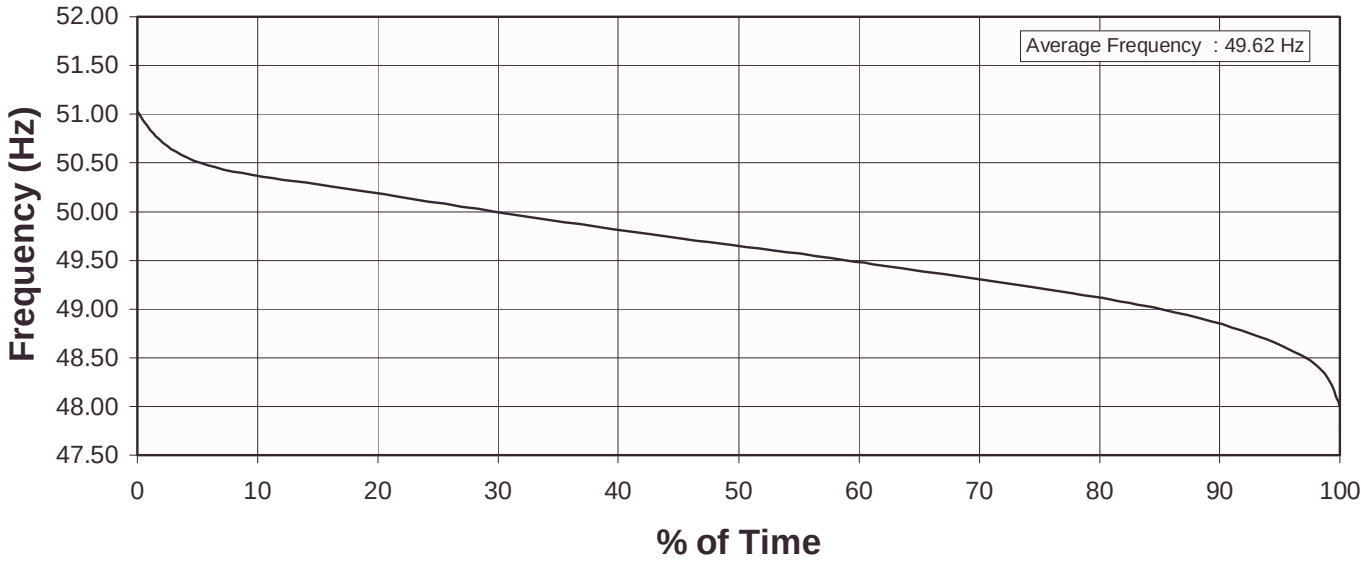
Energy content of RPS : **Total Energy content of Rana Pratap Sagar and Jawahar Sagar Power Stations.**

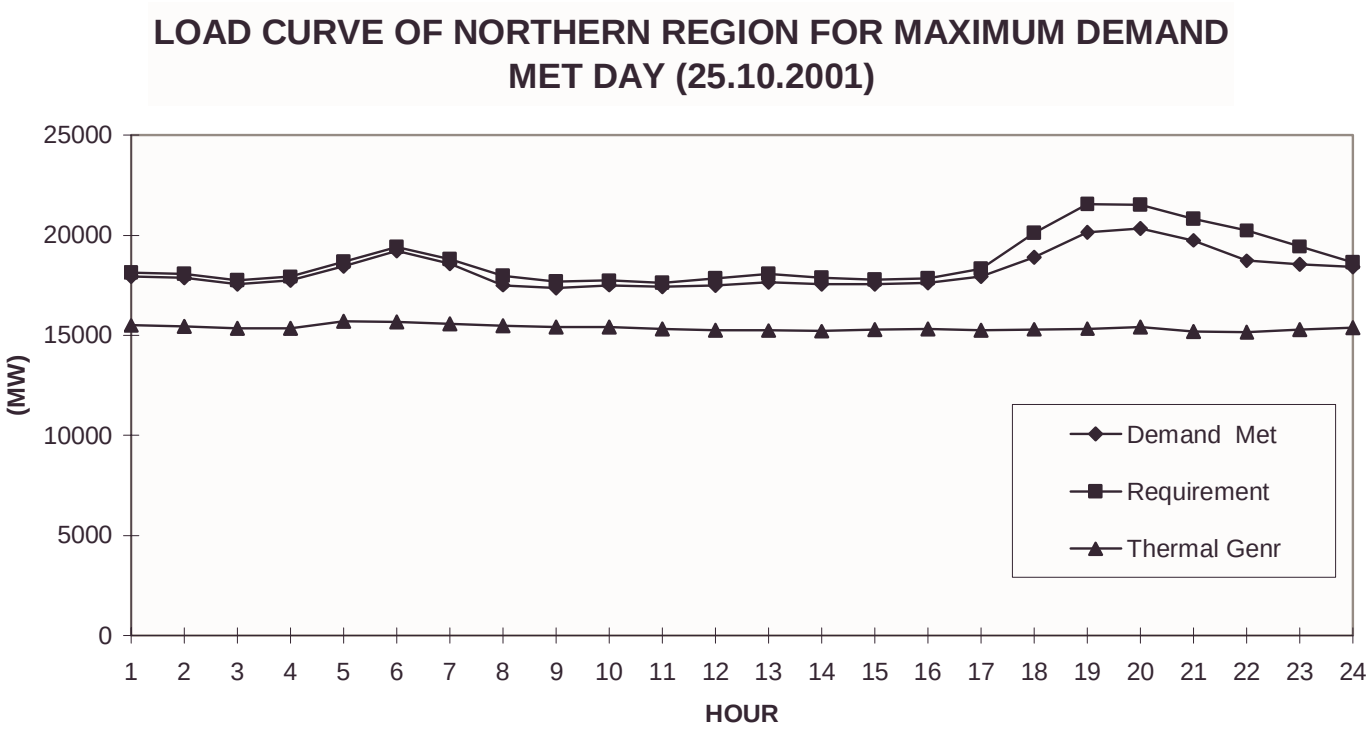
Energy Content of G. Sagar : **Total Energy content at Gandhi Sagar, RP Sagar and Jawahar Sagar Power Stations.**

LOAD DURATION CURVE OF NORTHERN REGION FOR OCTOBER 2001



FREQUENCY DURATION CURVE OF NORTHERN REGION FOR OCTOBER 2001

