



GRID REPORT

August 2001

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

A. SUMMARY REPORT:

I Important events:

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

- (i) 315 MVA 400/220 kV ICT-2 was commissioned at Agra S/S of UPPCL on 08.08.2001.

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

The average system frequency during the month of August 2001, was 49.80 Hz and frequency remained between 49.0 & 50.5 Hz for 80.31 % of time. The system voltage condition was satisfactory during the month and was well within the prescribed limits. There was no transmission constraint during the month .

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

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

NIL

(d) Availability based tariff implemented in Northern Region with effect from 01st August 2001.

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

(All figs. in MU)

Sl. No.	State/UT/ System	NTPC (Excl. BTPS,		NHPC		NPC (Excl. RAPS-A)		BBMB		TOTALS	
		Tanda & FGPS) Entitlement	Actual	Entitlement	Actual	Entitlement	Actual	Entitlement	Actual	Entitlement	Actual
1	Chandigarh	43.30	38.32	19.91	19.87	4.63	3.48	47.83	47.96	115.67	109.63
2	Delhi	832.48	806.18	128.56	128.57	48.25	24.51	0.00	0.00	1009.29	959.26
3	Haryana	379.68	411.06	181.20	181.20	38.03	94.57	316.15	317.62	915.05	1004.44
4	H.P.	61.13	52.48	72.93	72.94	8.59	7.87	22.09	22.18	164.74	155.46
5	J & K	137.84	136.52	253.95	253.96	21.81	29.10	0.00	0.00	413.60	419.58
6	Punjab	382.54	397.32	247.05	247.07	65.57	57.53	455.58	457.62	1150.75	1159.53
7	Rajasthan	446.04	492.87	122.91	122.91	201.01	162.29	254.07	254.75	1024.04	1032.82
8	U.P.	1424.86	1394.43	130.89	130.90	101.62	110.17	0.00	0.00	1657.37	1635.49
9	MP / N.F.F.	12.41	14.75	0.00	0.00	0.00	0.00	14.88	10.48	27.29	25.23
10	Bihar	0.00	1.55	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.55
11	Trans. Losses	94.90	94.89	23.00	23.00	9.71	9.71	57.44	57.44	185.05	185.04
12	Others	48.85	23.68	0.00	0.00	0.00	0.00	0.00	0.00	48.85	23.68
	Total	3864.03	3864.03	1180.42	1180.42	499.22	499.22	1168.04	1168.04	6711.70	6711.70

III. INTER REGIONAL EXCHANGES IN MU AND PEAK MW

	Energy (MU)	Peak MW
a. Import over HVDC Back to Back at Vindhyachal	88.17	500
b. M.P. to Rajasthan(Ujjain - Kota)	0.00	0
c. Eastern region to Northern region (Import)	202.31	350
d. Export over HVDC Back to Back at Vindhyachal	6.92	500
e. 220 KV Auraiya -Malanpur	13.37	23
f. Northern region to Bihar (Export)	1.40	22
g. Tanakpur to Mahendranagar(NEPAL) (Export)	1.13	11

IV. FREQUENCY PROFILE

a. Maximum frequency	51.24	Hz	at	18:06 hours on	30.08.01
Minimum frequency	48.16	Hz	at	19:18 hours on	23.08.01
Average frequency	49.80	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	9.30	23.03	57.28	9.92	0.47

c. Frequency Variation Index

Monthly Average	3.61
Maximum	8.92
Minimum	1.31

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	3.54	3.54	0.00	0.00
Delhi	57.80	59.14	1.34	2.27
Haryana	56.18	57.22	1.04	1.82
H.P.	8.46	8.46	0.00	0.00
J & K	14.23	15.78	1.55	9.82
Punjab	98.44	103.81	5.37	5.17
Rajasthan	57.13	58.08	0.95	1.64
U.P.	115.56	133.90	18.34	13.70
N.F.F./Rail	1.10	1.10	0.00	0.00
Total	412.44	441.03	28.59	6.48

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	178	178	0	0	0.00	0.00
Delhi	2879	3040	161	279	5.30	9.18
Haryana	2900	2966	66	180	2.23	6.07
H.P. *	502	502	0	0	0.00	0.00
J & K *	825	1025	200	230	19.51	22.44
Punjab	4936	5357	421	500	7.86	9.33
Rajasthan	3139	3139	0	0	0.00	0.00
U.P.	5922	6910	988	2035	14.30	29.45
N.F.F./Rail	60	60	0	0	0.00	0.00
Region	20533	22442	1909	1909	8.51	8.51

Diversity Factor = 1.04

* Approximate and Estimated

B. DETAILED REPORT

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

-	STATION	INSTALLED CAPACITY		EFFECTIVE CAPACITY	
-	-	(MW)			
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	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

(l)	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		0.00
(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 AUGUST 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.	$5 \times 23 = 115$
Rana Pratap Sagar	Rajasthan	$4 \times 43 = 172$
Jawahar Sagar	Rajasthan	$3 \times 33 = \underline{99}$
	Total	386

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

SATPURA

PROJECTS	LOCATED	INSTALLED CAPACITY (MW)
Satpura TPS	M.P.	$5 \times 62.5 + 200.0 + 3 \times 210.0 = 1142.50$

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 31.08.2001

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

NIL

II. SALIENT FEATURES OF SYSTEM CONDITIONS

1. Effective Generation Capacity at the end of month

Constituent	Effective Capacity		Increase	
	August 2001	August 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	300.60	111.50	37.09
J & K	407.37	407.37	0.00	0.00
Punjab	3275.10	2675.10	600.00	22.43
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	2818.65	33.50	1.19
Total	27304.63	26129.63	1175.00	4.50

2. Power Supply Position

State/UT	August 2001			August 2000			Percentage increase over 2000	
	Energy(MU/day)			Energy(MU/day)				
	Demand met	Reqd.	%Shortage	Demand met	Reqd.	%Shortage	Demand met	Reqd.
Chandigarh	3.54	3.54	0.00	3.26	3.26	0.00	8.59	8.59
Delhi	57.80	59.14	2.27	52.86	55.20	4.24	9.35	7.14
Haryana	56.18	57.22	1.82	52.02	52.85	1.57	8.00	8.27
HP	8.46	8.46	0.00	8.17	8.26	1.09	3.55	2.42
J&K	14.23	15.78	9.82	14.40	15.14	4.89	-1.18	4.23
Punjab	98.44	103.81	5.17	97.58	99.30	1.73	0.88	4.54
Rajasthan	57.13	58.08	1.64	60.15	60.42	0.45	-5.02	-3.87
UP	115.56	133.90	13.70	109.82	125.26	12.33	5.23	6.90
NFF/Rail	1.10	1.10	0.00	0.14	0.14	0.00	685.71	685.71
REGION	412.44	441.03	6.48	398.40	419.83	5.10	3.52	5.05
Frequency Regime								
		August 2001		August 2000				
Average (Hz)		49.80		49.44				

Above 50.5 Hz (%)	10.39	12.76
Above 50.2 Hz (%)	26.88	24.33
Below 49.5 Hz (%)	32.33	52.21
Below 49.0 Hz (%)	9.30	35.63
Below 48.5 Hz (%)	1.16	19.02

3. Peak Power Supply Position

State/UT	August 2001			August 2000			Percentage increase over 2000	
	Peak (MW)			Peak (MW)				
	Demand met	Reqd.	%Shortage	Demand met	Reqd.	%Shortage	Demand met	Reqd.
Chandigarh	178	178	0.00	170	170	0.00	4.71	4.71
Delhi	2879	3040	5.30	2607	2978	12.46	10.43	2.08
Haryana	2900	2966	2.23	2693	2693	0.00	7.69	10.14
HP	502	502	0.00	562	562	0.00	-10.68	-10.68
J&K	825	1025	19.51	956	1013	5.63	-13.70	1.18
Punjab	4936	5357	7.86	4789	4886	1.99	3.07	9.64
Rajasthan	3139	3139	0.00	3175	3175	0.00	-1.13	-1.13
UP	5922	6910	14.30	5627	6471	13.04	5.24	6.78
NFF/Rail	60	60	0.00	7	7	0.00	757.14	757.14
REGION	20533	22442	8.51	19862	21479	7.53	3.38	4.48

