



GRID REPORT

May 2001

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

A. SUMMARY REPORT:

I. Important events:

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

220 kV Ropar TPS-Govindgarh ckt-II (PSEB) was commissioned on

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

The average system frequency during the month of May 2001, was 49.75 Hz and frequency remained between 49.0 & 50.5 Hz for 71.15 % of time. Although there was appreciable increase in the period when frequency remained in this normal band as prescribed by IEGC (Indian Electricity Grid Code), the large number of fluctuations from low to high & vice versa were a cause of concern. The implementation of free governor operation on all generating units in the region assumes importance.

Overall voltage profile in the grid during the month has been satisfactory on most of the 400 kV Buses and were generally within limits prescribed by IEGC.

There has not been much system constraint in evacuation of power or overloading of lines except on few occasions when backing down of generation had to be carried out at Uri HEP either due to overloading of 220 kV Kishenpur-Pampore line during certain hours or due to tripping of 400 kV Uri-Wagoora line.

There was no major grid disturbance in the region during May 2001. The details of minor incidents are given in annexe.

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

NIL

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

Sl. No.	State/UT/ System	NTPC (Excl. BTPS, Tanda & FGPS)		NHPC		NPC (Excl. RAPS-A)		BBMB		TOTALS	
		Entitlement	Actual	Entitlement	Actual	Entitlement	Actual	Entitlement	Actual	Entitlement	Actual
1	Chandigarh	35.26	41.39	14.30	14.31	1.66	3.12	42.63	42.95	93.85	101.77
2	Delhi	853.14	920.64	112.82	112.92	25.03	22.64	0.00	0.00	990.99	1056.20
3	Haryana	338.86	369.58	147.51	147.59	24.65	28.49	207.28	210.94	718.30	756.60
4	H.P.	69.29	68.49	49.30	49.23	3.31	3.70	18.37	18.60	140.27	140.02
5	J & K	168.36	98.74	251.27	251.01	8.30	1.83	0.00	0.00	427.93	351.58
6	Punjab	429.91	413.88	209.74	209.75	24.29	26.46	299.35	304.40	963.29	954.49
7	Rajasthan	521.86	615.58	98.47	98.57	213.02	231.60	146.35	148.01	979.70	1093.76
8	U.P.	1443.57	1361.78	135.23	135.26	38.58	21.00	0.00	0.00	1617.38	1518.04
9	MP / N.F.F.	8.27	13.70	0.00	0.00	0.00	0.00	14.88	3.96	23.15	17.66
10	Bihar	0.00	3.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.25
11	Trans. Losses	98.98	98.98	18.91	18.91	3.62	3.62	29.99	29.99	151.50	151.50
12	Others	62.58	24.06	0.00	0.00	0.00	0.00	0.00	0.00	62.58	24.06
	Total	4030.07	4030.07	1037.55	1037.55	342.46	342.46	758.85	758.85	6168.94	6168.94

(All figs. in MU)

III. INTER REGIONAL EXCHANGES IN MU AND PEAK MW

	Energy (MU)	Peak MW
a. Import over HVDC Back to Back at Vindhyachal	28.44	500
b. M.P. to Rajasthan(Ujjain - Kota)	0.00	0
c. Eastern region to Northern region (Import)	36.58	115
d. Export over HVDC Back to Back at Vindhyachal	43.41	500
e. 220 KV Auraiya -Malanpur	12.50	24
f. Northern region to Bihar (Export)	3.56	50
g. Tanakpur to Mahendranagar(NEPAL) (Export)	1.41	5

IV. FREQUENCY PROFILE

a. Maximum frequency	51.48	Hz	at	18:45 hours on	29.05.2001
Minimum frequency	47.96	Hz	at	22:18 hours on	02.05.2001
Average frequency	49.75	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	13.68	23.83	47.32	11.96	3.21

c. Frequency Variation Index

Monthly Average	5.11
Maximum	10.69
Minimum	1.68

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	3.28	3.28	0.00	0.00
Delhi	54.81	56.44	1.63	2.89
Haryana	42.04	42.62	0.58	1.36
H.P.	8.54	8.54	0.00	0.00
J & K	13.65	16.58	2.93	17.67
Punjab	74.87	77.05	2.18	2.83
Rajasthan	60.41	61.70	1.29	2.09
U.P.	113.52	124.28	10.76	8.66
N.F.F./Rail	0.90	0.90	0.00	0.00
Total	372.02	391.39	19.37	4.95

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	163	163	0	0	0.00	0.00
Delhi	2771	2995	224	341	7.48	11.39
Haryana	2471	2522	51	257	2.02	10.19
H.P. *	485	485	0	0	0.00	0.00
J & K *	858	1061	203	240	19.13	22.62
Punjab	4245	4245	0	0	0.00	0.00
Rajasthan	3286	3286	0	0	0.00	0.00
U.P.	6044	6717	673	894	10.02	13.31
N.F.F./Rail	51	51	0	0	0.00	0.00
Region	19436	20874	1438	1911	6.89	9.15

Diversity Factor = 1.05

* Approximate and Estimated

B. DETAILED REPORT**I. 1. INSTALLED / EFFECTIVE CAPACITY AT THE END OF MAY 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 DVB					
	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 DVB		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+1x210	650.00	4x110+1x210	650.00
	Total Thermal		830.00		815.00
(d)	Magnum Diesel (IPP)	4x6.3	25.20	4x6.3	25.20
	Total Haryana		903.20		888.20
6 HPSEB					
	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
	Total HPSEB		326.80		326.10
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	PSEB				
	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 PSEB		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)			27521.49		27008.63

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

Agency / Source	Hydro	Thermal	Gas/Diesel/Wind	Nuclear	Total	% of Total
NTPC	---	5825.00	2344.04	---	8169.04	30.25%
NHPC	1984.20	---	---	---	1984.20	7.35%
NPC	---	---	---	1180.00	1180.00	4.37%
BBMB	2852.15	---	---	---	2852.15	10.56%
CHANDIGARH	---	---	1.40	---	1.40	0.01%
DVB	---	396.50	282.00	---	678.50	2.51%
HARYANA	48.00	815.00	25.20	---	888.20	3.29%
HPSEB	325.97	---	0.13	---	326.10	1.21%
PDD, J&K	225.19	---	182.18	---	407.37	1.51%
PUNJAB	1145.10	2130.00	---	---	3275.10	12.13%
RAJASTHAN	434.32	1350.00	42.50	---	1826.82	6.76%
UP	1510.75	3909.00	---	---	5419.75	20.07%
Total	8525.68	14425.50	2877.45	1180.00	27008.63	100.00%
% of TOTAL	31.57%	53.41%	10.65%	4.37%	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 = <u>99</u>
	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 **27055.63 MW**.

3. BREAKUP OF EFFECTIVE HYDRO CAPACITY (MW) IN NORTHERN REGION AS ON 31.05.2001

Agency / Source	Run-of -the -river	Reservoir	Total
NHPC	1444.20	540.00	1984.20
BBMB	1155.15	1697.00	2852.15
DVB	0.00	0.00	0.00
HARYANA	48.00	0.00	48.00
HPSEB	325.97	0.00	325.97
PDD, 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	5018.68	3507.00	8525.68

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	
	May 2001	May 2000	MW	%
Chandigarh	1.40	1.40	0.00	0.00
Delhi	678.50	678.50	0.00	0.00
Haryana	888.20	888.20	0.00	0.00
H.P.	326.10	300.60	25.50	8.48
J & K	407.37	405.54	1.83	0.45
Punjab	3275.10	2675.10	600.00	22.43
Rajasthan	1826.82	1824.82	2.00	0.11
U.P.	5419.75	5431.75	-12.00	-0.22
NTPC	8169.04	8023.47	145.57	1.81
NHPC	1984.20	1984.20	0.00	0.00
NPC	1180.00	960.00	220.00	22.92
BBMB	2852.15	2793.65	58.50	2.09
Total	27008.63	25967.23	1041.40	4.01

2. Power Supply Position

State/UT	May 2001			May 2000			Percentage increase over 2000	
	Energy(MU/day)			Energy(MU/day)				
	Demand met	Reqt.	%Shortage	Demand met	Reqt.	%Shortage	Demand met	Reqt.
Chandigarh	3.28	3.28	0.00	3.23	3.23	0.00	1.55	1.55
Delhi	54.81	56.44	2.89	53.49	56.11	4.67	2.47	0.59
Haryana	42.04	42.62	1.36	41.97	42.75	1.82	0.17	-0.30
HP	8.54	8.54	0.00	8.08	8.08	0.00	5.69	5.69
J&K	13.65	16.58	17.67	13.74	16.30	15.71	-0.66	1.72
Punjab	74.87	77.05	2.83	75.38	75.68	0.40	-0.68	1.81
Rajasthan	60.41	61.70	2.09	65.32	66.56	1.86	-7.52	-7.30
UP	113.52	124.28	8.66	110.94	125.12	11.33	2.33	-0.67
NFF/Rail	0.90	0.90	0.00	0.13	0.13	0.00	592.31	592.31
REGION	372.02	391.39	4.95	372.28	393.96	5.50	-0.07	-0.65