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20000
15000
10000
5000
0
(MW)
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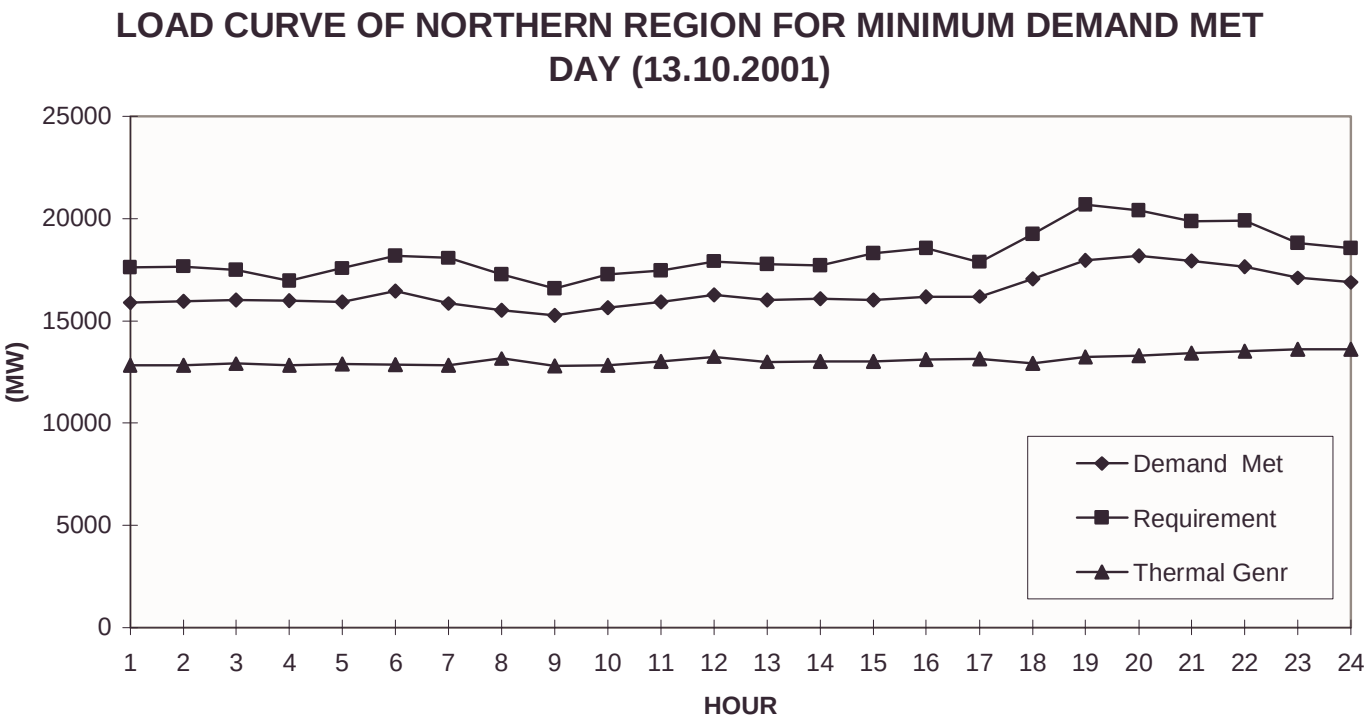
HOUR
Demand Met
Requirement
Thermal Genr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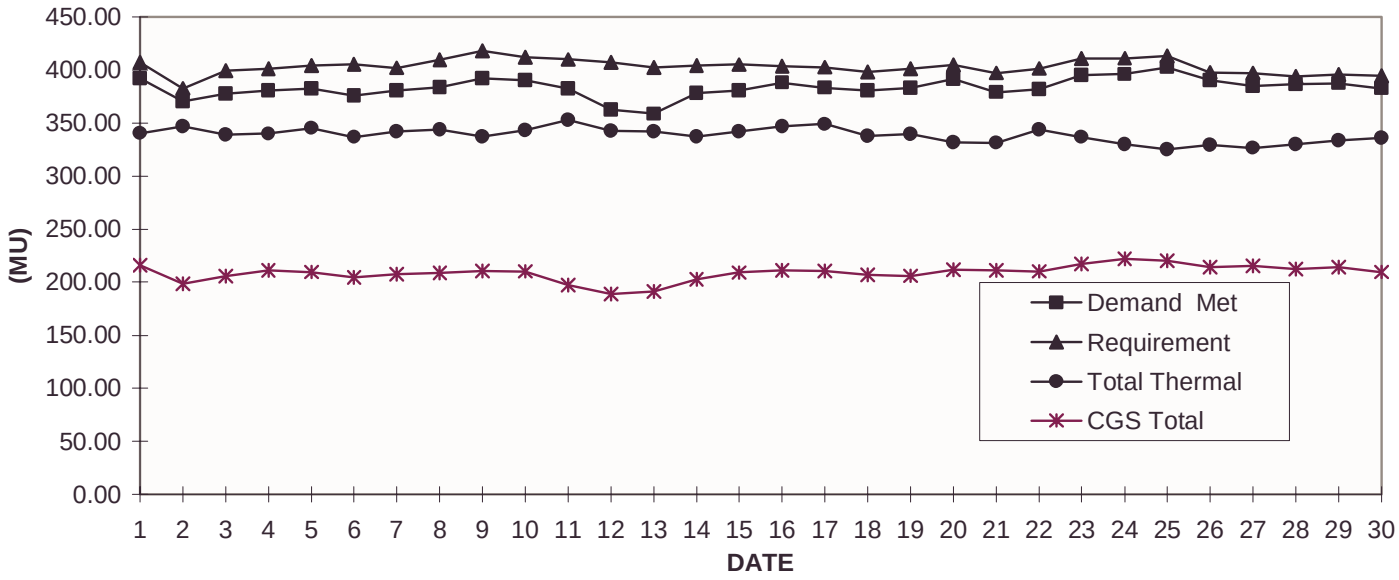
20000
15000
10000
5000
0
(MW)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