III. FREQUENCY PROFILE DURING AUGUST 2001

DATE	Average	MAX.		MIN.		Std dev	Frequency
	Hz	Hz	Time	Hz	Time	Hz	Var. Index(FVI)
1	49.60	51.00	20.01	48.24	5.33	0.48	3.91
2	49.64	51.00	8.06	48.60	1.17	0.46	3.39
3	49.67	50.12	23.57	48.24	9.47	0.23	1.61
4	50.27	50.88	22.03	49.20	1.52	0.29	2.12
5	50.22	51.16	6.06	48.88	14.14	0.31	1.48
6	49.94	50.92	21.47	49.24	12.18	0.38	1.49
7	50.04	50.96	19.28	48.96	19.09	0.37	1.36

8	50.16	51.12	22.04	49.16	0.14	0.33	1.31
9	50.24	51.00	6.06	49.12	19.14	0.37	1.90
10	50.03	50.84	6.05	48.80	19.45	0.36	1.33
11	49.98	51.08	18.13	49.04	19.19	0.43	1.84
12	49.63	51.24	13.02	48.32	22.33	0.55	4.37
13	49.71	50.92	21.54	48.48	16.10	0.53	3.59
14	50.16	50.92	13.15	48.32	18.51	0.43	2.08
15	49.91	51.00	18.18	48.28	20.15	0.43	1.95
16	50.10	51.00	11.54	48.72	22.13	0.44	2.02
17	50.40	51.12	3.58	49.28	19.26	0.39	3.06
18	50.49	51.08	18.05	50.08	17.53	0.35	3.64
19	50.08	51.08	18.03	48.76	19.38	0.51	2.62
20	49.85	50.72	8.03	48.52	23.59	0.46	2.32
21	49.50	50.84	8.03	48.24	19.23	0.47	4.68
22	49.53	51.00	19.16	48.24	17.46	0.45	4.29
23	49.58	50.84	8.03	48.16	19.18	0.40	3.34
24	49.59	50.96	17.05	48.28	15.34	0.49	4.09
25	49.33	50.68	4.04	48.24	16.55	0.52	7.20
26	49.28	50.92	18.03	48.24	23.12	0.46	7.21
27	49.22	51.24	8.02	48.20	22.04	0.48	8.32
28	49.21	50.56	7.25	48.20	22.02	0.52	8.92
29	49.42	50.92	8.09	48.24	6.53	0.65	7.57
30	49.60	51.24	18.06	48.20	22.06	0.53	4.39
31	49.53	51.12	18.09	48.24	22.08	0.48	4.44
Monthly	49.80	51.24		48.16		0.57	3.61

Note :
$$FVI = \frac{10 \sum (F - 50)^2}{24 \times 60 \times 6}$$

where F = frequency measured at 10 second interval

IV. VOLTAGE PROFILE DURING AUGUST 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	420	384	412	368	420	383	410	385	210	179
2	419	391	410	378	422	389	406	377	216	203
3	410	389	394	384	416	385	403	378	213	202
4	415	399	404	390	422	398	404	384	214	207
5	410	397	410	384	422	396	405	384	215	210
6	410	397	402	384	418	398	401	383	215	204
7	413	397	408	386	418	396	404	388	216	206
8	411	397	412	386	425	396	407	387	217	207
9	411	393	410	378	425	389	407	387	216	208
10	408	397	408	380	425	394	408	386	217	206
11	408	397	408	386	425	396	408	389	216	205
12	419	393	410	380	425	396	406	383	216	204
13	411	384	410	374	422	389	403	382	218	204
14	413	391	422	388	427	396	408	388	219	208
15	417	397	420	390	431	400	413	393	220	213
16	410	388	412	388	420	398	404	386	217	207
17	408	380	410	387	429	394	407	384	217	206
18	410	397	412	390	420	394	403	390	215	206
19	410	397	404	382	425	398	408	391	215	207
20	413	393	406	374	427	396	409	385	216	203
21	406	389	410	380	420	394	408	384	215	204
22	411	393	409	387	420	394	406	382	216	201
23	404	386	404	386	416	387	403	376	212	200
24	411	388	404	386	420	387	409	382	217	200
25	408	399	412	386	425	392	411	386	216	208
26	419	399	416	386	420	398	409	388	212	192
27	417	384	418	384	425	389	411	384	212	189
28	415	382	416	372	418	383	410	379	208	183
29	411	380	410	372	416	383	408	381	207	182
30	420	382	410	372	420	383	409	378	208	182
31	413	384	410	366	420	376	409	376	212	200
Month	420	380	422	366	431	376	413	376	220	179

V. PERFORMANCE OF GENERATING STATIONS DURING AUGUST 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	460.10	420.69	2217.51	2009.66
(b)	Singrauli STPS	2000.00	1210.05	1126.31	5960.66	5543.54
(c)	Rihand STPS	1000.00	551.17	509.91	3257.81	2992.68
(d)	Dadri NCTPS	840.00	544.16	499.60	2679.27	2456.02
(e)	Unchahar-I TPS	420.00	176.02	156.66	1274.21	1151.21
(f)	Unchahar-II TPS	420.00	290.59	262.55	1347.08	1213.41
(g)	Tanda TPS	440.00	180.49	157.92	656.08	574.08
(h)	Anta GPS	419.33	265.00	258.94	1311.09	1283.40
(i)	Auraiya GPS	663.36	421.76	419.10	2137.10	2107.84
(j)	Dadri GPS	829.78	421.30	403.43	2370.70	2303.35
(k)	Faridabad GPS	431.57	288.18	281.31	1231.03	1198.40
	Total NTPC	8169.04	4808.82	4496.41	24442.53	22833.59
B	NHPC					
(a)	Bairasiul	180.00	92.68	88.23	386.14	373.37
(b)	Salal	690.00	489.81	486.95	1954.65	1937.13
(c)	Tanakpur HPS	94.20	59.67	59.28	223.33	220.53
(d)	Chamera HPS	540.00	350.98	349.86	1391.71	1389.10
(e)	Uri HPS	480.00	199.36	197.21	1160.55	1148.78
	Total NHPC	1984.20	1192.50	1181.53	5116.38	5068.90
C	NPC					
(a)	RAPS -A	300.00	76.11	67.12	583.12	532.48
(b)	RAPS -B	440.00	239.06	214.13	1075.99	970.05
(c)	NAPS	440.00	315.91	285.09	1227.53	1101.24
	Total NPC	1180.00	631.08	566.34	2886.64	2603.77

2 JOINTLY OWNED (BBMB)						
(a)	Bhakra Complex	1465.15	566.04	563.37	2172.90	2161.56
(b)	Dehar	990.00	457.95	457.95	1832.10	1826.16
(c)	Pong	366.00	146.72	146.72	361.70	357.74
	Total BBMB	2821.15	1170.71	1168.04	4366.70	4345.46
3 DELHI						
(a)	Indra Prastha	247.50	57.74	50.81	345.72	304.24
(b)	Rajghat	149.00	33.21	29.56	186.47	165.95
(c)	Gas Turbines	282.00	123.81	120.09	553.74	537.13
	Total DELHI	678.50	214.75	200.46	1085.93	1007.32
4 HARYANA						
(a)	WYC	48.00	20.81	20.60	117.67	95.89
(b)	Faridabad (New)	165.00	78.05	67.51	382.88	263.68
(c)	Panipat	860.00	380.58	334.91	1885.41	1324.25
(d)	Magnum Diesel(IPP)	25.20	7.72	7.64	40.98	33.03
	Total Haryana	1098.20	487.15	430.66	2426.94	1716.86
contd/-						
5 HP						
(a)	Giri	60.00	37.05	36.96	116.39	115.93
(b)	Bassi	60.00	40.01	39.96	173.84	173.27
(c)	Binwa	6.00	0.00	0.00	9.78	9.73
(d)	Rongtong (+Nogli+Micro+Thirot+Sal-2)	15.02	2.57	2.54	11.43	11.29
(e)	Andhra	16.95	9.98	9.95	36.66	36.51
(f)	Bhabha (H)	120.00	83.84	83.75	288.94	288.32
(g)	Baner (H)	12.00	3.49	3.48	19.11	19.05
(h)	Gaj (H)	10.50	6.85	6.83	25.09	24.94
(i)	Gumma	3.00	0.50	0.50	4.42	4.39
(j)	Ghanvi	22.50	0.00	0.00	14.78	14.72
(k)	Malana (IPP)	86.00	60.30	60.30	102.01	102.01
	Total HP	411.97	244.59	244.27	802.44	800.15
6 J & K						

