



GRID REPORT

April 2001

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

A. SUMMARY REPORT:

I. Important events:

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

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

The average system frequency during the month of April 2001, was 49.47 Hz and frequency remained between 49.0 & 50.5 Hz for 66.27 % 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.

Rihand – Dadri HVDC pole –II remained out of service almost during the entire month resulting in a reduction in redundancy in the system. HVDC pole-II was under outage since 14.12.2000 and restored on 30.04.2001.

(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 APRIL 2001

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	26.06	31.01	7.74	7.74	2.68	2.65	37.68	37.94	74.16	79.35
2	Delhi	729.98	759.71	65.77	65.77	34.29	41.44	0.00	0.00	830.04	866.92
3	Haryana	314.86	299.79	83.52	83.52	65.75	63.84	100.81	104.40	564.94	551.55
4	H.P.	83.05	105.12	30.61	30.61	7.12	7.61	15.22	15.45	136.00	158.78
5	J & K	185.35	190.79	147.82	147.82	17.65	20.43	0.00	0.00	350.82	359.04
6	Punjab	372.52	387.25	121.34	121.35	22.98	32.81	144.90	149.85	661.75	691.27
7	Rajasthan	545.68	541.91	57.51	57.52	187.96	182.62	82.02	83.66	873.18	865.71
8	U.P.	1387.14	1361.47	82.94	82.94	73.88	60.92	0.00	0.00	1543.96	1505.32
9	MP / N.F.F.	11.74	14.21	0.00	0.00	0.00	0.00	14.40	3.74	26.14	17.95
10	Bihar	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Trans. Losses	97.18	97.17	10.70	10.70	6.85	6.85	16.42	16.42	131.15	131.14
12	Others	59.11	24.20	0.00	0.00	0.00	0.00	0.00	0.00	59.11	24.20
	Total	3812.67	3812.64	607.95	607.97	419.16	419.18	411.46	411.45	5251.24	5251.23

(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	35.62	500
b. M.P. to Rajasthan(Ujjain - Kota)	0.00	0
c. Eastern region to Northern region (Import)	30.94	95
d. Export over HVDC Back to Back at Vindhyachal	7.47	400
e. 220 KV Auraiya Malanpur	12.87	25
f. Northern region to Bihar (Export)	0.00	0
g. Tanakpur to Mahendranagar(NEPAL) (Export)	5.54	15

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	2.64	2.64	0.00	0.00
Delhi	45.21	47.95	2.74	5.71
Haryana	38.20	38.45	0.25	0.65
H.P.	7.89	8.45	0.56	6.63
J & K	14.13	18.40	4.27	23.21
Punjab	56.02	61.21	5.19	8.48
Rajasthan	60.06	61.18	1.12	1.83
U.P.	110.24	128.44	18.20	14.17
N.F.F./Rail	0.93	0.93	0.00	0.00
Total	335.32	367.65	32.33	8.79

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	136	136	0	0	0.00	0.00
Delhi	2392	2759	367	480	13.30	17.40
Haryana	2112	2200	88	205	4.00	9.32
H.P. *	483	512	29	29	5.66	5.66
J & K *	852	1125	273	350	24.27	31.11
Punjab	3289	3577	288	650	8.05	18.17
Rajasthan	3253	3353	100	100	2.98	2.98
U.P.	5626	7036	1410	2118	20.04	30.10
N.F.F./Rail	51	51	0	0	0.00	0.00
Region	16947	19832	2885	2961	14.55	14.93

B. DETAILED REPORT**I. 1. INSTALLED / EFFECTIVE CAPACITY AT THE END OF APRIL 2001**

-	<u>STATION</u>	<u>INSTALLED CAPACITY</u> <u>(MW)</u>	<u>EFFECTIVE CAPACITY</u>
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	2x235 470.00	1x100+1x200 300.00

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(b)	RAPS -B	2x220	440.00	2x220	440.00
(c)	NAPS	2x235	440.00	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
contd/-					
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
					contd/-
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 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

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	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

					contd/-
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

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(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 APRIL 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 = 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 27055.63 MW.