Frequency Regime	May 2001	May 2000
Average (Hz)	49.75	49.61
Above 50.5 Hz (%)	15.17	18.02
Above 50.2 Hz (%)	28.61	28.92
Below 49.5 Hz (%)	37.51	49.50
Below 49.0 Hz (%)	13.68	26.18
Below 48.5 Hz (%)	2.49	10.37

3. Peak Power Supply Position

State/UT	May 2001			May 2000			Percentage increase over 2000	
	Peak (MW)			Peak (MW)				
	Demand met	Reqt.	%Shortage	Demand met	Reqt.	%Shortage	Demand met	Reqt.
Chandigarh	163	163	0.00	171	171	0.00	-4.68	-4.68
Delhi	2771	2995	7.48	2628	2912	9.75	5.44	2.85
Haryana	2471	2522	2.02	2393	2404	0.46	3.26	4.91
HP	485	485	0.00	564	564	0.00	-14.01	-14.01
J&K	858	1061	19.13	958	1043	8.15	-10.44	1.73
Punjab	4245	4245	0.00	4172	4172	0.00	1.75	1.75
Rajasthan	3286	3286	0.00	3303	3303	0.00	-0.51	-0.51
UP	6044	6717	10.02	5793	5793	0.00	4.33	15.95
NFF/Rail	51	51	0.00	7	7	0.00	628.57	628.57
REGION	19436	20874	6.89	18948	20687	8.41	2.58	0.90

III. FREQUENCY PROFILE DURING MAY 2001

DATE	Average	MAX.		MIN.		Std dev	Frequency
	Hz	Hz	Time	Hz	Time	Hz	Var. Index(FVI)
1	49.37	51.20	0603	48.08	0445	0.67	8.43
2	49.23	51.00	1902	47.96	2218	0.45	7.95
3	49.30	51.24	1847	48.08	0922	0.71	9.95
4	49.42	50.84	0620	48.04	1932	0.67	7.81
5	49.08	50.36	1901	48.04	2040	0.42	10.23
6	49.56	51.16	1806	48.20	0100	0.59	5.40

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7	49.80	51.08	0612	48.56	1430	0.59	6.14
8	49.82	51.44	0347	48.20	2208	0.76	6.52
9	49.35	51.36	1859	48.28	2055	0.48	7.21
10	49.38	51.20	1251	48.20	0503	0.57	10.69
11	49.10	51.16	1857	48.00	2002	0.51	7.61
12	49.29	50.92	1811	48.24	1428	0.51	4.34
13	49.52	51.24	1832	48.16	2218	0.45	2.47
14	49.74	51.12	0612	48.80	1500	0.42	3.69
15	49.89	51.44	1807	48.52	0032	0.60	3.69
16	50.27	51.36	0602	48.44	1624	0.55	3.73
17	50.32	51.32	1103	49.04	1914	0.45	3.05
18	50.10	51.32	1804	48.24	1957	0.61	3.81
19	50.14	51.20	0408	48.12	1958	0.45	2.58
20	50.38	51.3.6	0641	49.20	2332	0.50	3.90
21	50.11	51.16	1316	48.72	0500	0.40	1.68
22	49.68	51.12	0408	48.24	2046	0.69	5.78
23	49.75	51.40	1807	48.28	2212	0.52	3.36
24	49.64	51.12	1835	48.60	0028	0.51	3.90
25	49.77	51.28	1805	48.44	1949	0.51	3.15
26	49.81	51.36	1712	48.32	1335	0.55	3.38
27	50.30	51.40	1830	49.24	2215	0.40	2.55
28	50.31	51.40	0604	49.16	2348	0.41	2.68
29	50.43	51.48	1845	49.28	1511	0.48	4.14
30	50.10	51.40	0605	48.60	1957	0.56	3.29
31	49.75	51.32	1734	48.64	1426	0.67	5.12
Monthly	49.76	51.48		47.96		0.68	5.11

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 MAY 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	424	388	414	380	436	394	412	392	209	188
2	413	395	406	386	427	396	408	377	206	188
3	424	399	410	380	429	394	410	388	207	188
4	415	399	412	382	427	394	411	389	209	188
5	413	395	408	389	427	405	408	393	207	192
6	415	395	412	388	429	407	410	393	207	191
7	413	388	412	380	425	398	408	379	207	190
8	417	388	424	376	431	392	415	381	210	183
9	413	382	412	384	427	390	411	387	207	188
10	413	384	410	378	429	398	413	386	204	185
11	415	391	408	378	425	396	413	374	204	184
12	413	388	408	376	422	394	405	389	204	185
13	411	388	406	382	422	398	410	390	203	190
14	411	386	406	368	422	389	412	388	202	179
15	420	388	422	376	433	396	410	390	208	180
16	419	397	416	384	429	400	412	386	210	184
17	419	397	418	376	433	411	411	394	210	194
18	417	391	416	378	411	396	413	389	212	189
19	411	389	412	376	436	414	416	393	212	191
20	417	386	422	384	420	400	418	387	212	197
21	413	388	412	376	429	387	410	387	212	184
22	411	386	412	378	428	388	411	388	210	179
23	413	384	410	368	420	385	412	388	209	180
24	413	388	410	376	420	389	410	390	206	174
25	417	379	410	366	420	381	412	386	206	174
26	413	384	406	368	414	381	415	380	206	195
27	415	395	412	386	427	400	413	394	209	183
28	415	393	412	382	425	389	417	388	213	183
29	420	386	428	376	431	385	413	382	216	188
30	417	382	416	372	420	370	408	388	213	177
31	415	382	408	370	422	380	418	387	206	172
Month	424	379	428	366	436	370	418	374	216	172

V. PERFORMANCE OF GENERATING STATIONS DURING MAY 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	475.70	429.41	832.44	751.36
(b)	Singrauli STPS	2000.00	1277.52	1188.90	2421.92	2246.91
(c)	Rihand STPS	1000.00	656.30	601.96	1330.66	1222.06
(d)	Dadri NCTPS	840.00	594.00	545.98	1049.92	961.35
(e)	Unchahar-I TPS	420.00	290.51	261.23	592.61	539.14
(f)	Unchahar-II TPS	420.00	242.48	215.86	477.69	432.31
(g)	Tanda TPS	440.00	116.00	101.50	246.12	215.38
(h)	Anta GPS	419.33	259.88	253.21	524.00	511.95
(i)	Auraiya GPS	663.36	428.17	421.98	850.67	838.32
(j)	Dadri GPS	829.78	530.92	519.36	1034.76	1010.01
(k)	Faridabad GPS	431.57	236.33	229.73	511.52	498.79
	Total NTPC	8169.04	5107.81	4769.12	9872.31	9227.58
B	NHPC					
(a)	Bairasiul	180.00	70.23	70.23	132.92	129.94
(b)	Salal	690.00	385.91	382.12	558.28	552.78
(c)	Tanakpur HPS	94.20	35.16	33.56	51.63	49.86
(d)	Chamera HPS	540.00	234.49	234.41	358.03	357.85
(e)	Uri HPS	480.00	320.30	317.21	565.76	560.42
	Total NHPC	1984.20	1046.09	1037.53	1666.63	1650.85
C	NPC					
(a)	RAPS -A	300.00	105.34	98.04	233.19	215.20
(b)	RAPS -B	440.00	260.11	234.67	496.72	449.19
(c)	NAPS	440.00	123.81	107.79	351.24	312.45
	Total NPC	1180.00	489.26	440.50	1081.15	976.84
2 JOINTLY OWNED (BBMB)						

(a)	Bhakra Complex	1490.15	371.71	369.10	604.49	601.09
(b)	Dehar	990.00	350.62	350.62	507.04	501.10
(c)	Pong	372.00	39.12	39.12	72.03	68.07
	Total BBMB	2852.15	761.45	758.84	1183.56	1170.26
3	DVB					
(a)	Indra Prastha	247.50	77.16	67.90	156.05	137.32
(b)	Rajghat	149.00	25.31	22.53	63.60	56.60
(c)	Gas Turbines	282.00	110.29	106.98	196.15	190.27
	Total DVB	678.50	212.76	197.41	415.80	384.19
4	HARYANA					
(a)	WYC	48.00	18.61	18.42	33.33	33.00
(b)	Faridabad (New)	165.00	35.89	31.04	100.35	86.80
(c)	Panipat	650.00	272.01	239.37	519.08	456.79
(d)	Magnum Diesel(IPP)	25.20	5.32	5.27	10.93	10.82
	Total Haryana	888.20	331.83	294.10	663.69	587.41
5	HPSEB					
(a)	Giri	60.00	36.41	36.05	14.60	14.49
(b)	Bassi	60.00	2.35	2.33	54.67	54.26
(c)	Binwa	6.00	2.17	2.15	4.82	4.79
(d)	Rongtong (+Nogli+Micro+Thirot+Sal-2)	15.02	0.00	0.00	3.91	3.87
(e)	Andhra	16.95	5.83	5.77	9.24	9.16
(f)	Bhabha (H)	120.00	48.29	47.81	55.08	54.59
(g)	Baner (H)	12.00	3.31	3.28	6.05	6.01
(h)	Gaj (H)	10.50	3.02	2.99	5.81	5.73
(i)	Gumma	3.00	0.59	0.58	1.33	1.32
(j)	Ghanvi	22.50	0.00	0.00	0.24	0.24
	Total HPSEB	325.97	101.97	100.95	155.75	154.45
6	J & K					
(a)	Lower Jhelum	105.00	38.14	37.76	74.57	73.82
(b)	Upper Sindh	57.60	23.03	22.80	44.22	43.78
(c)	Ganderbal	15.00	2.23	2.21	4.28	4.23