HOUR
Demand Met
Requirement
Thermal Genr

DAYWISE DEMAND MET AND REQUIREMENT (In MU) OF NORTHERN REGION DURING OCTOBER 2001



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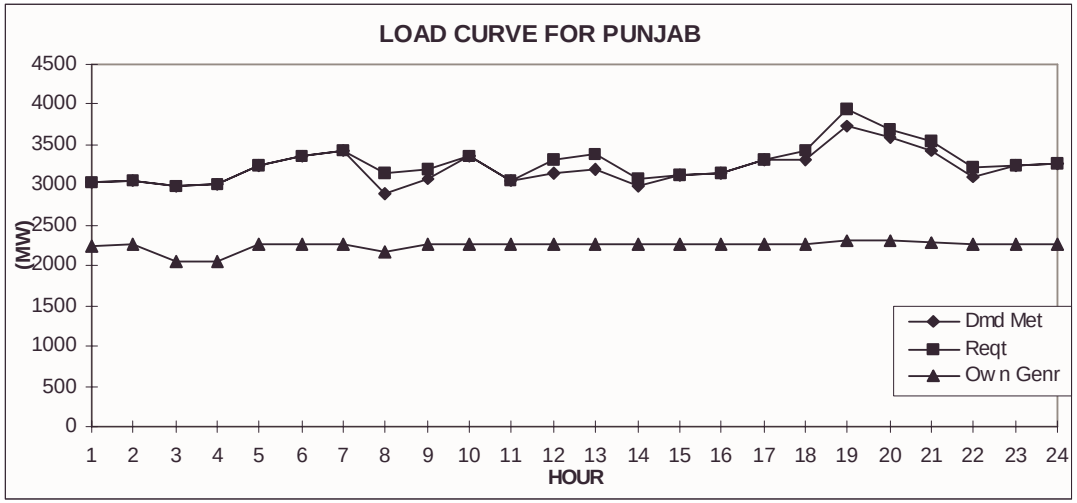

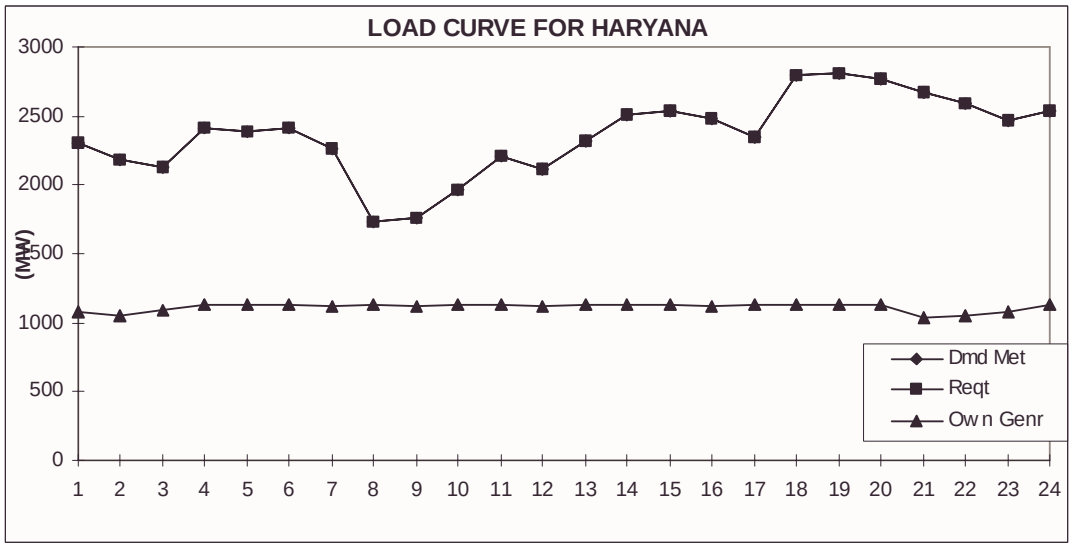

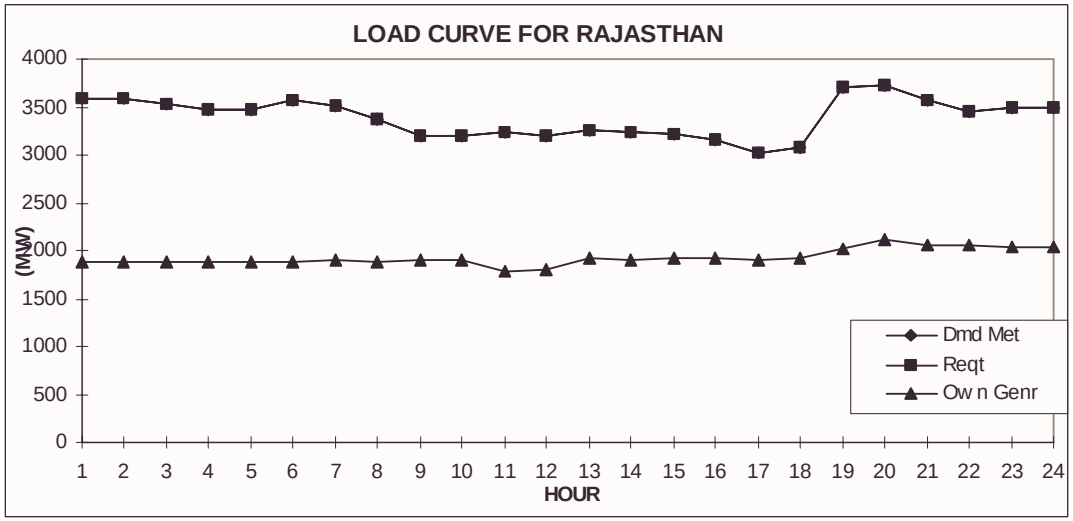
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3500
3000
2500
2000
1500
1000
500
0