3. BREAKUP OF EFFECTIVE HYDRO CAPACITY (MW) IN NORTHERN REGION AS ON 30.04.2001

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

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II. SALIENT FEATURES OF SYSTEM CONDITIONS

1. Effective Generation Capacity at the end of month

Constituent	Effective Capacity		Increase	
	April 2001	April 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	April 2001			April 2000			Percentage increase over 2000	
	Energy(MU/day)			Energy(MU/day)				
	Demand met	Reqt.	%Shortage	Demand met	Reqt.	%Shortage	Demand met	Reqt.
Chandigarh	2.64	2.64	0.00	2.71	2.71	0.00	-2.58	-2.58
Delhi	45.21	47.95	5.71	46.50	48.82	4.75	-2.77	-1.78
Haryana	38.20	38.45	0.65	37.14	37.98	2.21	2.85	1.24
HP	7.89	8.45	6.63	8.09	8.09	0.00	-2.47	4.45
J&K	14.13	18.40	23.21	14.77	17.98	17.85	-4.33	2.34
Punjab	56.02	61.21	8.48	61.63	61.93	0.48	-9.10	-1.16
Rajasthan	60.06	61.18	1.83	60.86	64.07	5.01	-1.31	-4.51
UP	110.24	128.44	14.17	107.31	123.88	13.38	2.73	3.68
NFF/Rail	0.93	0.93	0.00	0.15	0.15	0.00	520.00	520.00
REGION	335.32	367.65	8.79	339.16	365.61	7.23	-1.13	0.56
Frequency Regime		April 2001		April 2000				

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Average (Hz)	49.47	49.05
Above 50.5 Hz (%)	7.62	3.27
Above 50.2 Hz (%)	17.77	6.39
Below 49.5 Hz (%)	55.07	79.20
Below 49.0 Hz (%)	26.11	53.31
Below 48.5 Hz (%)	6.89	22.02

3. Peak Power Supply Position

State/UT	April 2001			April 2000			Percentage increase over 2000	
	Peak (MW)			Peak (MW)				
	Demand met	Reqt.	%Shortage	Demand met	Reqt.	%Shortage	Demand met	Reqt.
Chandigarh	136	136	0.00	151	151	0.00	-9.93	-9.93
Delhi	2392	2759	13.30	2441	2719	10.22	-2.01	1.47
Haryana	2112	2200	4.00	2237	2237	0.00	-5.59	-1.65
HP	483	512	5.66	540	540	0.00	-10.56	-5.19
J&K	852	1125	24.27	974	1101	11.53	-12.53	2.18
Punjab	3289	3577	8.05	3446	3456	0.29	-4.56	3.50
Rajasthan	3253	3353	2.98	3212	3412	5.86	1.28	-1.73
UP	5626	7036	20.04	5735	6488	11.61	-1.90	8.45
NFF/Rail	51	51	0.00	10	10	0.00	410.00	410.00
REGION	16947	19832	14.55	18059	19911	9.30	-6.16	-0.40

III. FREQUENCY PROFILE DURING APRIL 2001

DATE	Average	MAX.		MIN.		Std dev	Frequency
	Hz	Hz	Time	Hz	Time	Hz	Var. Index(FVI)
1	49.63	51.36	18.06	48.16	19.15	0.68	6.01
2	49.54	51.36	18.08	48.20	19.07	0.60	5.80
3	49.67	51.20	8.04	48.36	5.37	0.27	3.30
4	49.71	51.20	13.23	48.60	7.05	0.28	3.81
5	49.84	51.40	16.51	48.24	10.44	0.66	4.61
6	49.55	50.92	2.47	48.16	19.54	0.69	6.80