(d)	Mohra	9.00	0.00	0.00	0.00	0.00
(e)	Chenani	25.30	8.77	8.68	16.45	16.28
(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	72.17	71.44	139.51	138.12
7	PSEB					
(a)	Jogindernagar/ Shanan	110.00	70.46	69.75	105.89	105.16
			0.00	0.00		
(b)	UBDC	90.00	35.20	34.84	38.13	37.72
(c)	Mukerian	207.00	51.84	51.32	81.79	81.12
(d)	Anandpur Sahib (APS)	134.00	26.22	25.96	26.22	25.96
(e)	Ranjit Sagar HPS	600.00	129.80	128.50	140.29	138.97
(f)	Small Hydel	4.10	0.92	0.91	1.09	1.08
(g)	GNDTPS (Bhatinda)	440.00	230.40	208.52	430.96	390.03
(h)	GGSTPS (Ropar)	1260.00	652.70	597.91	1299.12	1192.80
(i)	Jhalkeri Rice Straw Fired	10.00	0.00	0.00	0.00	0.00
			0.00	0.00		
(j)	Lehra Mohabbat TPS	420.00	280.82	252.94	434.17	391.05
	Total PSEB	3275.10	1478.36	1370.66	2557.67	2363.88
8	RSEB					
(a)	Mahi Bajaj Sagar	140.00	0.01	0.01	0.01	0.01
(b)	Rana Pratap Sagar (RPS)	172.00	2.78	2.75	4.39	4.35
(c)	Jawahar Sagar (JS)	99.00	2.43	2.41	3.79	3.75
(d)	Anoopgarh	9.00	0.00	0.00	0.10	0.10
(e)	Small Hydro	14.32	0.45	0.45	0.47	0.46
(f)	Kota TPS	850.00	466.34	421.62	1003.54	907.31
(g)	RAMGARH GT	3.00	0.00	0.00		
(h)	RAMGARH GT EXT	35.50	16.64	16.64	26.39	26.39
(I)	Suratgarh TPS	500.00	259.22	236.18	609.82	555.62
(j)	Wind Farm	4.00	0.67	0.67	1.34	1.34
	Total RSEB	1826.82	748.54	680.72	1649.84	1499.33

9 U.P.						
	<u>HYDRO</u>					
(a)	Rihand	300.00	10.28	10.17	59.96	59.36
(b)	Obra	99.00	1.52	1.50	22.43	22.20
(c)	Matatilla	30.00	18.46	18.28	1.52	1.50
(d)	Khatima	41.40	39.42	39.02	30.62	30.31
(e)	Ramganga	198.00	13.87	13.73	81.35	80.53
(f)	Ganga Canal	43.40	41.11	40.70	28.01	27.73
(g)	Yamuna (I & IV)	114.75	65.27	64.61	65.54	64.88
(h)	Chibro	240.00	32.34	32.02	102.94	101.91
(i)	Khodri	120.00	49.64	49.14	51.10	50.59
(j)	Chilla	144.00	56.02	55.46	80.96	80.15
(k)	Maneri Bhali	90.00	0.00	0.00	69.46	68.76
(l)	Khara	72.00	384.28	380.43	50.08	49.58
	Total U.P. (Hydro)	1492.55	712.20	705.08	643.95	637.51
	<u>THERMAL</u>					
(m)	Obra	160.00	9.92	8.68	38.25	33.47
(n)	Obra Extn. - I	282.00	46.89	41.03	72.80	63.70
(o)	Obra Extn. - II	1000.00	442.78	387.43	782.55	684.73
(p)	Panki	32.00	0.00	0.00		
(q)	Panki Extn.	210.00	80.76	70.66	181.85	159.12
(r)	Harduaganj - A	0.00	0.00	0.00		
(s)	Harduaganj - B	150.00	0.00	0.00		
(t)	Harduaganj - C	225.00	54.25	47.47	109.93	96.19
(u)	Paricha	220.00	81.95	71.71	118.26	103.47
(v)	Anpara - A	630.00	368.70	322.61	745.66	652.45
(w)	Anpara - B	1000.00	701.73	614.01	1400.90	1225.79
	Total U.P. (Thermal)	3909.00	1786.98	1563.61	3450.19	3018.92

	Total U.P.	5401.55	2499.18	2268.69	4094.14	3656.43
Total Region		26981.72	12849.42	11989.97	23480.05	21809.33

- 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.

V. PERFORMANCE OF GENERATING STATIONS DURING MAY 2001

S.No.	Power Station	Effective Capacity MW	Energy Generated		Cumulative from 01.04.2000	
			Gross MU	Ex Bus MU	Gross MU	Ex-bus MU
1	CENTRAL SECTOR					
A	NTPC (Thermal)					
(a)	Badarpur TPS	705.00	475.70	429.41	832.44	751.36
(b)	Singrauli STPS	2000.00	1277.52	1188.90	2421.92	2246.91
(c)	Rihand STPS	1000.00	656.30	601.96	1330.66	1222.06
(d)	Dadri NCTPS	840.00	594.00	545.98	1049.92	961.35
(e)	Unchahar-I TPS	420.00	290.51	261.23	592.61	539.14
(f)	Unchahar-II TPS	420.00	242.48	215.86	477.69	432.31
(g)	Tanda TPS	440.00	116.00	101.50	246.12	215.38
(h)	Anta GPS	419.33	259.88	253.21	524.00	511.95
(i)	Auraiya GPS	663.36	428.17	421.98	850.67	838.32
(j)	Dadri GPS	829.78	530.92	519.36	1034.76	1010.01
(k)	Faridabad GPS	432.00	236.33	229.73	511.52	498.79
	Total NTPC	8169.47	5107.81	4769.12	9872.31	9227.58
B	NHPC					
(a)	Bairasiul	180.00	70.23	70.23	132.92	129.94
(b)	Salal	690.00	385.91	382.12	558.28	552.78
(c)	Tanakpur HPS	94.20	35.16	33.56	51.63	49.86
(d)	Chamera HPS	540.00	234.49	234.41	358.03	357.85
(e)	Uri HPS	480.00	320.30	317.21	565.76	560.42
	Total NHPC	1984.20	1046.09	1037.53	1666.63	1650.85
C	NPC					
(a)	RAPS -A	300.00	105.34	98.04	233.19	215.20
(b)	RAPS -B	440.00	260.11	234.67	496.72	449.19
(c)	NAPS	440.00	123.81	107.79	351.24	312.45
	Total NPC	1180.00	489.26	440.50	1081.15	976.84
2	JOINTLY OWNED (BBMB)					

(a)	Bhakra Complex	1465.15	371.71	369.10	604.49	601.09
(b)	Dehar	990.00	350.62	350.62	507.04	501.10
(c)	Pong	366.00	39.12	39.12	72.03	68.07
	Total BBMB	2821.15	761.45	758.84	1183.56	1170.26
3	DVB					
(a)	Indra Prastha	247.50	77.16	67.90	156.05	137.32
(b)	Rajghat	149.00	25.31	22.53	63.60	56.60
(c)	Gas Turbines	282.00	110.29	106.98	196.15	190.27
	Total DVB	678.50	212.76	197.41	415.80	384.19
4	HARYANA					
(a)	WYC	48.00	18.61	18.42	33.33	33.00
(b)	Faridabad (New)	165.00	35.89	31.04	100.35	86.80
(c)	Panipat	650.00	272.01	239.37	519.08	456.79
(d)	Magnum Diesel(IPP)	25.20	5.32	5.27	10.93	10.82
	Total Haryana	888.20	331.83	294.10	663.69	587.41
5	HPSEB					
	Total HPSEB	326.10	108.51	107.42	155.75	154.45
6	J & K					
(a)	J&K Hydel	224.59	72.17	71.44	139.51	138.12
(b)	Pampore GT St - I	75.00	0.00	0.00	0.00	0.00
	Pampore GT St - II	100.00				
	Total J & K	399.59	72.17	71.44	139.51	138.12
7	PSEB					
(a)	Jogindernagar/ Shanan	110.00	70.46	69.75	105.89	105.16
(b)	UBDC	90.00	35.20	34.84	38.13	37.72
(c)	Mukerian	207.00	51.84	51.32	81.79	81.12
(d)	Anandpur Sahib (APS)	134.00	26.22	25.96	26.22	25.96
(e)	Ranjit Sagar HPS	600.00	129.80	128.50	140.29	138.97
(f)	Small Hydel	4.10	0.92	0.91	1.09	1.08
(g)	GNDTPS (Bhatinda)	440.00	230.40	208.52	430.96	390.03