(a)	Lower Jhelum	105.00	39.30	38.90	186.24	184.38
(b)	Upper Sindh	57.60	18.05	17.87	107.73	106.65
(c)	Ganderbal	15.00	1.91	1.89	11.99	11.87
(d)	Mohra	9.00	0.00	0.00	0.00	0.00
(e)	Chenani	25.30	8.56	8.47	40.25	39.84
(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	67.81	67.13	346.21	342.75
7	PUNJAB					
(a)	Jogindernagar/ Shanan	110.00	69.33	69.29	323.02	321.51
(b)	UBDC	90.00	51.81	51.69	181.17	179.98
(c)	Mukerian	207.00	120.00	119.68	372.69	370.51
(d)	Anandpur Sahib (APS)	134.00	67.72	67.63	244.47	243.13
(e)	Ranjit Sagar HPS	600.00	182.16	181.84	786.51	784.43
(f)	Small Hydel	4.10	0.98	0.97	3.80	3.76
(g)	GNDTPS (Bhatinda)	440.00	273.09	245.93	1227.85	1109.39
(h)	GGSTPS (Ropar)	1260.00	868.89	801.28	3726.91	3413.18
(i)	Jhalkeri Rice Straw Fired	10.00	0.00	0.00	0.00	0.00
(j)	Lehra Mohabbat TPS	420.00	311.54	284.05	1309.93	1187.67
	Total Punjab	3275.10	1945.51	1822.36	8176.35	7613.57
8	RAJASTHAN					
(a)	Mahi Bajaj Sagar	140.00	0.00	0.00	0.01	0.01
(b)	Rana Pratap Sagar (RPS)	172.00	5.41	5.41	14.54	14.44
(c)	Jawahar Sagar (JS)	99.00	12.93	12.86	36.84	36.71
(d)	Anoopgarh	9.00	0.00	0.00	0.10	0.10
(e)	Small Hydro	14.32	0.00	0.00	1.63	1.63
(f)	Kota TPS	850.00	463.64	416.32	2391.37	2155.40
(g)	RAMGARH GT	3.00				
(h)	RAMGARH GT EXT	35.50	18.98	18.98	80.01	80.01

(i)	Suratgarh TPS	500.00	234.25	210.60	1397.33	1265.56
(j)	Wind Farm	4.00	0.00	0.00	0.67	0.67
	Total Rajasthan	1826.82	735.20	664.17	3922.50	3554.51

contd/-

9 U.P.						
	<u>HYDRO</u>					
(a)	Rihand	300.00	133.03	131.70	356.71	353.14
(b)	Obra	99.00	49.65	49.15	144.19	142.75
(c)	Matatilla	30.00	22.94	22.71	40.05	39.65
(d)	Khatima	41.40	20.39	20.19	86.95	86.08
(e)	Ramganga	198.00	0.00	0.00	103.24	102.21
(f)	Ganga Canal	43.40	14.73	14.59	72.18	71.46
(g)	Yamuna (I & IV)	114.75	63.65	63.01	247.40	244.92
(h)	Chibro	240.00	118.52	117.33	433.85	429.51
(i)	Khodri	120.00	54.97	54.42	206.00	203.94
(j)	Chilla	144.00	73.39	72.66	280.82	278.01
(k)	Maneri Bhali	90.00	0.00	0.00	135.64	134.29
(l)	Khara	72.00	44.31	43.87	174.93	173.18
	Total U.P. (Hydro)	1492.55	595.58	589.62	2281.95	2259.13
	<u>THERMAL</u>					
(m)	Obra	160.00	18.18	15.91	77.67	67.96
(n)	Obra Extn. - I	282.00	54.43	47.63	211.10	184.71
(o)	Obra Extn. - II	1000.00	352.21	308.18	1771.84	1550.36
(p)	Panki	32.00	0.00	0.00		
(q)	Panki Extn.	210.00	98.47	86.16	470.82	411.97
(r)	Harduaganj - A	0.00	0.00	0.00		
(s)	Harduaganj - B	150.00	0.00	0.00		
(t)	Harduaganj - C	225.00	27.05	23.67	214.13	187.37

(u)	Paricha	220.00	99.15	86.76	354.76	310.41
(v)	Anpara - A	630.00	338.14	295.87	1740.52	1522.96
(w)	Anpara - B	1000.00	453.76	397.04	3185.81	2787.59
	Total U.P. (Thermal)	3909.00	1786.98	1563.61	8026.65	7023.32
	Total U.P.	5401.55	2382.56	2153.23	10308.61	9282.45
Total Region		27246.72	13880.69	12994.60	63881.23	59169.32

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 AUGUST 2001

(All figs. in MU)

Sl. No.	State/UT/ System	Singrauli STPS		Rihand STPS		BTPS	W. Grid	VSTPS
		Entitlement	Actual	Entitlement	Actual	Actual	Actual	(WR) Actual
1	Chandigarh	6.19	6.19	7.67	6.68	0.00	0.23	0.00
2	Delhi	122.89	122.89	68.61	69.02	420.69	3.15	0.00
3	Haryana	141.08	141.08	47.34	46.94	0.00	2.26	0.00
4	H.P.	0.00	0.00	17.21	16.04	0.00	0.67	0.00
5	J & K	4.46	4.46	36.62	36.99	0.00	2.90	0.00
6	Punjab	127.19	127.19	63.07	63.51	0.00	3.43	0.00
7	Rajasthan	196.52	196.52	62.78	63.20	0.00	3.25	0.00
8	U.P.	479.15	479.15	189.57	190.49	0.00	7.18	0.00
9	MP	0.00	0.00	0.00	0.00	0.00	12.41	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	37.80	37.80	17.04	17.04	0.00	0.77	0.00
	TOTAL	1115.28	1115.28	509.91	509.91	420.69	36.25	0.00

Note :- Singrauli sentout excludes 11.0329741842213 MU supplied to Western Grid

Sl. No.	State/UT/ System	Dadri NCTPS		Unchahar-I TPS		Unchahar-II TPS	
		Entitlement	Actual	Entitlement	Actual	Entitlement	Actual
1	Chandigarh	0.00	0.00	0.21	0.25	3.59	1.46
2	Delhi	418.66	387.48	1.85	2.26	11.45	10.79
3	Haryana	8.34	8.30	0.96	1.96	31.49	61.03
4	H.P.	0.00	0.00	0.41	0.71	7.91	4.34
5	J & K	0.00	0.00	0.93	1.75	19.22	13.12
6	Punjab	0.00	0.00	2.45	3.97	39.50	47.20
7	Rajasthan	0.41	0.41	0.52	1.96	19.57	59.66
8	U.P.	72.19	100.59	143.95	138.42	120.82	55.97

9	MP	0.00	1.39	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	1.43	0.00	0.00	0.00	0.00
12	Trans. Losses	0.00	0.00	5.38	5.38	8.99	8.99
Total		499.60	499.60	156.66	156.66	262.55	262.55

Sl. No.	State/UT/ System	Anta GPS		Auraiya GPS		Uri HPS	
		Entitlement	Actual	Entitlement	Actual	Entitlement	Actual
1	Chandigarh	4.46	4.28	5.36	4.44	1.08	1.08
2	Delhi	35.75	35.81	58.58	58.99	21.24	21.24
3	Haryana	22.04	22.09	36.83	35.71	10.51	10.51
4	H.P.	8.98	8.69	13.48	11.76	5.14	5.14
5	J & K	18.21	18.27	28.75	29.20	65.84	65.84
6	Punjab	33.58	33.65	58.29	58.76	26.70	26.70
7	Rajasthan	57.16	57.23	47.92	48.39	17.27	17.27
8	U.P.	68.42	68.57	155.33	156.21	47.44	47.44
9	MP	0.00	0.00	0.00	0.96	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	0.12	0.00	0.00
12	Trans. Losses	10.36	10.36	14.56	14.56	1.97	1.97
TOTAL		258.96	258.96	419.10	419.10	197.21	197.21