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7	49.18	50.60	16.26	48.08	19.04	0.49	11.19
8	49.14	50.72	19.46	47.96	19.15	0.62	8.43
9	49.31	51.20	18.15	47.96	16.35	0.61	4.68
10	49.50	51.12	13.11	48.20	5.05	0.63	9.37
11	49.19	51.00	18.10	48.16	0.14	0.54	6.72
12	49.44	51.24	8.07	48.16	10.24	0.60	4.22
13	49.76	51.20	6.24	48.20	5.21	0.60	2.09
14	49.91	51.04	4.38	48.20	15.09	0.45	2.65
15	50.02	51.08	8.04	48.20	19.34	0.51	2.65
16	49.72	51.28	8.06	48.20	11.01	0.58	4.18
17	50.34	51.36	2.42	48.44	19.34	0.59	4.66
18	50.07	51.24	15.03	48.20	19.27	0.45	2.12
19	50.04	51.36	13.23	48.20	19.22	0.58	3.38
20	49.88	51.16	2.04	48.28	5.35	0.06	2.86
21	49.54	51.28	12.34	48.08	19.50	0.71	7.15
22	49.69	51.20	13.01	48.16	20.27	0.58	4.25
23	49.16	50.52	0.52	48.16	16.16	0.43	8.95
24	49.14	50.44	19.09	47.96	2.48	0.44	9.25
25	48.94	50.44	19.02	48.00	20.01	0.39	12.79
26	48.93	50.44	12.05	48.16	1.19	0.43	13.37
27	49.05	50.84	18.59	48.04	20.12	0.44	10.95
28	48.98	50.20	12.03	48.16	4.44	0.44	12.24
29	48.97	50.92	16.48	48.04	19.27	0.52	13.41
30	49.03	50.68	20.06	48.08	5.17	0.53	12.23
Monthly	49.50	51.40		47.96		0.67	7.02

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 APRIL 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	391	416	388	412	385	413	392	209	196
2	410	393	412	390	418	392	412	380	210	196
3	411	386	412	389	414	387	413	401	212	191
4	411	389	414	386	418	392	414	376	213	192
5	415	395	416	384	422	392	405	374	212	190
6	411	386	418	380	420	387	412	374	212	186
7	408	382	416	386	418	389	412	388	209	190
8	413	397	416	396	422	396	414	390	209	196
9	417	389	418	380	425	387	416	382	210	186
10	413	384	408	372	416	385	416	381	208	184
11	413	388	408	376	422	392	416	386	204	186
12	420	393	414	378	420	392	417	388	207	186
13	417	389	416	384	427	396	417	390	212	194
14	417	386	414	372	427	385	420	387	215	190
15	415	402	414	388	429	398	417	394	212	197
16	417	388	418	384	431	392	417	392	213	191
17	426	393	424	390	433	394	418	386	216	195
18	417	391	418	386	427	400	407	389	212	197
19	415	389	418	386	427	394	412	387	215	194
20	417	395	408	390	433	392	416	390	216	194
21	417	397	412	388	433	400	412	388	212	196
22	415	395	412	386	429	403	408	386	210	198
23	413	391	412	386	425	400	412	387	213	195
24	416	382	412	384	425	400	400	380	210	196
25	413	384	410	380	427	398	405	386	206	185
26	412	374	410	372	425	400	400	385	208	179
27	411	375	410	366	427	387	409	382	204	178
28	411	386	410	378	425	398	410	390	202	189
29	419	400	412	392	431	409	415	396	208	194
30	415	388	414	380	436	398	414	386	207	186
Month	426	374	424	366	436	385	420	374	216	178