(h)	GGSTPS (Ropar)	1260.00	652.70	597.91	1299.12	1192.80
(i)	Jhalkeri Rice Straw Fired	10.00	0.00	0.00	0.00	0.00
(j)	Lehra Mohabbat TPS	420.00	280.82	252.94	434.17	391.05
	Total PSEB	3275.10	1478.36	1370.66	2557.67	2363.88
8	RSEB					
(a)	Mahi Bajaj Sagar	140.00	0.01	0.01	0.01	0.01
(b)	Rana Pratap Sagar (RPS)	172.00	2.78	2.75	4.39	4.35
(c)	Jawahar Sagar (JS)	99.00	2.43	2.41	3.79	3.75
(d)	Anoopgarh	9.00	0.00	0.00	0.10	0.10
(e)	Small Hydro	14.32	0.45	0.45	0.47	0.46
(f)	Kota TPS	850.00	466.34	421.62	1003.54	907.31
(g)	RAMGARH GT	3.00	0.00	0.00		
(h)	RAMGARH GT EXT	35.50	16.64	16.64	26.39	26.39
(I)	Suratgarh TPS	500.00	259.22	236.18	609.82	555.62
(j)	Wind Farm	4.00	0.67	0.67	1.34	1.34
	Total RSEB	1826.82	748.54	680.72	1649.84	1499.33
9	U.P.					
(a)	HYDRO	1492.55	382.16	378.34	641.83	635.41
(b)	THERMAL	3909.00	1784.03	1561.03	3447.24	3016.34
	Total U.P.	5401.55	2166.19	1939.37	4089.07	3651.75
	Total Region	26950.68	12522.97	11667.13	23474.98	21804.65

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 MAY 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	6.36	6.36	9.13	9.24	0.00	0.20	0.00
2	Delhi	127.10	127.10	81.36	82.85	429.41	2.66	0.00
3	Haryana	145.64	145.64	56.02	56.60	0.00	1.90	0.00
4	H.P.	0.00	0.00	20.37	19.32	0.00	0.56	0.00
5	J & K	4.80	4.80	43.33	38.79	0.00	2.45	0.00
6	Punjab	128.02	128.02	73.22	71.68	0.00	2.89	0.00
7	Rajasthan	202.35	202.35	74.41	75.95	0.00	2.74	0.00
8	U.P.	493.07	493.07	224.25	227.65	0.00	6.04	0.00
9	MP	0.00	0.00	0.00	0.00	0.00	8.27	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	38.15	38.15	19.87	19.87	0.00	0.72	0.00
	TOTAL	1145.49	1145.49	601.96	601.96	429.41	28.43	0.00

Note :- Singrauli sentout excludes 43.41 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	0.01	0.46	1.49	2.28	2.81	6.25
2	Delhi	443.66	461.98	16.97	28.53	17.35	34.63
3	Haryana	10.77	10.63	8.38	13.95	19.97	38.05
4	H.P.	1.93	2.04	3.88	4.14	6.63	7.28
5	J & K	13.31	1.93	8.36	4.65	16.39	0.42
6	Punjab	0.00	1.19	22.27	19.55	34.76	21.11
7	Rajasthan	1.33	7.49	13.84	25.10	28.03	82.55
8	U.P.	74.96	55.17	177.36	154.35	82.76	18.41
9	MP	0.00	3.80	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	1.28	0.00	0.00	0.00	0.00
12	Trans. Losses	0.00	0.00	8.69	8.69	7.16	7.16
	Total	545.97	545.97	261.24	261.24	215.86	215.86

Sl. No.	State/UT/ System	Anta GPS		Auraiya GPS		Uri HPS	
		Entitlement	Actual	Entitlement	Actual	Entitlement	Actual
1	Chandigarh	4.28	4.31	5.39	5.58	1.87	1.87
2	Delhi	35.29	35.60	60.38	63.05	34.68	34.69
3	Haryana	21.59	21.81	36.72	37.54	17.03	17.04
4	H.P.	8.64	8.39	13.55	12.77	8.49	8.41
5	J & K	17.84	17.43	28.91	16.23	106.72	106.73
6	Punjab	32.17	31.28	57.28	58.21	43.18	43.19
7	Rajasthan	56.13	56.44	50.87	53.71	28.12	28.13
8	U.P.	67.14	67.82	154.62	157.03	73.96	73.99
9	MP	0.00	0.00	0.00	1.63	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	1.97	0.00	0.00
12	Trans. Losses	10.13	10.13	14.26	14.26	3.17	3.17

	TOTAL	253.21	253.21	421.98	421.98	317.22	317.22
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Sl. No.	State/UT/ System	Dadri GPS		Bairasiul HPS		Salal HPS	
		Entitlement	Actual	Entitlement	Actual	Entitlement	Actual
1	Chandigarh	5.59	6.71	0.00	0.00	1.02	1.02
2	Delhi	68.37	84.24	7.42	7.42	43.74	43.74
3	Haryana	37.87	43.46	20.56	20.56	56.54	56.54
4	H.P.	13.73	13.99	8.09	8.09	3.72	3.72
5	J & K	32.97	12.04	0.00	0.00	131.32	131.32
6	Punjab	79.30	79.95	31.35	31.35	100.13	100.13
7	Rajasthan	92.16	109.25	0.00	0.00	11.10	11.10
8	U.P.	126.79	145.66	0.00	0.00	30.72	30.72
9	MP	0.00	0.00	0.00	0.00	0.00	0.00
10	Railways	62.58	24.06	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	2.81	2.81	3.82	3.82
	Total	519.36	519.36	70.23	70.23	382.11	382.11

VII. BILATERAL EXCHANGES IN THE NORTHERN REGION DURING MAY 2001

	Chandigarh	DVB	HVPNL	HPSEB	PDD ,J & K	PSEB	RRVPNL	UPPCL	MPEB	BSEB	Others
Chandigarh	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
DVB	0.000	0.000	0.000	29.678	0.000	0.000	0.000	0.000	0.000	0.000	3.938
HVPNL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
HPSEB	0.000	-29.678	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PDD , J & K	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PSEB	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
RRVPNL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
UPPCL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MPEB	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
BSEB	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	-3.938	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.000	-33.616	0.000	29.678	0.000	0.000	0.000	0.000	0.000	0.000	3.938

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

i) HVPNL's share in IP station of DVB	17.387MU
ii) HPSEB's share in Shanan power station of PSEB	6.169MU
iii) HPSEB's share in Yamuna hydro power complex of UP	39.874MU
iv) Maruti to HVPNL	9.378MU

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

VIII. PROGRESS OF INSTALLATION OF SHUNT CAPACITORS IN NORTHERN REGION

CONSTITUENT	REQUIREMENT AT THE END OF 2001-2002	CAPACITORS AS ON 31.05.2001	CAPACITORS ADDITION DURING		ADDITIONAL REQUIRED DURING 2001-2002
		INSTALLED	2000-2001	April 01 - May 01	
Chandigarh	127	96	60	3	34
Delhi	2734	2236	201	0	498
Haryana	3080	1643	368	0	1437
H.P.	335	134	46	15	216
J & K	880	147	0	0	733
Punjab	4950	4446	384	15	519
Rajasthan	3300	2362	176	5	943
U.P.	5654	4236	279	30	1448
BBMB	381	381	0	0	0
TOTAL	21441	15681	1514	68	5828

SOURCE: Minutes of 317th OCC meeting of NREB held on 11th June, 2001.

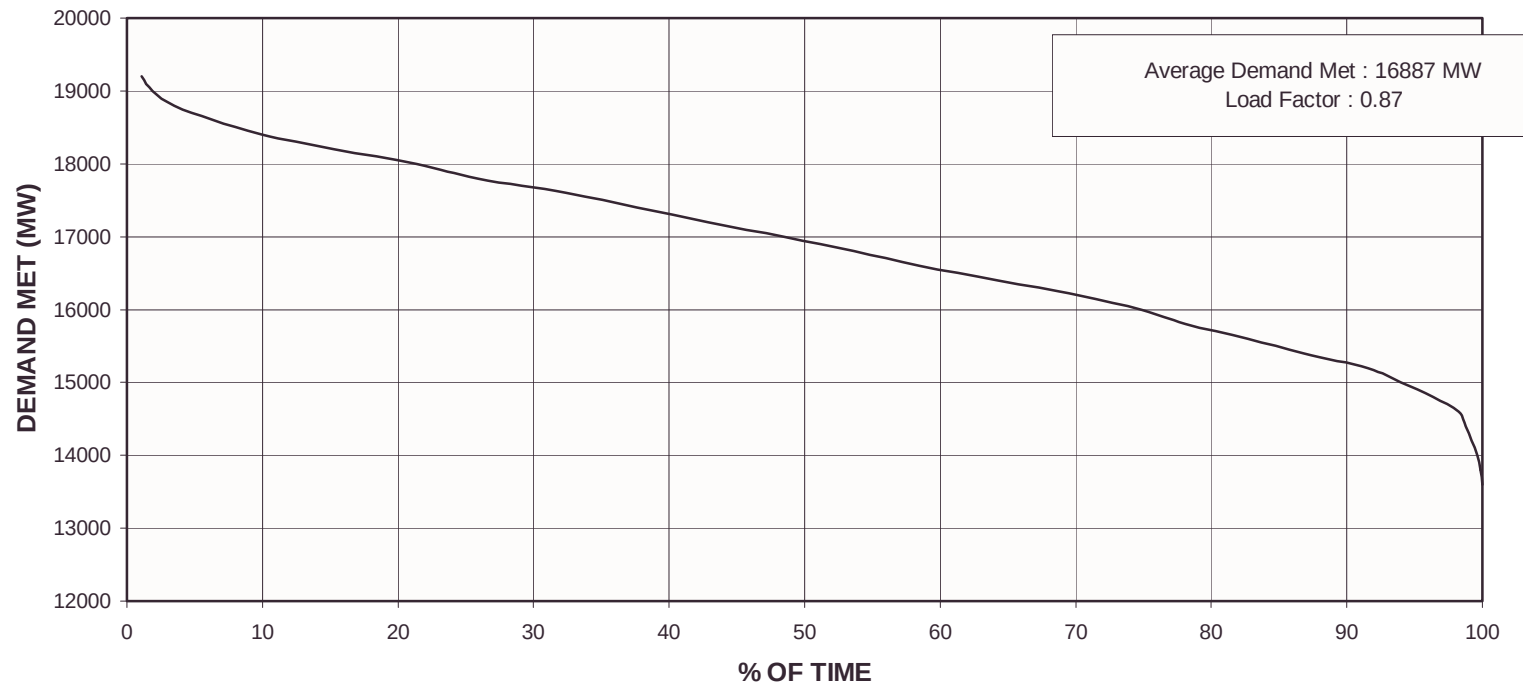
IX. HYDRAULIC DATA FOR RESERVOIRS DURING MAY 2001