(MW)
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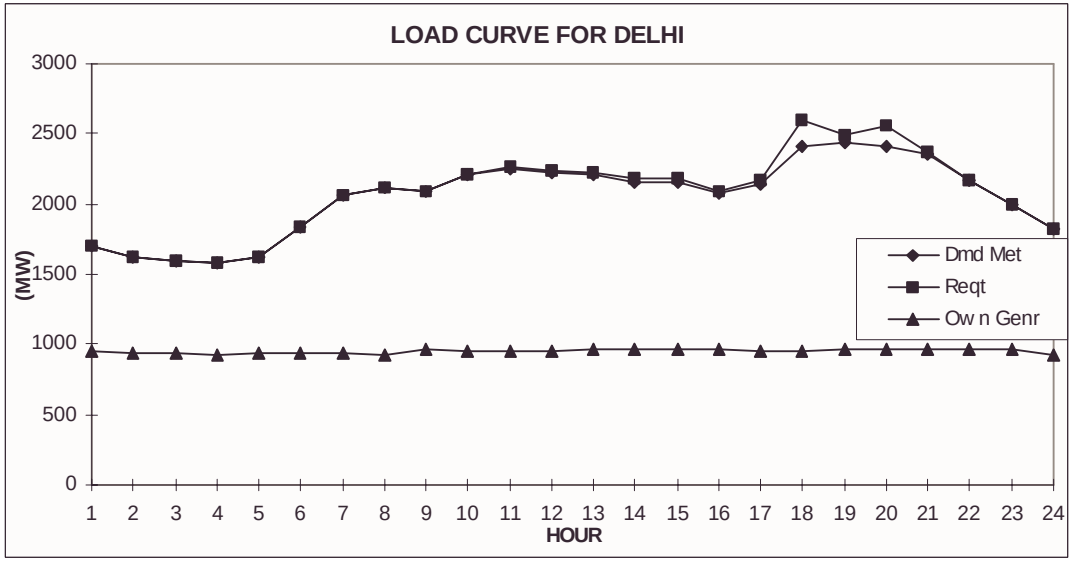
HOUR
Dmd Met
Reqt
Ow n Genr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2500
2000
1500
1000
500
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(MW)
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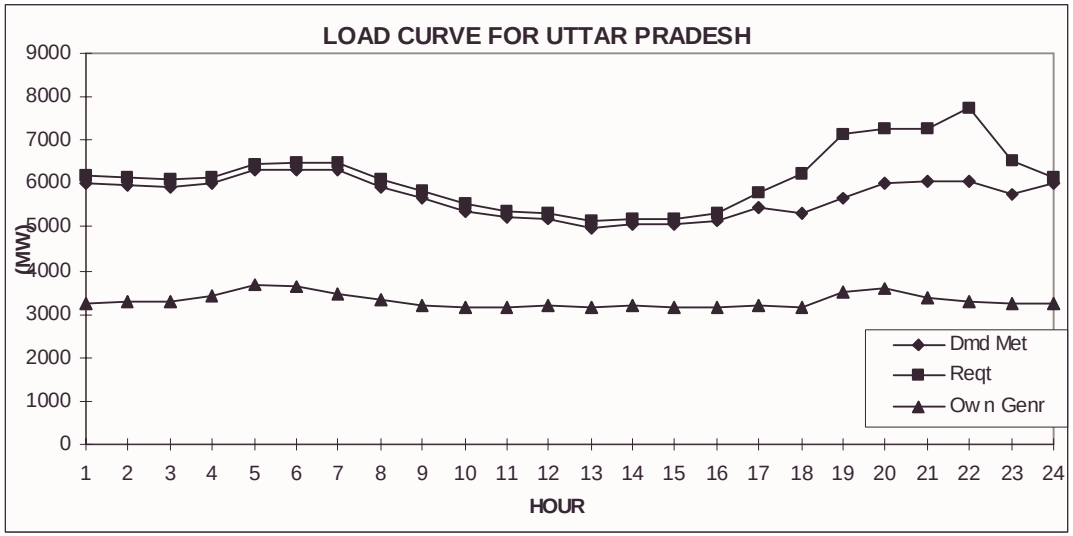
HOUR
Dmd Met
Reqt
Ow n Genr