V. PERFORMANCE OF GENERATING STATIONS DURING APRIL 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	356.74	321.95	356.74	321.95
(b)	Singrauli STPS	2000.00	1144.40	1058.01	1144.40	1058.01
(c)	Rihand STPS	1000.00	674.36	620.10	674.36	620.10
(d)	Dadri NCTPS	840.00	455.92	415.37	455.92	415.37
(e)	Unchahar-I TPS	420.00	302.10	277.91	302.10	277.91
(f)	Unchahar-II TPS	420.00	235.21	216.45	235.21	216.45
(g)	Tanda TPS	440.00	130.12	113.88	130.12	113.88
(h)	Anta GPS	419.33	264.12	258.74	264.12	258.74
(i)	Auraiya GPS	663.36	422.50	416.34	422.50	416.34
(j)	Dadri GPS	829.78	503.84	490.65	503.84	490.65
(k)	Faridabad GPS	431.57	275.19	269.06	275.19	269.06
	Total NTPC	8169.04	4764.50	4458.46	4764.50	4458.46
B	NHPC					
(a)	Bairasiul	180.00	62.69	59.71	62.69	59.71
(b)	Salal	690.00	172.37	170.66	172.37	170.66
(c)	Tanakpur HPS	94.20	16.47	16.30	16.47	16.30
(d)	Chamera HPS	540.00	123.54	123.44	123.54	123.44
(e)	Uri HPS	480.00	245.46	243.21	245.46	243.21
	Total NHPC	1984.20	620.54	613.32	620.54	613.32
C	NPC					
(a)	RAPS -A	300.00	127.85	117.16	127.85	117.16
(b)	RAPS -B	440.00	236.61	214.52	236.61	214.52
(c)	NAPS	440.00	227.43	204.66	227.43	204.66

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	Total NPC	1180.00	591.89	536.34	591.89	536.34
2	JOINTLY OWNED (BBMB)					
(a)	Bhakra Complex	1465.15	232.78	231.99	232.78	231.99
(b)	Dehar	990.00	156.42	150.48	156.42	150.48
(c)	Pong	366.00	32.91	28.95	32.91	28.95
	Total BBMB	2821.15	422.11	411.42	422.11	411.42
3	DVB					
(a)	Indra Prastha	247.50	78.89	69.42	78.89	69.42
(b)	Rajghat	149.00	38.29	34.08	38.29	34.08
(c)	Gas Turbines	282.00	85.56	82.99	85.56	82.99
	Total DVB	678.50	202.74	186.49	202.74	186.49
4	HARYANA					
(a)	WYC	48.00	14.72	14.57	14.72	14.57
(b)	Faridabad (New)	165.00	64.46	55.76	64.46	55.76
(c)	Panipat	650.00	247.07	217.42	247.07	217.42
(d)	Magnum Diesel(IPP)	25.20	5.61	5.55	5.61	5.55
	Total Haryana	888.20	331.86	293.30	331.86	293.30

contd/-

5	HPSEB					
(a)	Giri	60.00	8.06	8.01	8.06	8.01
(b)	Bassi	60.00	18.26	18.21	18.26	18.21
(c)	Binwa	6.00	2.47	2.46	2.47	2.46
(d)	Rongtong	15.02	1.74	1.72	1.74	1.72
	(+Nogli+Micro+Thirot+Sal-2)					
(e)	Andhra	16.95	3.41	3.39	3.41	3.39
(f)	Bhabha (H)	120.00	6.79	6.78	6.79	6.78
(g)	Baner (H)	12.00	2.74	2.74	2.74	2.74
(h)	Gaj (H)	10.50	2.79	2.74	2.79	2.74
(i)	Gumma	3.00	0.74	0.73	0.74	0.73
(j)	Ghanvi	22.50	0.24	0.24	0.24	0.24
	Total HPSEB	325.97	47.24	47.02	47.24	47.02