Sl. No.	State/UT/ System	Dadri GPS		Bairasiul HPS		Salal HPS	
		Entitlement	Actual	Entitlement	Actual	Entitlement	Actual
1	Chandigarh	3.11	2.29	0.00	0.00	1.30	1.30
2	Delhi	41.24	45.47	9.32	9.32	55.80	55.80
3	Haryana	27.34	29.68	25.84	25.84	72.13	72.13
4	H.P.	12.47	10.27	10.16	10.16	4.75	4.75
5	J & K	26.75	29.82	0.00	0.00	167.00	167.00
6	Punjab	55.03	59.62	39.39	39.39	127.74	127.74
7	Rajasthan	54.16	58.52	0.00	0.00	14.17	14.17

8	U.P.	134.46	144.06	0.00	0.00	39.18	39.18
9	MP	0.00	0.00	0.00	0.00	0.00	0.00
10	Railways	48.85	23.68	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	3.53	3.53	4.87	4.87
	Total	403.41	403.41	88.24	88.24	486.94	486.94

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	0.62	0.62	16.91	16.88	0.00	0.00	1.39	0.00
2	Delhi	8.39	8.39	33.81	33.81	0.00	8.54	4.28	0.00
3	Haryana	4.53	4.53	68.19	68.19	0.00	12.23	60.24	0.00
4	H.P.	1.82	1.82	51.06	51.06	0.00	0.00	2.02	0.00
5	J & K	4.20	4.20	16.91	16.91	0.00	0.00	4.47	0.00
6	Punjab	9.41	9.41	43.81	43.82	0.00	28.57	8.25	0.00
7	Rajasthan	6.95	6.95	84.52	84.52	67.12	164.79	112.13	0.00
8	U.P.	20.48	20.48	23.79	23.79	0.00	0.00	21.34	157.92
9	Unallocated	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
10	Trans. Losses	1.75	1.75	10.88	10.88	0.00	0.00	0.00	0.00
11	Others	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	58.15	58.15	349.88	349.88	67.12	214.13	214.13	157.92

Note :- Tanakpur sentout excludes 1.128 MU supplied to Nepal

Sl. No.	State/UT/ System	Narora APS		Bhakra HPS		Dehar HPS	Pong	F'bad GPS	ER import
		Entitlement	Actual	Entitlement	Actual	Actual	Actual	Actual	Actual
1	Chandigarh	4.63	2.09	47.83	47.96	0.00	0.00	0.00	12.47
2	Delhi	39.71	20.22	0.00	0.00	0.00	0.00	0.00	70.30
3	Haryana	25.80	34.32	154.95	156.42	137.94	23.25	281.31	62.00
4	H.P.	8.59	5.85	13.53	13.62	8.56	0.00	0.00	0.00
5	J & K	21.81	24.63	0.00	0.00	0.00	0.00	0.00	0.00
6	Punjab	37.00	49.28	213.79	215.83	206.92	34.88	0.00	0.00
7	Rajasthan	36.22	50.15	85.92	86.59	86.22	81.94	0.00	3.75
8	U.P.	101.62	88.83	0.00	0.00	0.00	0.00	0.00	53.79
9	N.F.F.	0.00	0.00	14.88	10.48	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	9.71	9.71	32.47	32.47	18.32	6.65	0.00	0.00
	Total	285.09	285.09	563.37	563.37	457.95	146.72	281.31	202.31

Note : - The above figures are based on the daily energy accounts prepared by NRLDC.

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VII. BILATERAL EXCHANGES IN THE NORTHERN REGION DURING AUGUST 2001

	Chandigarh	Delhi	Haryana	Himachal	J & K	Punjab	Rajasthan	UP	MP	Bihar	Others
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	120.840	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
Himachal	0.000	-120.840	0.000	0.000	0.000	-43.305	0.000	0.000	0.000	0.000	0.000
J & K	0.000	0.000	0.000	0.000	0.000	-45.344	0.000	0.000	0.000	0.000	0.000
Punjab	0.000	0.000	0.000	43.305	45.344	0.000	0.000	0.000	0.000	0.000	0.000
Rajasthan	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
MP	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
Others	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	-120.840	0.000	164.145	45.344	-88.649	0.000	0.000	0.000	0.000	0.000

(All figs in MU'S)

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

i) Haryana's share in IP station of Delhi	13.019MU
ii) Himachal's share in Shanau power station of Punjab	6.665MU
iii) Himachal's share in Yamuna hydro power complex of UP	64.173MU
iv) Maruti to Haryana	16.546MU

Note: The above figures are based on the daily energy accounts prepared by NRLDC.

**VIII. PROGRESS OF INSTALLATION OF SHUNT CAPACITORS IN NORTHERN REGION
AS ON 31.08.2001**

(ALL FIGS IN MVAR)

CONSTITUENT	REQUIREMENT AT THE END OF 2001-2002	CAPACITORS AS ON 31.08.2001	CAPACITORS ADDITION DURING		ADDITIONAL REQUIRED DURING 2001-2002
		INSTALLED	2000-2001	April 01 - Aug 01	
Chandigarh	127	96	60	3	31
Delhi	2734	2377	201	141	357
Haryana	3080	1987	368	344	1093
H.P.	335	169	46	33	166
J & K	880	147	0	0	733
Punjab	4950	4474	384	43	476
Rajasthan	3300	2362	176	5	938
U.P.	5654	4238	279	32	1416
BBMB	381	381	0	0	0
TOTAL	21441	16231	1514	601	5210

SOURCE: Minutes of 320th OCC meeting of NREB held on 07th September, 2001.

IX. HYDRAULIC DATA FOR RESERVOIRS DURING AUGUST 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 August 2001 (m) (ft)	501.09 1643.98	419.28 1375.59	266.76 875.20	352.38 1156.10	386.29 1267.36
Level on last day of August 2000 (m) (ft)	499.70 1639.44	411.26 1349.29	260.06 853.20	349.65 1147.15	384.88 1262.72
Live Capacity as on last day of August 2001 (mhmt) (maft)	0.50 4.07	0.55 4.46	0.50 4.05	0.28 2.27	0.11 0.88
Live Capacity as on last day of August 2000 (mhmt) (maft)	0.49 3.99	0.37 2.96	0.21 1.73	0.10 0.79	0.07 0.56
Energy content as on last day of August 2001 (MU)	2000.00	820.00	1400.00	300.00	250.00
Energy content as on last day of August 2000 (MU)	1910.00	525.00	410.00	180.00	200.00
Maximum level (m)	501.09	419.28	267.37	352.51	386.49

	(ft)	1643.98	1375.59	877.20	1156.52	1268.02
	(date)	31.08.2001	31.08.2001	20.08.01	29.08.01	19.08.01
Minimum level	(m)	485.77	408.42	266.70	350.40	385.31
	(ft)	1593.72	1339.96	875.00	1149.60	1264.14
	(date)	01.08.2001	01.08.2001	28.08.01	01.08.01	06.08.01