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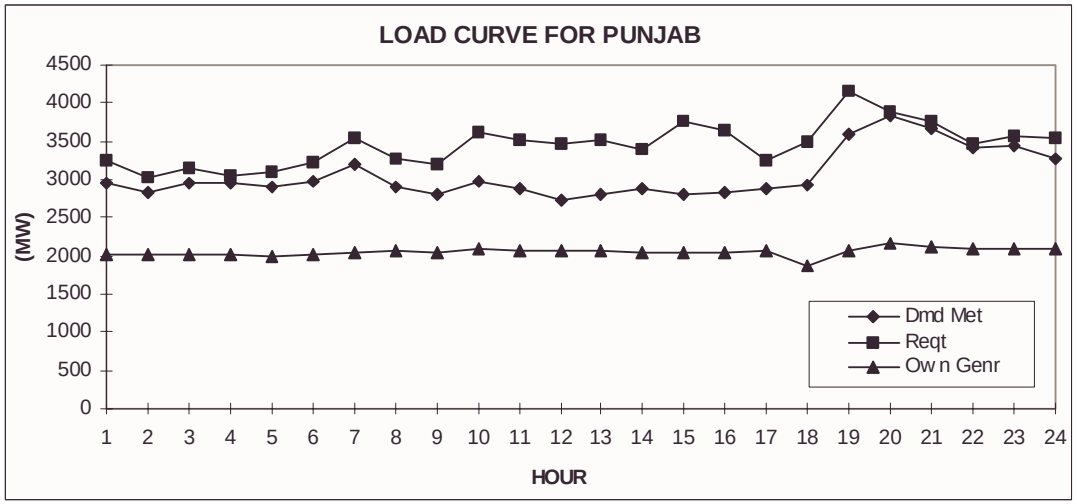

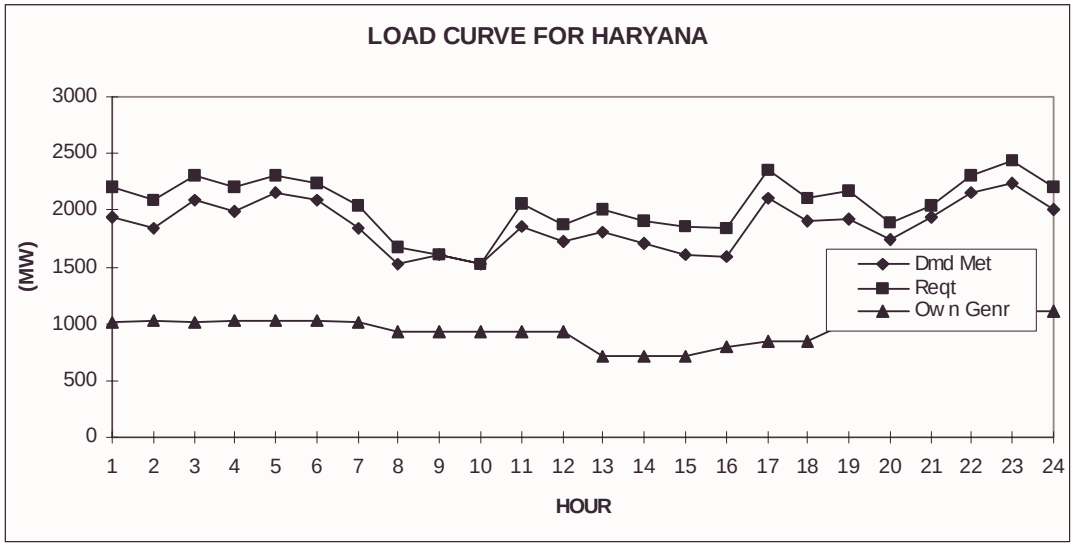
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2000
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(MW)
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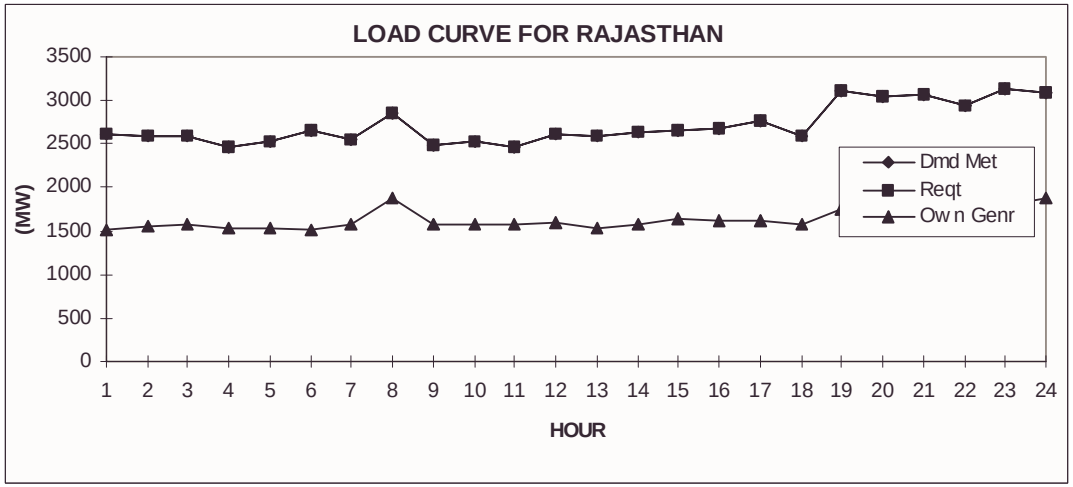
HOUR
Dmd Met
Reqt
Ow n Genr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3000