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6 J & K						
(a)	Lower Jhelum	105.00	36.43	36.07	36.43	36.07
(b)	Upper Sindh	57.00	21.19	20.98	21.19	20.98
(c)	Ganderbal	15.00	2.04	2.02	2.04	2.02
(d)	Mohra	9.00	0.00	0.00	0.00	0.00
(e)	Chenani	25.30	7.68	7.60	7.68	7.60
(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	399.59	67.35	66.67	67.35	66.67
7 PSEB						
(a)	Jogindernagar/ Shanan	110.00	35.43	35.40	35.43	35.40
(b)	UBDC	90.00	2.94	2.88	2.94	2.88
(c)	Mukerian	207.00	29.95	29.79	29.95	29.79
(d)	Anandpur Sahib (APS)	134.00	0.00	0.00	0.00	0.00
(e)	Ranjit Sagar HPS	600.00	10.49	10.47	10.49	10.47
(f)	Small Hydel	4.10	0.17	0.17	0.17	0.17
(g)	GNDTPS (Bhatinda)	440.00	200.56	181.51	200.56	181.51
(h)	GGSTPS (Ropar)	1260.00	646.42	594.89	646.42	594.89
(i)	Jhalkeri Rice Straw Fired	10.00	0.00	0.00	0.00	0.00
(j)	Lehra Mohabbat TPS	420.00	153.35	138.11	153.35	138.11
	Total PSEB	3275.10	1079.30	993.22	1079.30	993.22
8 RSEB						
(a)	Mahi Bajaj Sagar	140.00	0.00	0.00	0.00	0.00
(b)	Rana Pratap Sagar (RPS)	172.00	1.61	1.60	1.61	1.60
(c)	Jawahar Sagar (JS)	99.00	1.36	1.35	1.36	1.35
(d)	Anoopgarh	9.00	0.10	0.10	0.10	0.10
(e)	Small Hydro	14.32	0.01	0.01	0.01	0.01

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(f)	Kota TPS	850.00	537.20	485.69	537.20	485.69
(g)	RAMGARH GT	3.00				
(h)	RAMGARH GT EXT	35.50	9.75	9.75	9.75	9.75
(l)	Suratgarh TPS	500.00	350.60	319.44	350.60	319.44
(j)	Wind Farm	4.00	0.67	0.67	0.67	0.67
	Total RSEB	1826.82	901.31	818.60	901.31	818.60

contd/-

9 U.P.						
	<u>HYDRO</u>					
(a)	Rihand	300.00	32.33	32.01	32.33	32.01
(b)	Obra	99.00	12.15	12.03	12.15	12.03
(c)	Matatilla	30.00	0.00	0.00	0.00	0.00
(d)	Khatima	41.40	12.15	12.03	12.15	12.03
(e)	Ramganga	198.00	41.93	41.51	41.93	41.51
(f)	Ganga Canal	43.40	14.14	14.00	14.14	14.00
(g)	Yamuna (I & IV)	114.75	24.42	24.18	24.42	24.18
(h)	Chibro	240.00	37.67	37.29	37.67	37.29
(i)	Khodri	120.00	18.76	18.57	18.76	18.57
(j)	Chilla	144.00	31.32	31.01	31.32	31.01
(k)	Maneri Bhali	90.00	13.44	13.30	13.44	13.30
(l)	Khara	72.00	21.36	21.15	21.36	21.15
	Total U.P. (Hydro)	1492.55	259.67	257.07	259.67	257.07
	<u>THERMAL</u>					
(m)	Obra	160.00	28.32	24.78	28.32	24.78
(n)	Obra Extn. - I	282.00	25.91	22.67	25.91	22.67
(o)	Obra Extn. - II	1000.00	339.77	297.30	339.77	297.30
(p)	Panki	32.00				

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(q)	Panki Extn.	210.00	101.10	88.46	101.10	88.46
(r)	Harduaganj - A	0.00				
(s)	Harduaganj - B	150.00				
(t)	Harduaganj - C	225.00	55.68	48.72	55.68	48.72
(u)	Paricha	220.00	36.30	31.77	36.30	31.77
(v)	Anpara - A	630.00	376.96	329.84	376.96	329.84
(w)	Anpara - B	1000.00	699.17	611.78	699.17	611.78
	Total U.P. (Thermal)	3909.00	1663.21	1455.31	1663.21	1455.31
	Total U.P.	5401.55	1922.88	1712.38	1922.88	1712.38
Total Region		26950.12	10951.71	10137.24	10951.71	10137.24