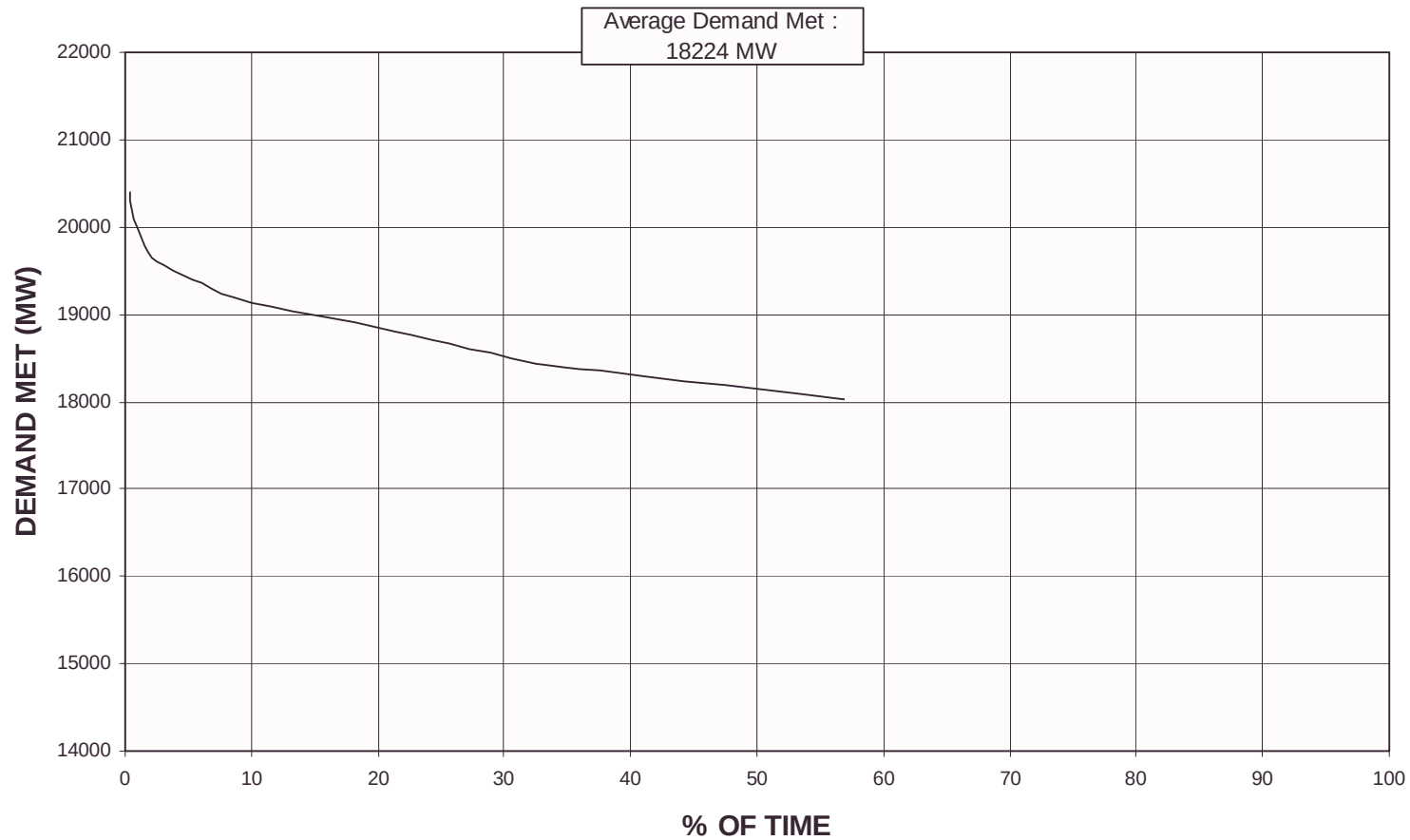
Energy content of Bhakra : Total Energy content at Bhakra, Ganguwal and Kotla power stations

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

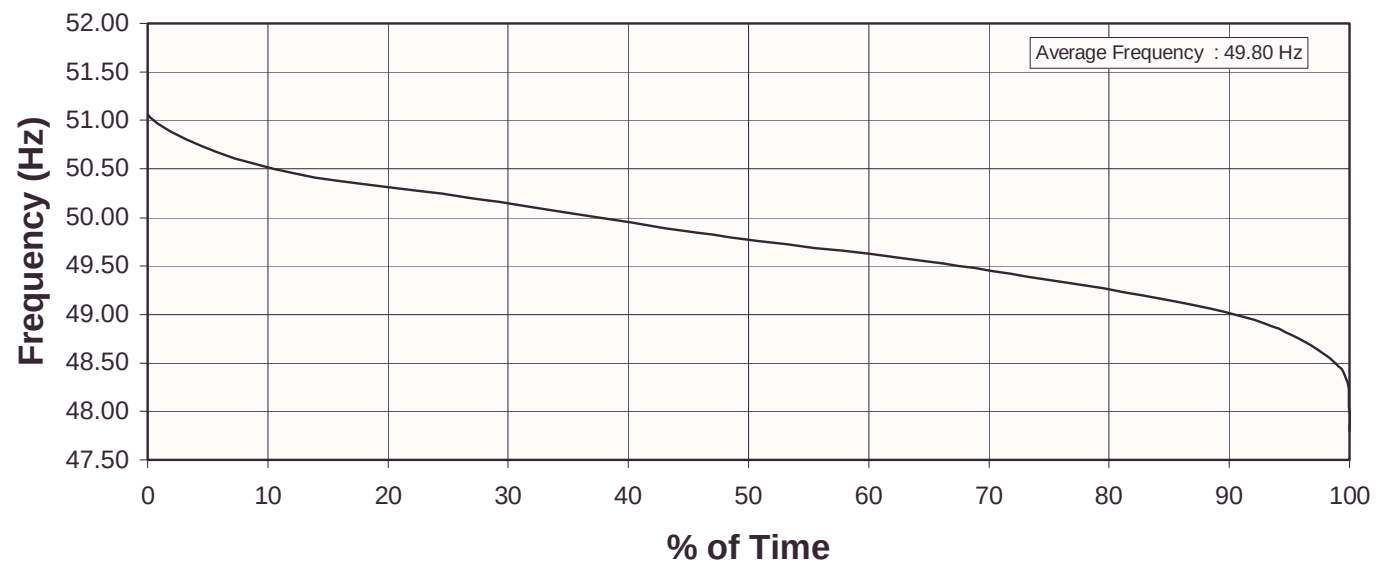
Energy content of RPS : Total Energy content of Rana Pratap Sagar and Jawahar Sagar Power Stations.

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

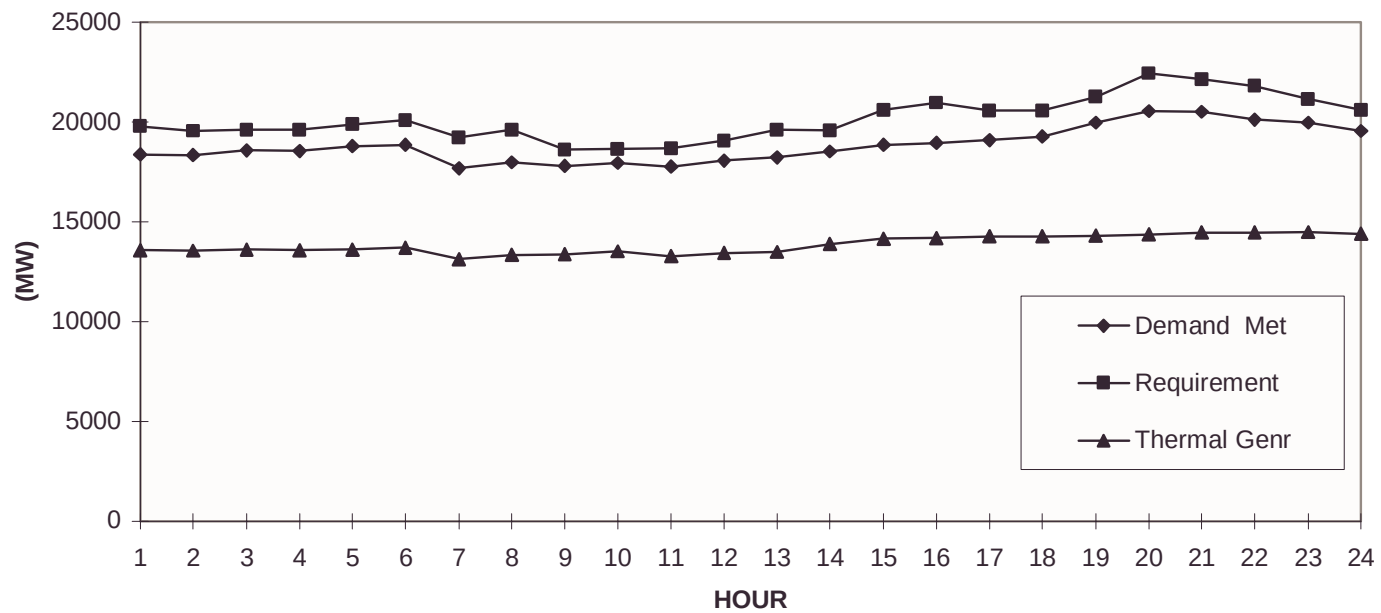
LOAD DURATION CURVE OF NORTHERN REGION FOR AUGUST 2001