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 May 2001 (m) (ft)	457.40 1500.64	392.70 1288.40	258.87 849.30	344.11 1128.96	380.02 1246.78
Level on last day of May 2000 (m) (ft)	460.27 1510.08	396.29 1300.17	257.92 846.20	347.13 1138.89	383.21 1257.24
Live Capacity as on last day of May 2001 (mhmt) (maft)	0.07 0.57	0.11 0.86	0.18 1.43	0.01 0.12	0.00 0.00
Live Capacity as on last day of May 2000 (mhmt) (maft)	0.09 0.70	0.13 1.02	0.15 1.18	0.06 0.47	0.05 0.37
Energy content as on last day of May 2001 (MU)	240.00	100.00	325.00	30.00	0.00
Energy content as on last day of May 2000 (MU)	308.00	162.00	235.00	106.00	100.00
Maximum level (m)	457.44	394.20	259.07	344.34	380.88

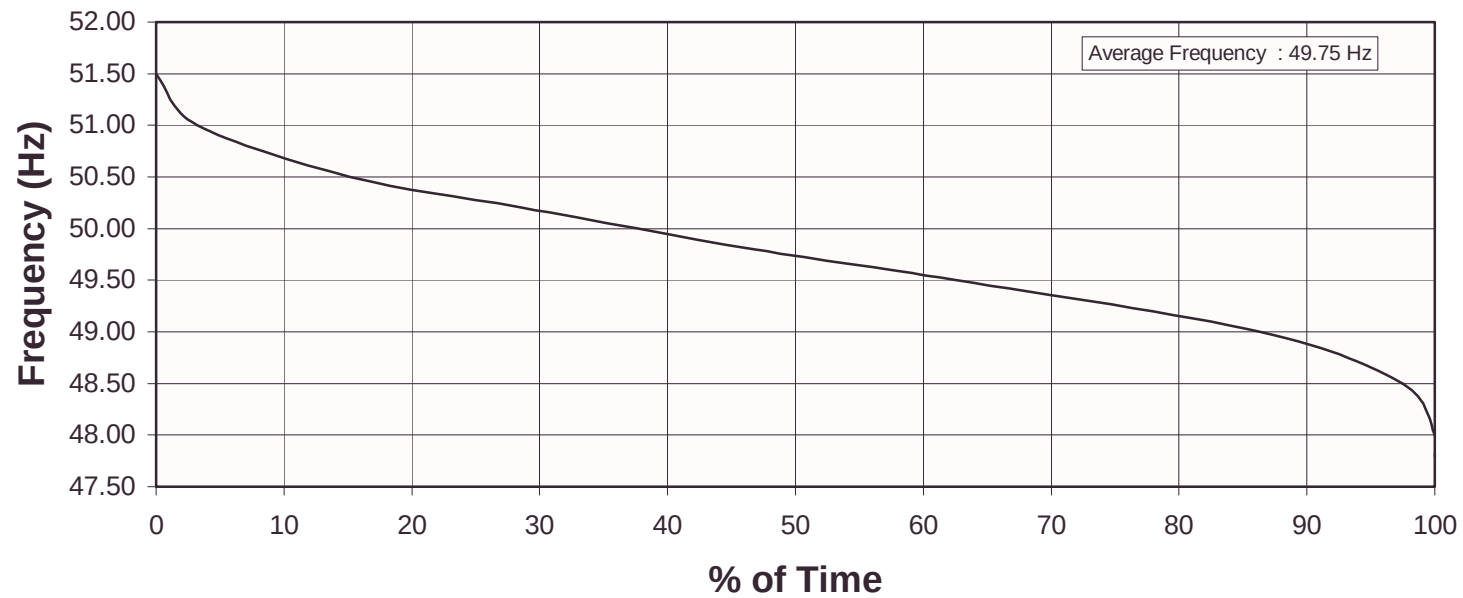
	(ft)	1500.78	1293.30	849.98	1129.73	1249.59
	(date)	30.05.01	01.05.01	01.05.2001	03.05.01	18.05.01
Minimum level	(m)	453.88	392.70	257.34	344.11	380.02
	(ft)	1489.10	1288.40	844.30	1128.96	1246.78
	(date)	06.05.01	31.05.01	31.05.2001	31.05.01	31.05.01

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.

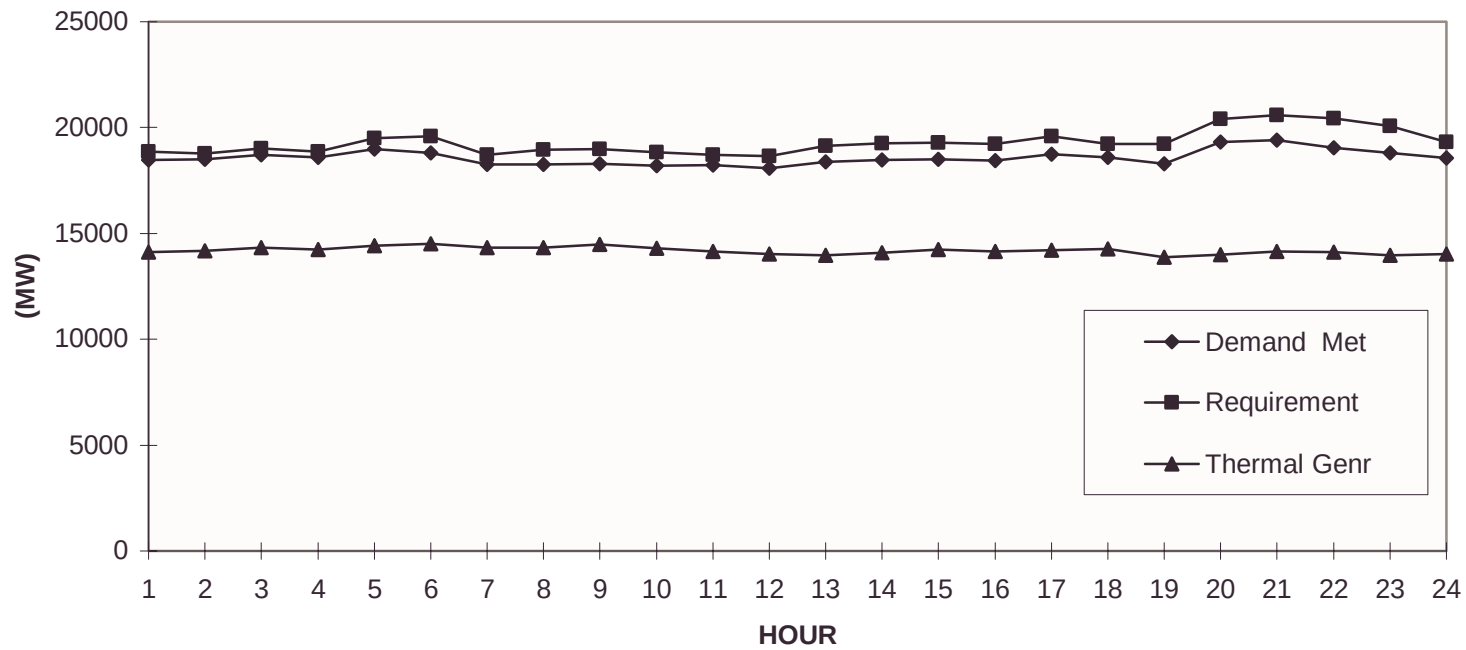
LOAD DURATION CURVE OF NORTHERN REGION FOR MAY 2001