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 APRIL 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	2.91	2.91	7.70	7.71	0.00	0.23	0.00
2	Delhi	112.49	112.49	81.22	81.32	321.95	3.15	0.00
3	Haryana	131.10	131.10	56.33	56.40	0.00	2.26	0.00
4	H.P.	4.59	4.59	23.97	23.99	0.00	0.67	0.00
5	J & K	14.82	14.82	50.62	50.71	0.00	2.90	0.00
6	Punjab	101.64	101.64	65.98	66.09	0.00	3.43	0.00
7	Rajasthan	192.55	192.55	80.55	79.90	0.00	3.25	0.00
8	U.P.	455.64	455.64	233.15	233.39	0.00	7.17	0.00
9	MP	0.00	0.00	0.00	0.00	0.00	11.74	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	34.83	34.83	20.59	20.59	0.00	0.79	0.00
	TOTAL	1050.57	1050.57	620.11	620.10	321.95	35.60	0.00

Note :- Singrauli sentout excludes 7.47 MU supplied to Western Grid

(All figs. in MU)

Sl. No.	State/UT/ System	Dadri NCTPS		Unchahar-I TPS		Unchahar-II TPS	
		Entitlement	Actual	Entitlement	Actual	Entitlement	Actual
1	Chandigarh	0.05	0.04	1.42	1.29	2.15	6.99
2	Delhi	335.37	336.25	18.52	20.35	23.90	42.49
3	Haryana	4.69	2.84	9.43	7.62	19.66	10.39
4	H.P.	1.11	0.88	4.72	3.98	7.46	30.78

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5	J & K	0.05	0.11	9.90	9.56	18.01	19.12
6	Punjab	0.00	0.07	23.10	22.22	30.18	38.37
7	Rajasthan	20.34	19.64	16.03	13.92	27.77	28.15
8	U.P.	53.76	53.92	185.58	189.75	80.12	32.94
9	MP	0.00	1.63	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	0.00	0.00	0.00	0.00	0.00
12	Trans. Losses	0.00	0.00	9.21	9.21	7.21	7.21
	Total	415.37	415.37	277.91	277.91	216.45	216.44

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

(All figs. in MU)

Sl. No.	State/UT/ System	Anta GPS		Auraiya GPS		Uri HPS	
		Entitlement	Actual	Entitlement	Actual	Entitlement	Actual
1	Chandigarh	3.67	3.67	4.15	4.15	1.34	1.34
2	Delhi	35.02	35.02	57.93	58.14	26.65	26.65
3	Haryana	21.48	21.48	35.40	34.76	13.05	13.05
4	H.P.	9.96	9.96	15.25	15.23	6.43	6.43
5	J & K	20.86	20.86	32.48	32.72	81.92	81.92
6	Punjab	29.06	29.06	50.43	50.69	33.15	33.15
7	Rajasthan	58.93	58.93	52.68	51.35	21.52	21.52
8	U.P.	69.40	69.40	153.83	154.26	56.71	56.71
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	0.00	0.00	0.00
12	Trans. Losses	10.35	10.35	14.20	14.20	2.43	2.43
	TOTAL	258.73	258.73	416.35	416.34	243.20	243.20

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(All figs. in MU)