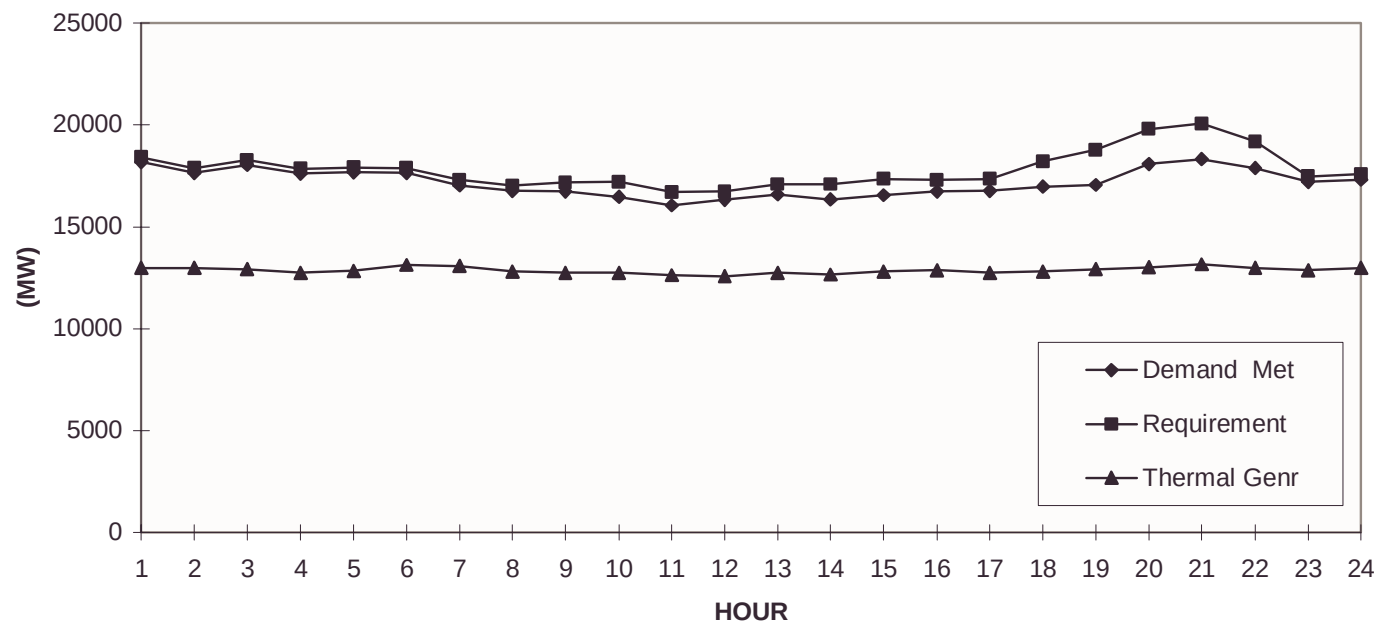
FREQUENCY DURATION CURVE OF NORTHERN REGION FOR AUGUST 2001



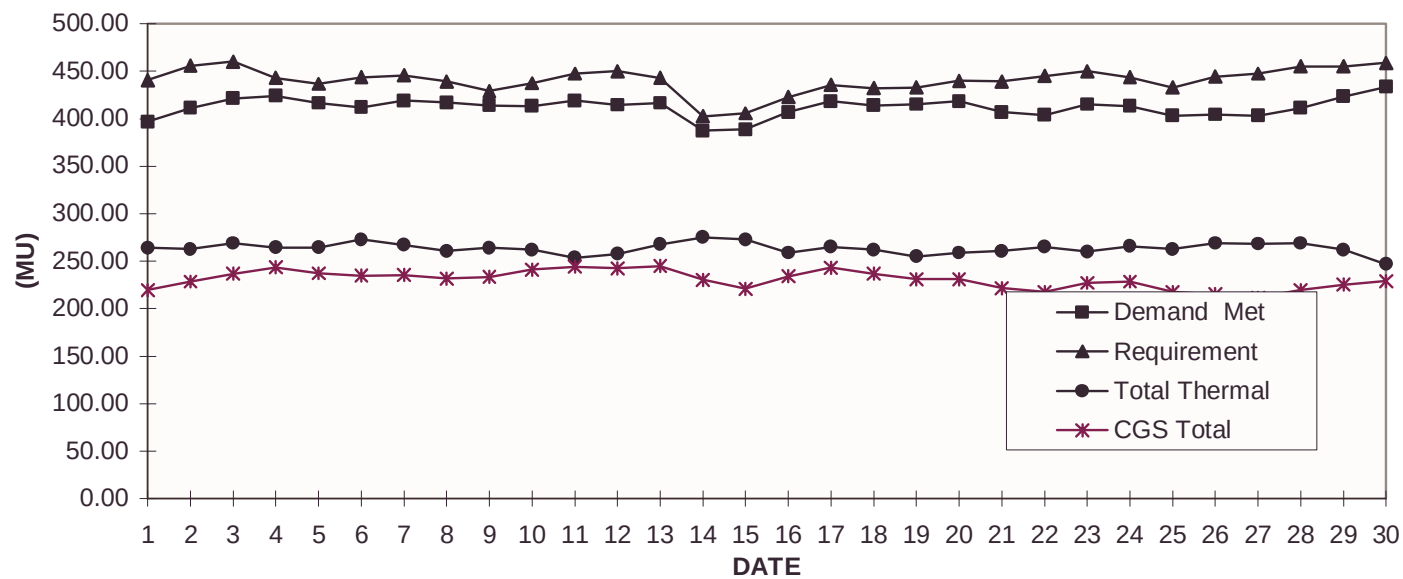
**LOAD CURVE OF NORTHERN REGION FOR MAXIMUM DEMAND
MET DAY (29.08.2001)**



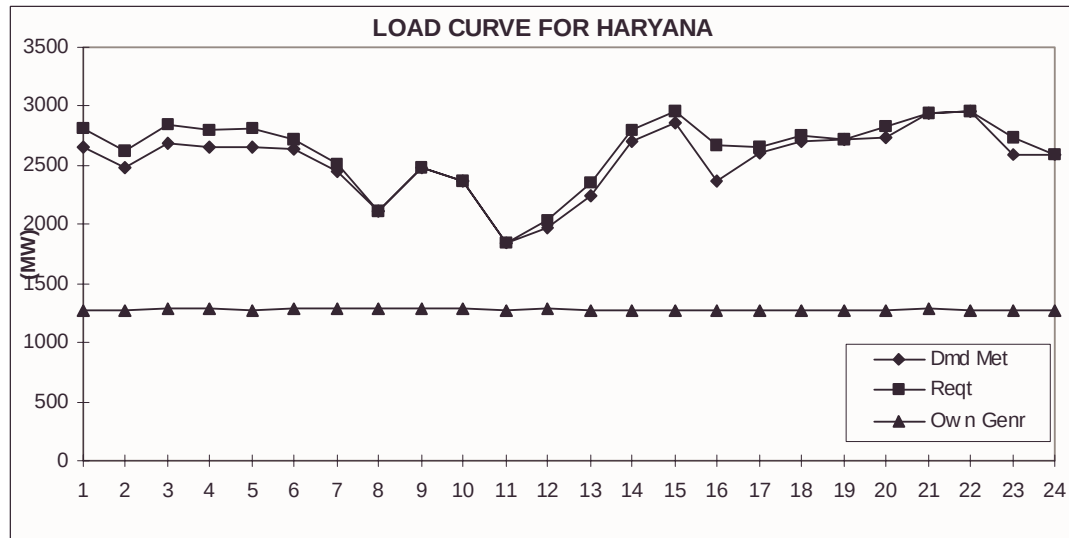
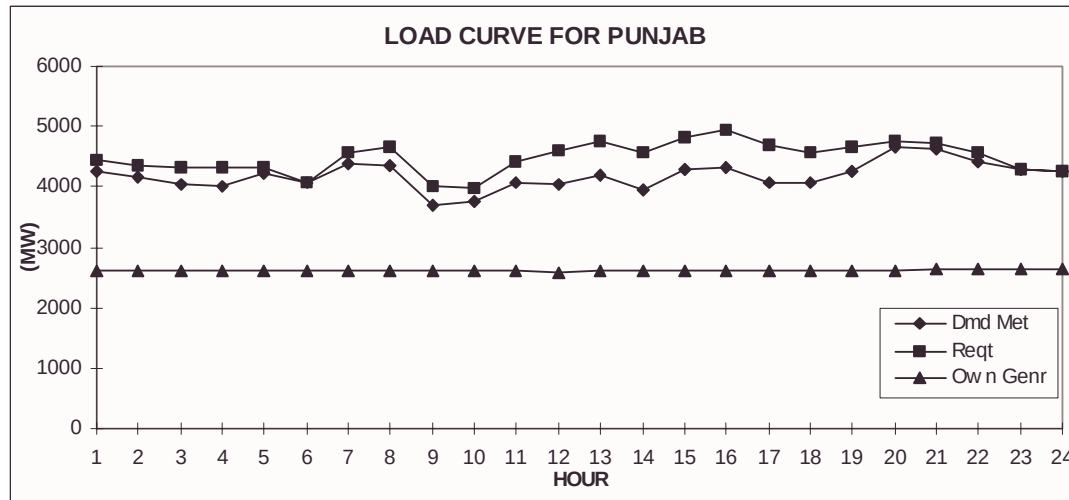
**LOAD CURVE OF NORTHERN REGION FOR MINIMUM DEMAND MET
DAY (14.08.2001)**