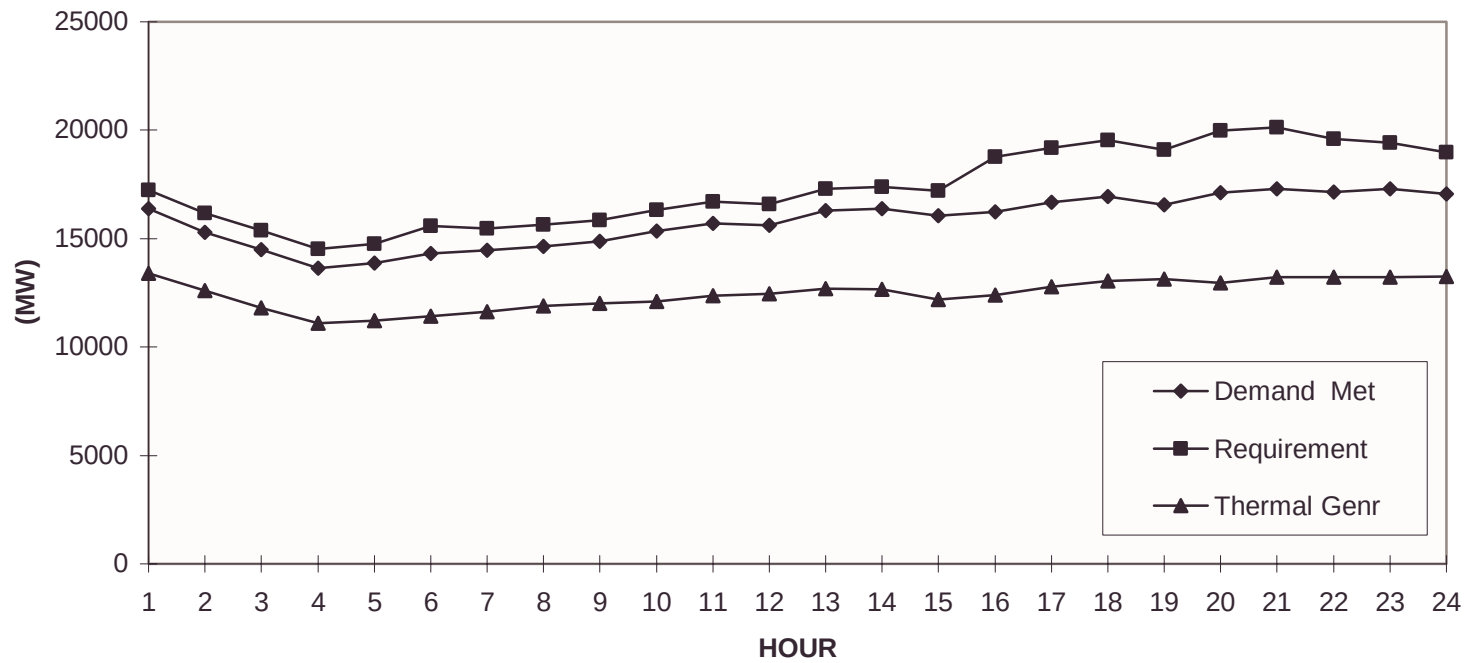
FREQUENCY DURATION CURVE OF NORTHERN REGION FOR MAY 2001



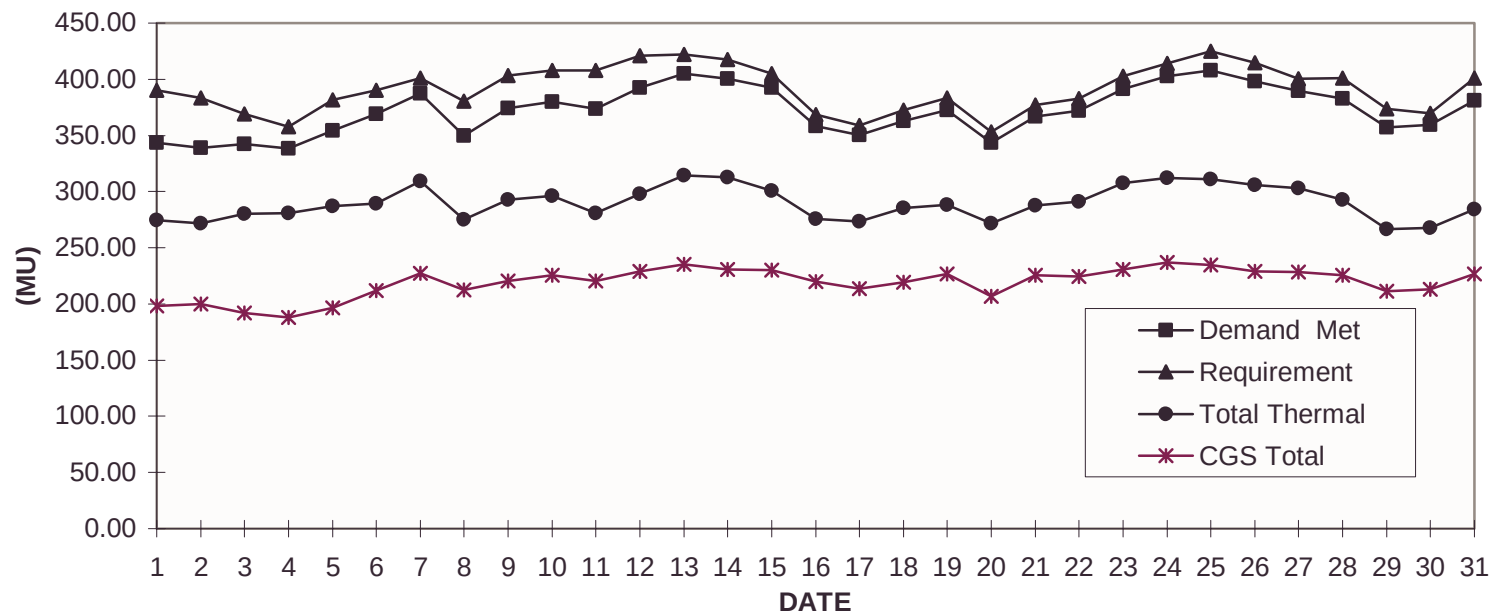
LOAD CURVE OF NORTHERN REGION FOR MAXIMUM DEMAND MET DAY (25.05.2001)