2500
2000
1500
1000
500
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(MW)
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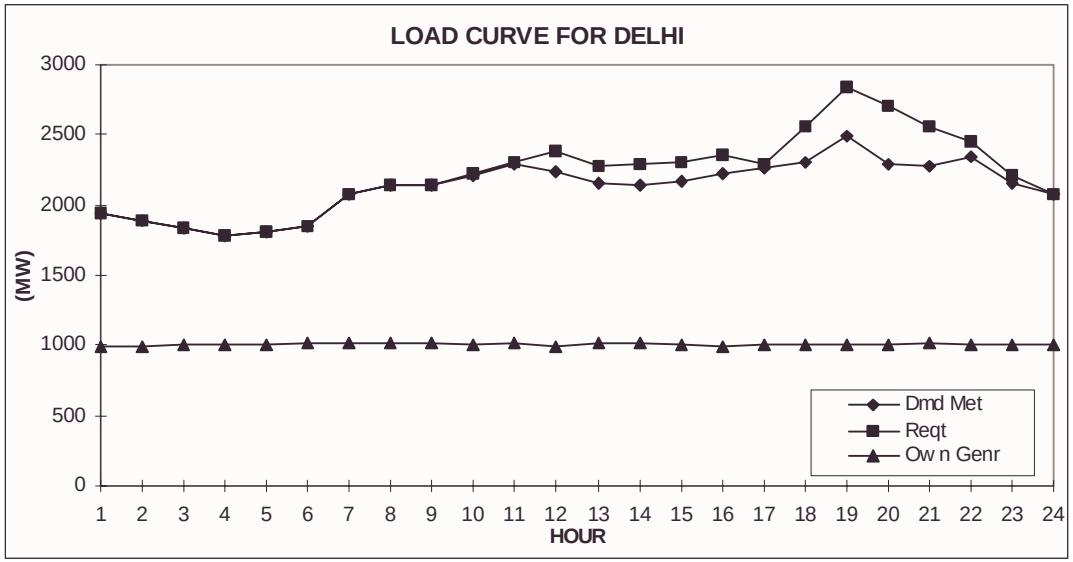
HOUR
Dmd Met
Reqt
Ow n Genr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2500
2000
1500
1000
500
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(MW)
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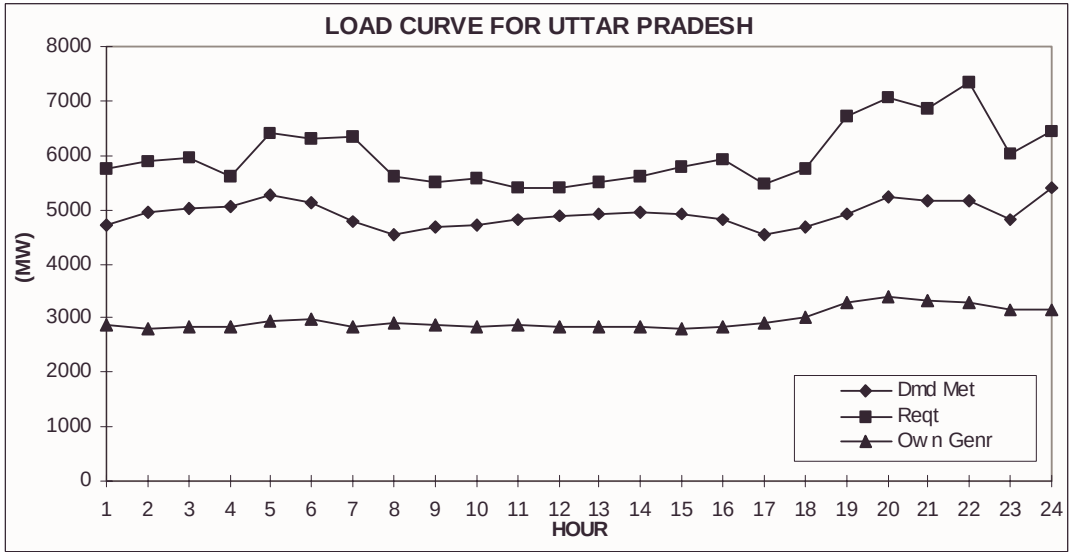
HOUR
Dmd Met
Reqt
Ow n Genr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7000
6000
5000
4000
3000
2000
1000
0
(MW)
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
HOUR
Dmd Met
Reqt
Ow n Genr

MINOR GRID INCIDENTS DURING OCTOBER 2001

S No.	DATE	TIME	INCIDENT
1	08.10.2001	14:12	All the running units at Anpara TPS (Total generation 1350MW) tripped alongwith 400 kV Anpara-Unnao line due to tripping of Circulating water pump. Auxilary supply failure was the reason for tripping of CW Pumps.The units were restored by 16:30 hrs.
2	30.10.2001	20:35	Power Supply in Kashmir Valley area of J&K were interrupted due to tripping of 220 kV Kishanpur-Pampore D/C line on phase to phase fault .Generation at Uri and Valley load were revived by 21:06 hrs. of 30.10.2001.