Sl. No.	State/UT/	Dadri GPS		Bairasiul HPS		Salal HPS	
	System	Entitlement	Actual	Entitlement	Actual	Entitlement	Actual
1	Chandigarh	3.78	4.02	0.00	0.00	0.45	0.45
2	Delhi	62.38	70.49	6.31	6.31	19.42	19.42
3	Haryana	34.51	32.93	17.48	17.48	25.11	25.11
4	H.P.	15.32	15.03	6.88	6.88	1.66	1.66
5	J & K	35.71	39.99	0.00	0.00	59.28	59.28
6	Punjab	68.70	75.68	26.65	26.65	44.46	44.46
7	Rajasthan	93.58	94.23	0.00	0.00	4.93	4.93
8	U.P.	117.55	134.06	0.00	0.00	13.64	13.64
9	MP	0.00	0.00	0.00	0.00	0.00	0.00
10	Railways	59.11	24.20	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	2.39	2.39	1.71	1.71
	Total	490.64	490.64	59.71	59.71	170.66	170.66

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

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

Sl. No.	State/UT/ System	Singrauli STPS		Rihand STPS		BTPS	W. Grid	VSTPS
		Entitlement	Actual	Entitlement	Actual	Actual	Actual	(WR) Actual
1	Chandigarh	2.91	2.91	7.70	7.71	0.00	0.23	0.00
2	Delhi	112.49	112.49	81.22	81.32	321.95	3.15	0.00
3	Haryana	131.10	131.10	56.33	56.40	0.00	2.26	0.00
4	H.P.	4.59	4.59	23.97	23.99	0.00	0.67	0.00
5	J & K	14.82	14.82	50.62	50.71	0.00	2.90	0.00
6	Punjab	101.64	101.64	65.98	66.09	0.00	3.43	0.00
7	Rajasthan	192.55	192.55	80.55	79.90	0.00	3.25	0.00
8	U.P.	455.64	455.64	233.15	233.39	0.00	7.17	0.00
9	MP	0.00	0.00	0.00	0.00	0.00	11.74	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	34.83	34.83	20.59	20.59	0.00	0.79	0.00
	TOTAL	1050.57	1050.57	620.11	620.10	321.95	35.60	0.00

Note :- Singrauli sentout excludes 7.47 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	0.05	0.04	1.42	1.29	2.15	6.99
2	Delhi	335.37	336.25	18.52	20.35	23.90	42.49
3	Haryana	4.69	2.84	9.43	7.62	19.66	10.39
4	H.P.	1.11	0.88	4.72	3.98	7.46	30.78
5	J & K	0.05	0.11	9.90	9.56	18.01	19.12
6	Punjab	0.00	0.07	23.10	22.22	30.18	38.37

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7	Rajasthan	20.34	19.64	16.03	13.92	27.77	28.15
8	U.P.	53.76	53.92	185.58	189.75	80.12	32.94
9	MP	0.00	1.63	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	0.00	0.00	0.00	0.00	0.00
12	Trans. Losses	0.00	0.00	9.21	9.21	7.21	7.21
	Total	415.37	415.37	277.91	277.91	216.45	216.44

Sl. No.	State/UT/ System	Anta GPS		Auraiya GPS		Uri HPS	
		Entitlement	Actual	Entitlement	Actual	Entitlement	Actual
1	Chandigarh	3.67	3.67	4.15	4.15	1.34	1.34
2	Delhi	35.02	35.02	57.93	58.14	26.65	26.65
3	Haryana	21.48	21.48	35.40	34.76	13.05	13.05
4	H.P.	9.96	9.96	15.25	15.23	6.43	6.43
5	J & K	20.86	20.86	32.48	32.72	81.92	81.92
6	Punjab	29.06	29.06	50.43	50.69	33.15	33.15
7	Rajasthan	58.93	58.93	52.68	51.35	21.52	21.52
8	U.P.	69.40	69.40	153.83	154.26	56.71	56.71
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	0.00	0.00	0.00
12	Trans. Losses	10.35	10.35	14.20	14.20	2.43	2.43
	TOTAL	258.73	258.73	416.35	416.34	243.20	243.20