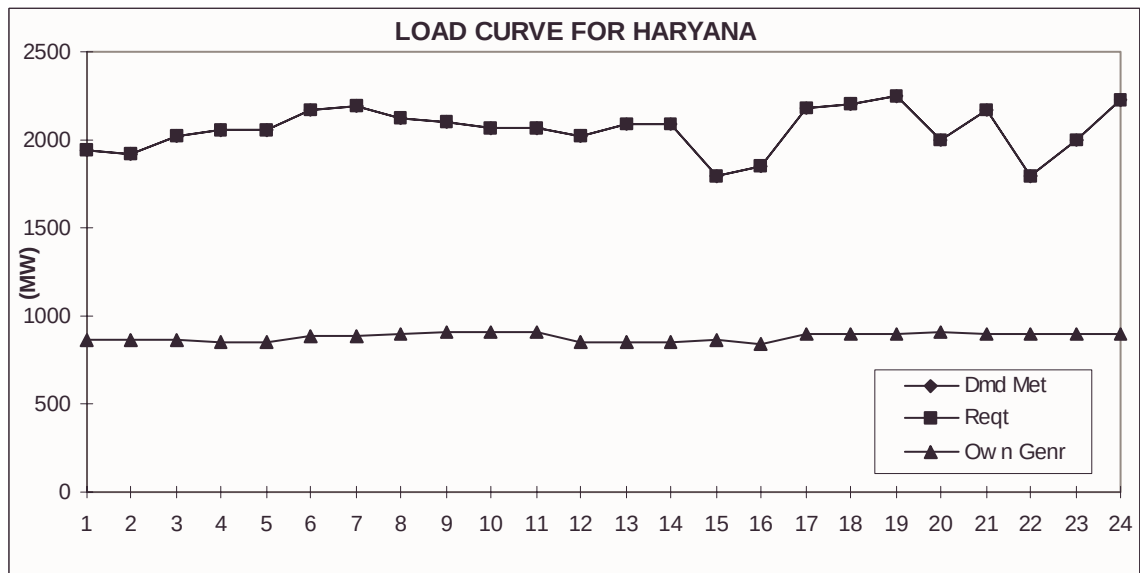
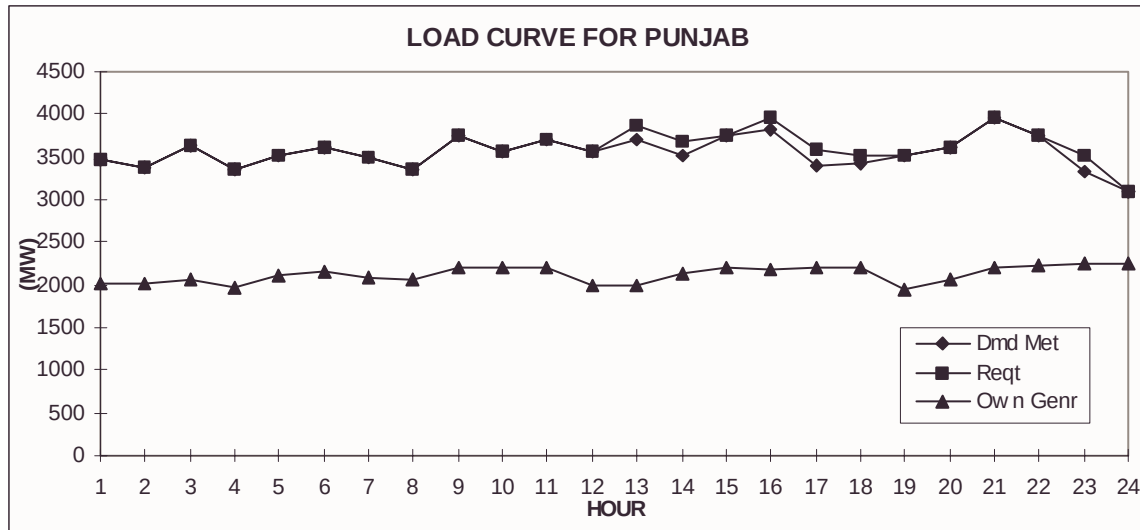
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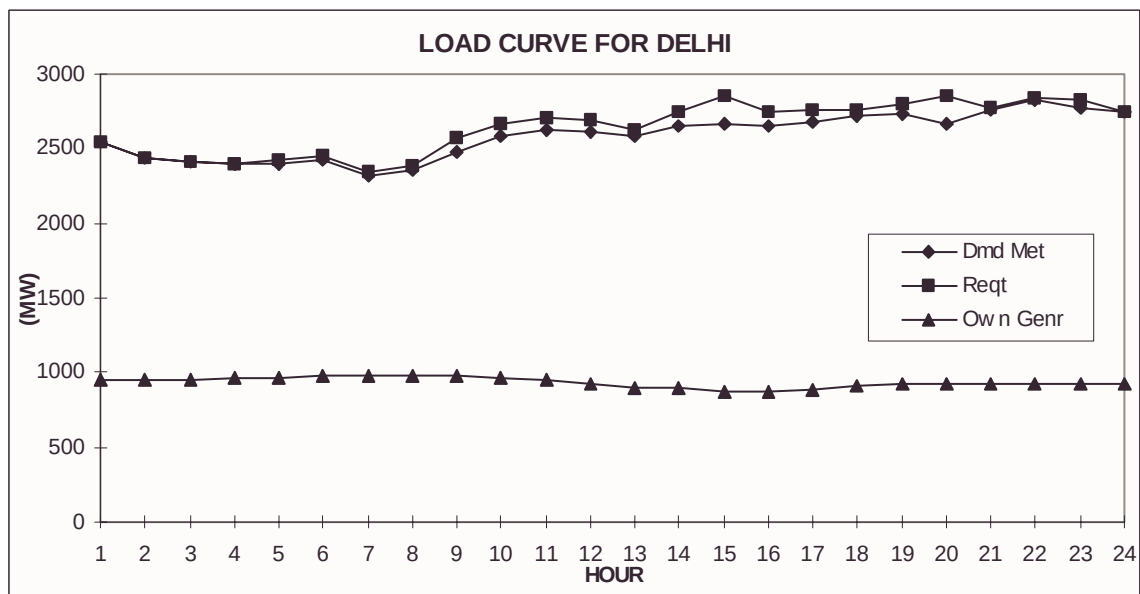
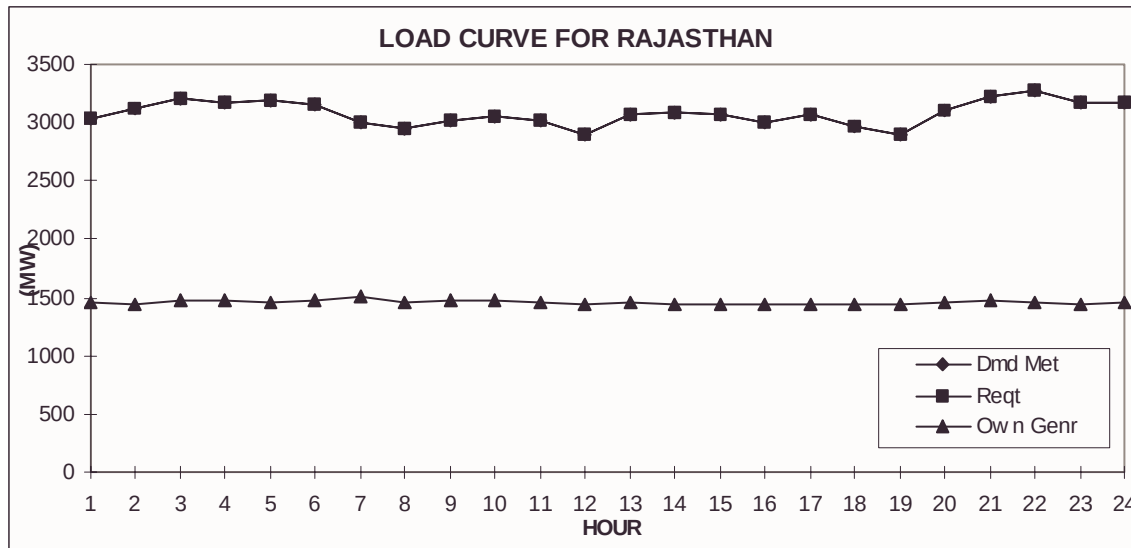


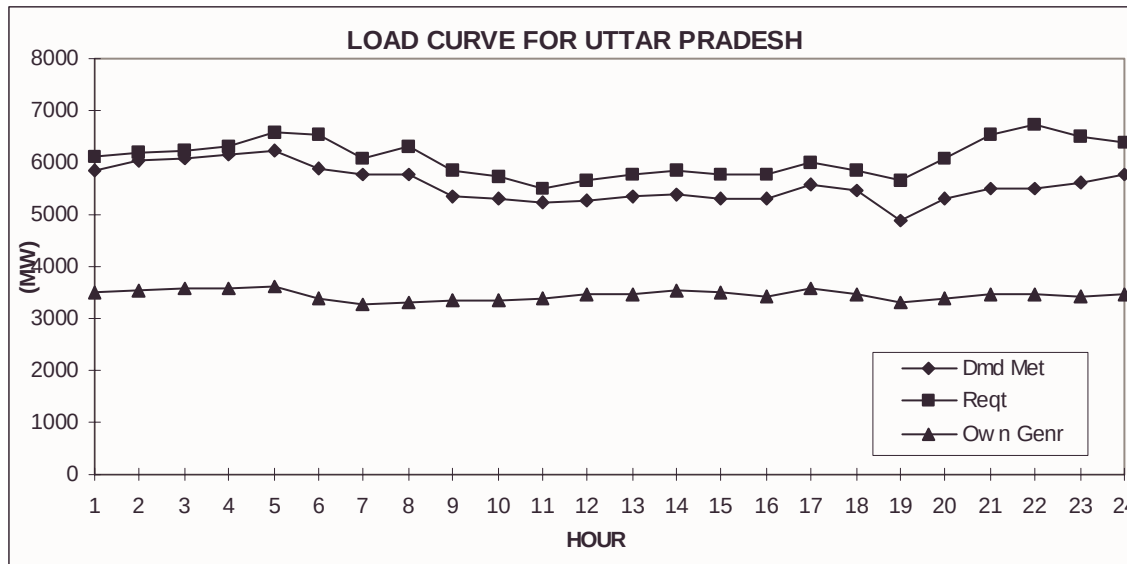
DAYWISE DEMAND MET AND REQUIREMENT (In MU) OF NORTHERN REGION DURING MAY 2001



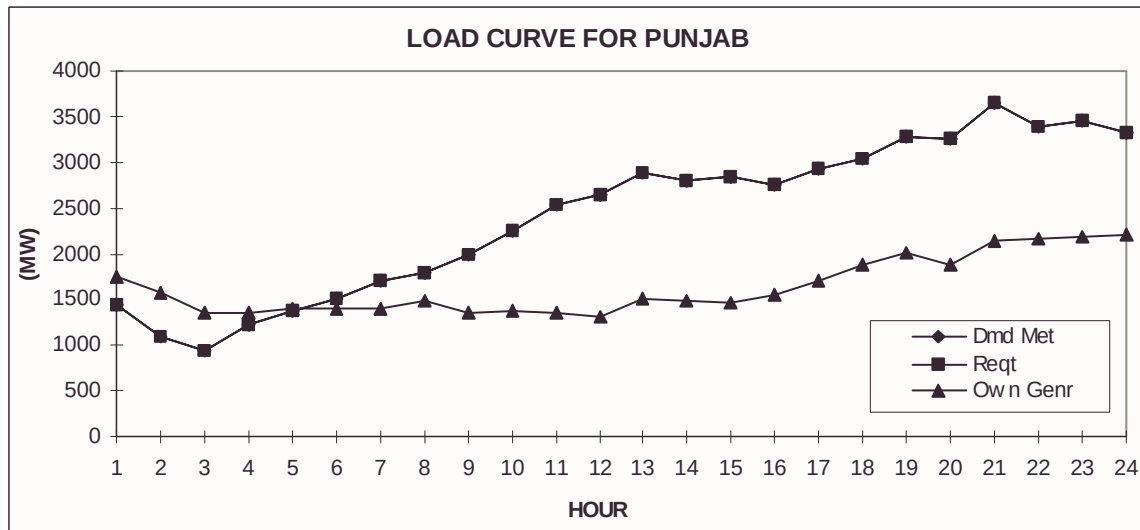
STATE LOAD CURVES FOR REGIONAL MAXIMUM DEMAND MET DAY(25.05.2001)