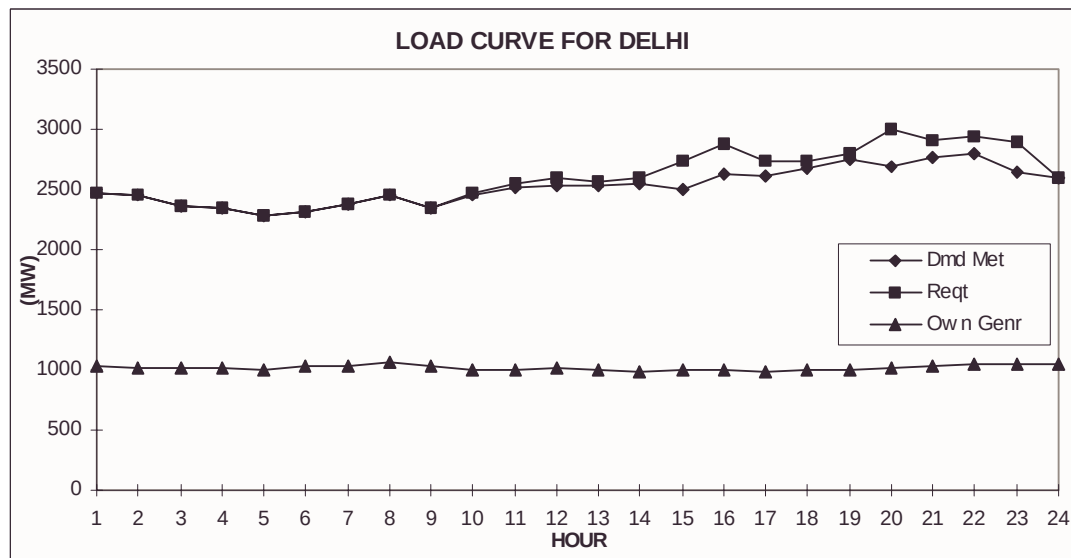
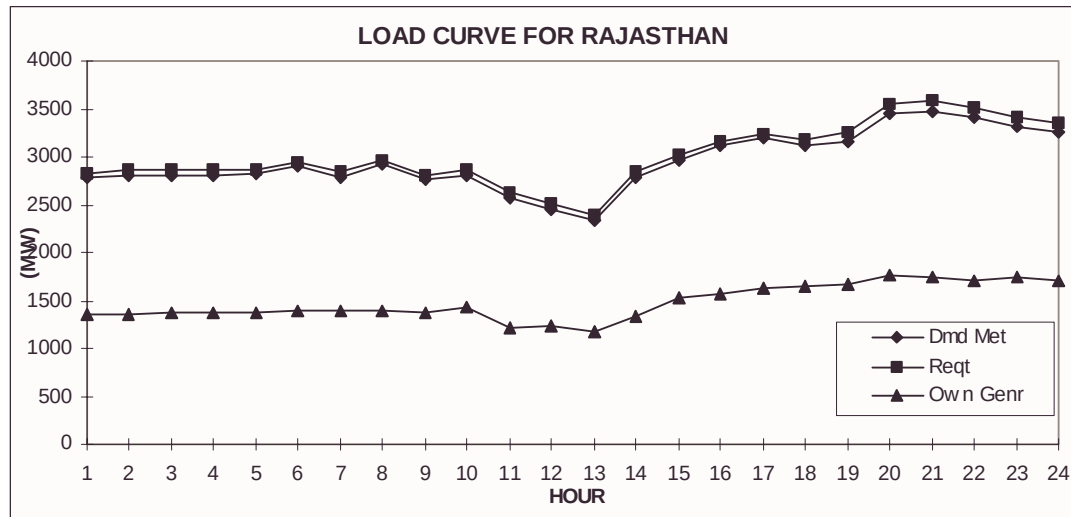


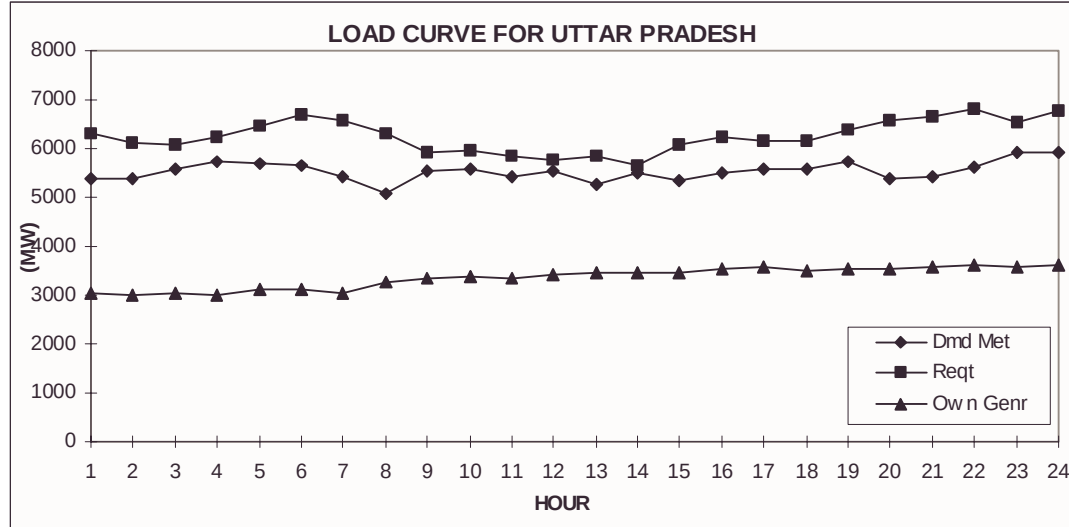
DAYWISE DEMAND MET AND REQUIREMENT (In MU) OF NORTHERN REGION DURING AUGUST 2001



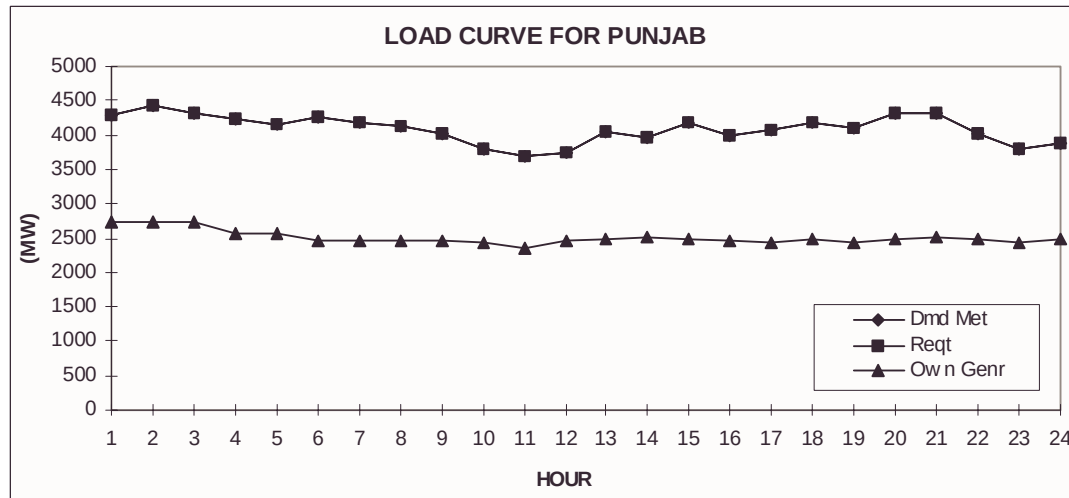
STATE LOAD CURVES FOR REGIONAL MAXIMUM DEMAND MET DAY(29.08.2001)