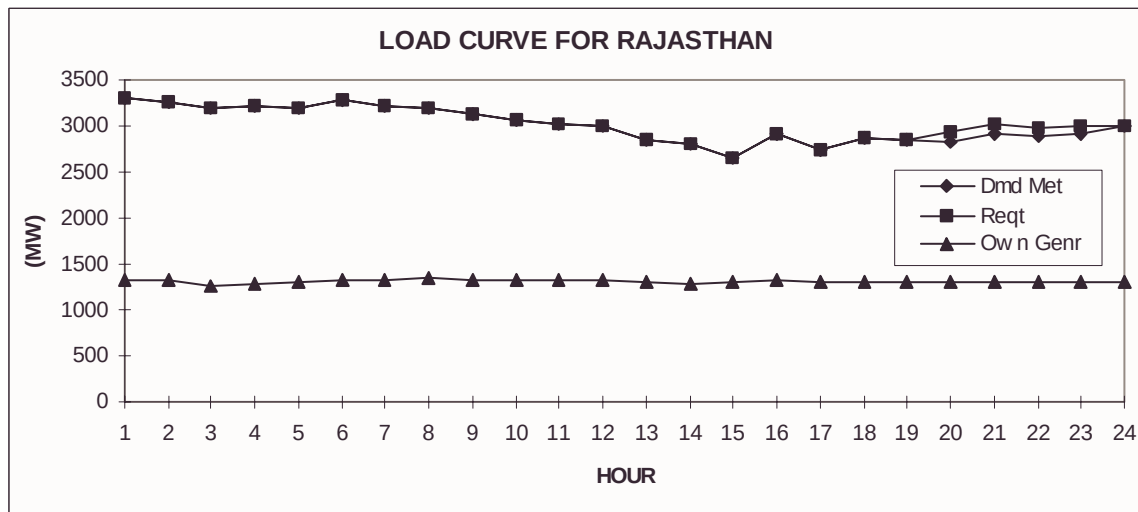
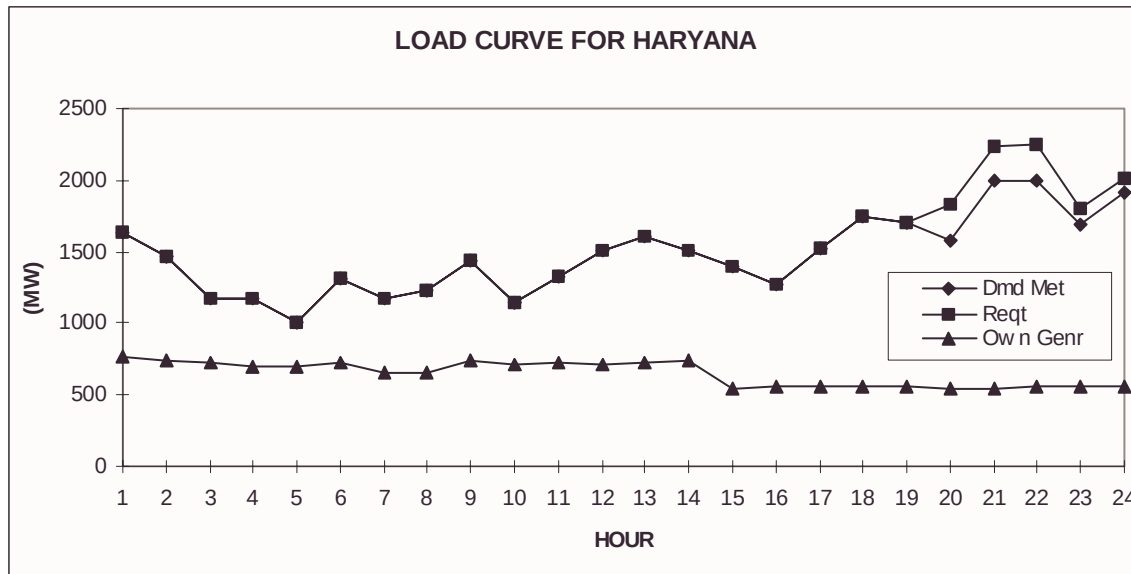


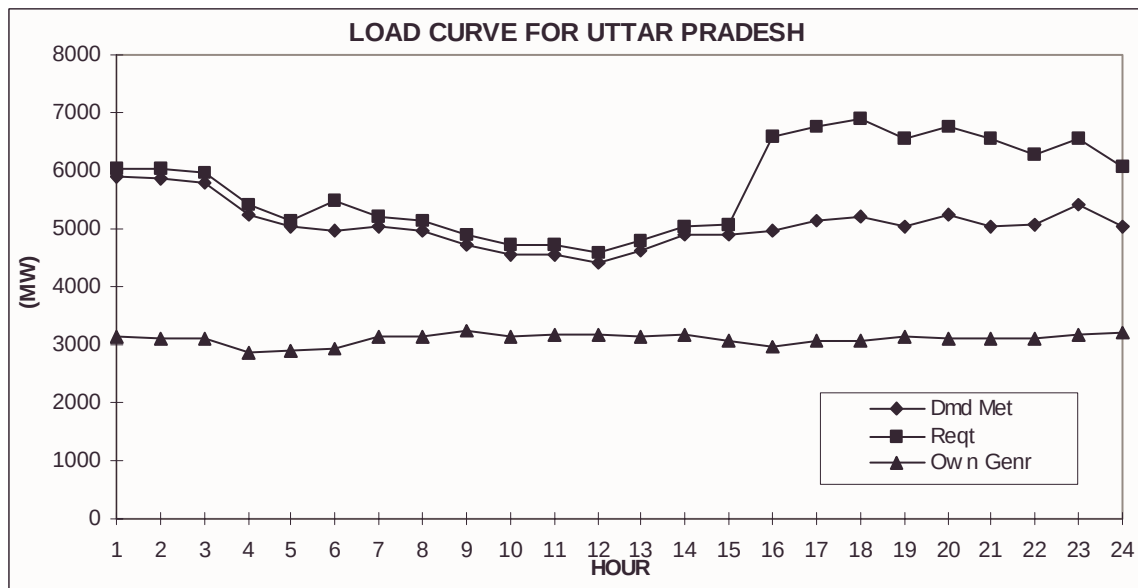
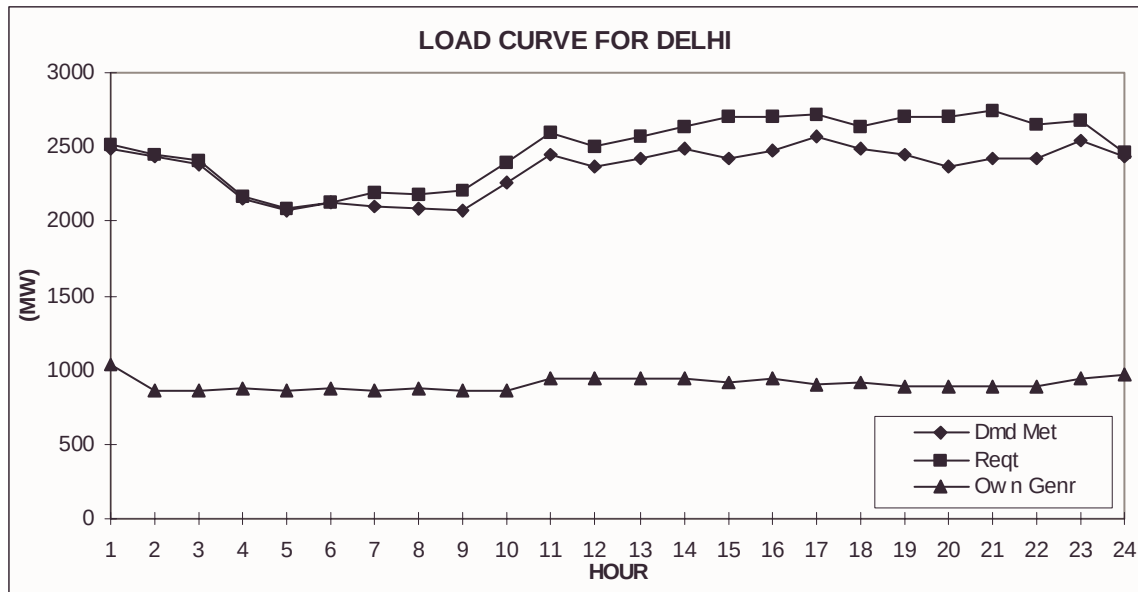




STATE LOAD CURVES FOR REGIONAL MINIMUM DEMAND MET DAY(08.05.2001)







MINOR GRID INCIDENTS DURING MAY 2001

S No.	DATE	TIME	INCIDENT
1	01.05.2001	21:44	Bus-bar protection operated at Sakatpura S/S(Kota) resulting in loss of 1300 MW generation. All four units of Kota(630 MW), RAPP-A(160 MW), RAPP-B(350 MW), and Anta(GT)# 1& 3 (250MW) tripped during the incident.
2	08.05.2001	18:12	J&K valley collapsed due to storm and load throw off in the valley
3	09.05.2001	18:56	Bus-bar protection operated at Muradnagar sub-station due to snapping of jumper at line CB end of 400kV Dadri-Muradnagar line.
4	14.05.2001	01:37	J&K valley collapsed due to frequent tripping of Kishenpur-Pampore D/C.
5	16.05.2001	04:22	Vindhyachal HVDC Back to back Block I & II remained out for two hours due to tripping of Western bus.
6	16.05.2001	05:14	All lines emanating from Anpara (except Anpara-Sarnath B1-L3 & Anpara-Unnao)