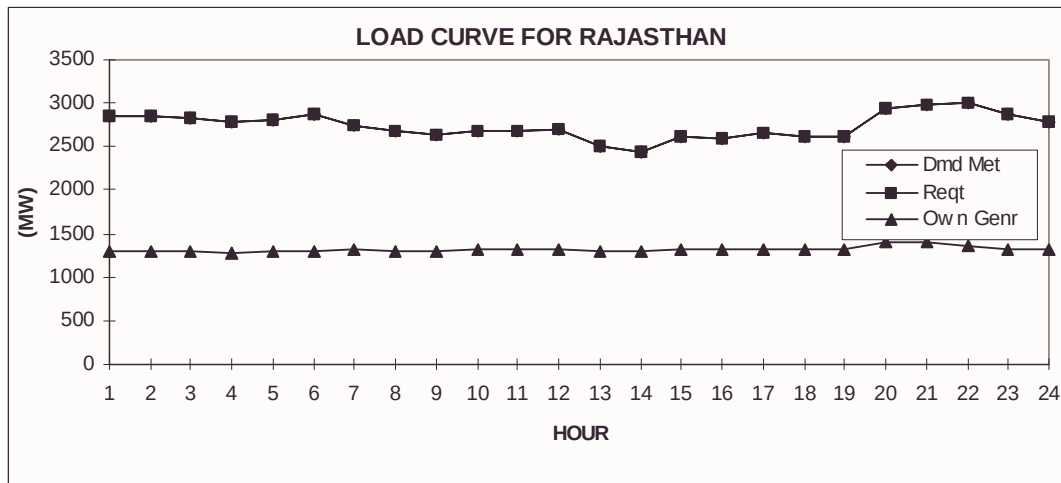
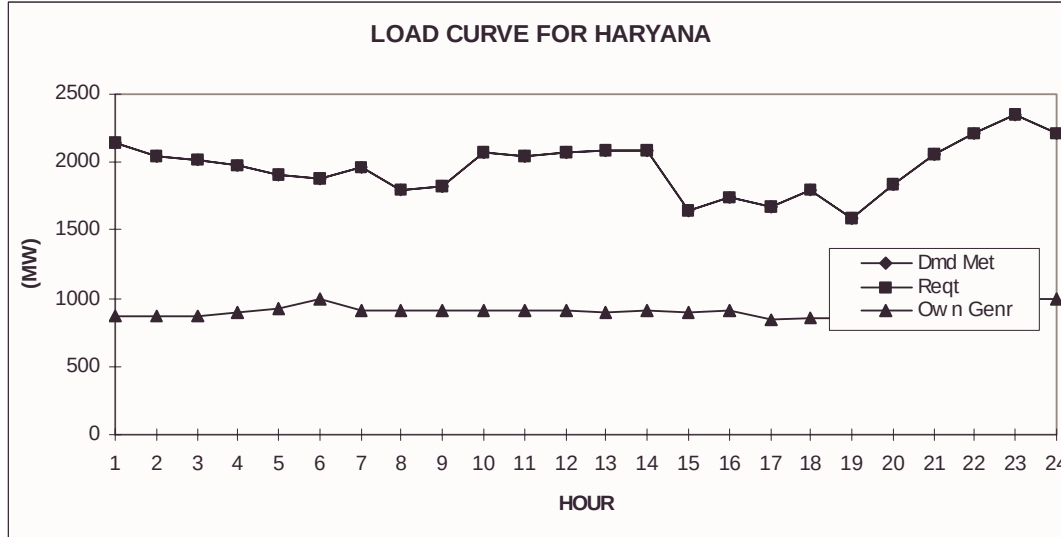


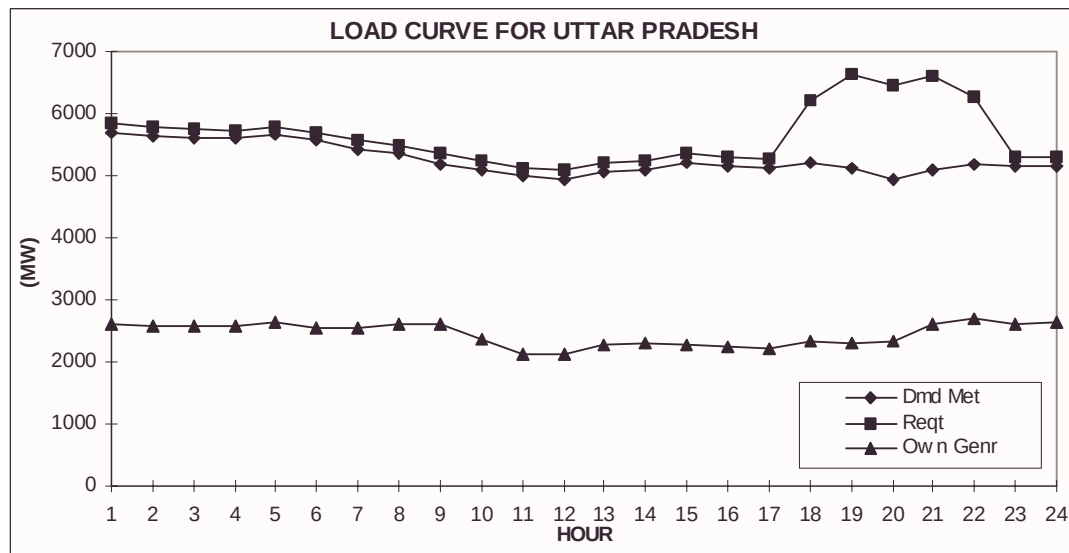
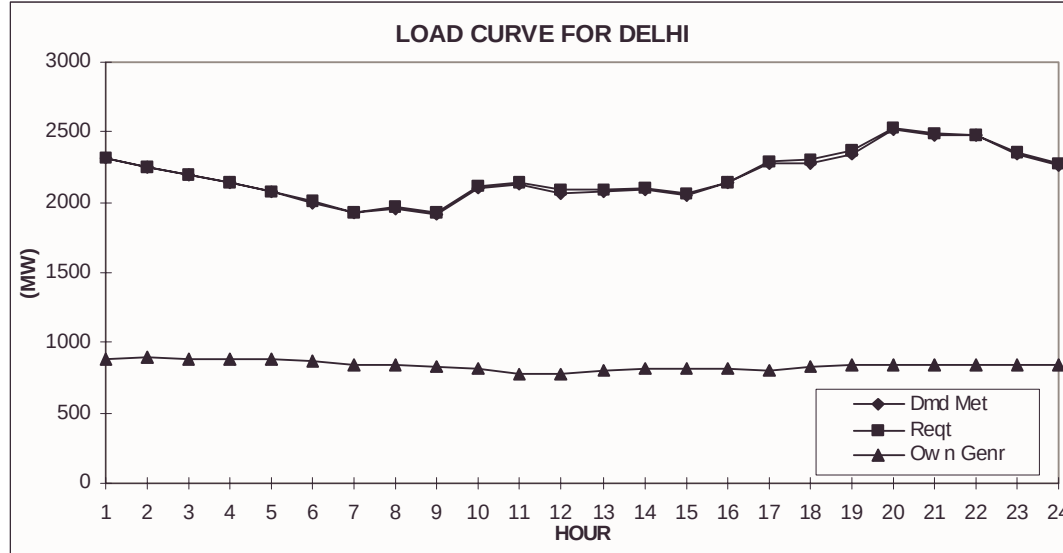




STATE LOAD CURVES FOR REGIONAL MINIMUM DEMAND MET DAY(14.08.2001)







MINOR GRID INCIDENTS DURING AUGUST 2001

S No.	DATE	TIME	INCIDENT
1	29.08.2001	06:52	Due to failure of auxiliary supply at Rihand end, + 500kV Rihand-Dadri Bipole tripped at 06:52hrs along with 500 MW unit #1 at Rihand running at that time. Pole I & II were brought back into service at 07:59hrs and 08:52hrs respectively. Rihand# 1 was synchronized at 10:58 hrs.
2	31.08.2001	04:45	All running units at Obra thermal power station (unit #3,6,7,9,10,11,12) tripped at 04:45 hrs (generation loss of around 750MW) due to bursting of B phase bushing of 240 MVA 400/220 kV transformer. Units were revived by evening hours of 29.08.2001. At the time of tripping weather was inclement with lightning and thunder.