Sl. No.	State/UT/ System	Dadri GPS		Bairasiul HPS		Salal HPS	
		Entitlement	Actual	Entitlement	Actual	Entitlement	Actual
1	Chandigarh	3.78	4.02	0.00	0.00	0.45	0.45
2	Delhi	62.38	70.49	6.31	6.31	19.42	19.42
3	Haryana	34.51	32.93	17.48	17.48	25.11	25.11

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4	H.P.	15.32	15.03	6.88	6.88	1.66	1.66
5	J & K	35.71	39.99	0.00	0.00	59.28	59.28
6	Punjab	68.70	75.68	26.65	26.65	44.46	44.46
7	Rajasthan	93.58	94.23	0.00	0.00	4.93	4.93
8	U.P.	117.55	134.06	0.00	0.00	13.64	13.64
9	MP	0.00	0.00	0.00	0.00	0.00	0.00
10	Railways	59.11	24.20	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	2.39	2.39	1.71	1.71
	Total	490.64	490.64	59.71	59.71	170.66	170.66

VII. BILATERAL EXCHANGES IN THE NORTHERN REGION DURING APRIL 2001

	Chandigarh	DVB	HVPNL	HPSEB	PDD ,J & K	PSEB	RRVNL	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	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
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	0.000	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
RRVNL	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	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	0.000	0.000	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) HVPNL's share in IP station of DVB	19.269MU
ii) HPSEB's share in Shanan and Ranjit Sagar power station of PSEB	6.660MU
iii) HPSEB's share in Yamuna hydro power complex of UP	24.054MU
iv) Maruti to HVPNL	16.073MU

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

VIII. PROGRESS OF INSTALLATION OF SHUNT CAPACITORS IN NORTHERN REGION

(ALL FIGS IN
MVAR)

CONSTITUENT	REQUIREMENT AT THE END OF 2001-2002	CAPACITORS AS ON 30.04.2001	CAPACITORS ADDITION DURING		ADDITIONAL REQUIRED DURING 2001-2002
		INSTALLED	2001-2002	April 01	
Chandigarh	127	96	3	3	31
Delhi	2734	2236	0	0	498
Haryana	3080	1643	0	0	1437
H.P.	335	119	0	0	216
J & K	880	147	0	0	733
Punjab	4950	4445	14	14	505
Rajasthan	3300	2362	5	5	938
U.P.	5654	4206	0	0	1448
BBMB	381	381	0	0	0
TOTAL	21441	15635	22	22	5806

SOURCE: Minutes of 316th OCC meeting of NREB held on 9th May 2001.

IX. HYDRAULIC DATA FOR RESERVOIRS DURING APRIL 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 April 2001 (m) (ft)	454.52 1491.20	394.22 1293.38	258.17 847.00	344.25 1129.44	380.55 1248.54
Level on last day of April 2000 (m) (ft)	455.43 1494.20	400.36 1313.51	259.81 852.40	346.69 1137.43	383.59 1258.51
Live Capacity as on (mhmt) last day of April 2001(maft)	0.05 0.42	0.09 0.76	0.63 5.10	0.01 0.12	0.00 0.00
Live Capacity as on (mhmt) last day of April 2000(maft)	0.06 0.50	0.04 0.36	0.68 5.50	0.05 0.37	0.02 0.20
Energy content as on last day of April 2001 (MU)	170.00	125.00	650.00	18.00	50.00
Energy content as on last day of April 2000 (MU)	200.00	245.00	1100.00	50.00	130.00

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Maximum level	(m)	457.54	394.95	258.78	344.58	380.60
	(ft)	1501.11	1295.77	849.00	1130.51	1248.68
	(date)	01.04.2001	04.04.2001	01.04.2001	01.04.2001	01.04.2001
Minimum level	(m)	454.54	394.22	258.17	344.25	380.55
	(ft)	1491.28	1293.38	847.00	1129.44	1248.54
	(date)	30.04.2001	30.04.2001	30.04.2001	30.04.2001	30.04.2001

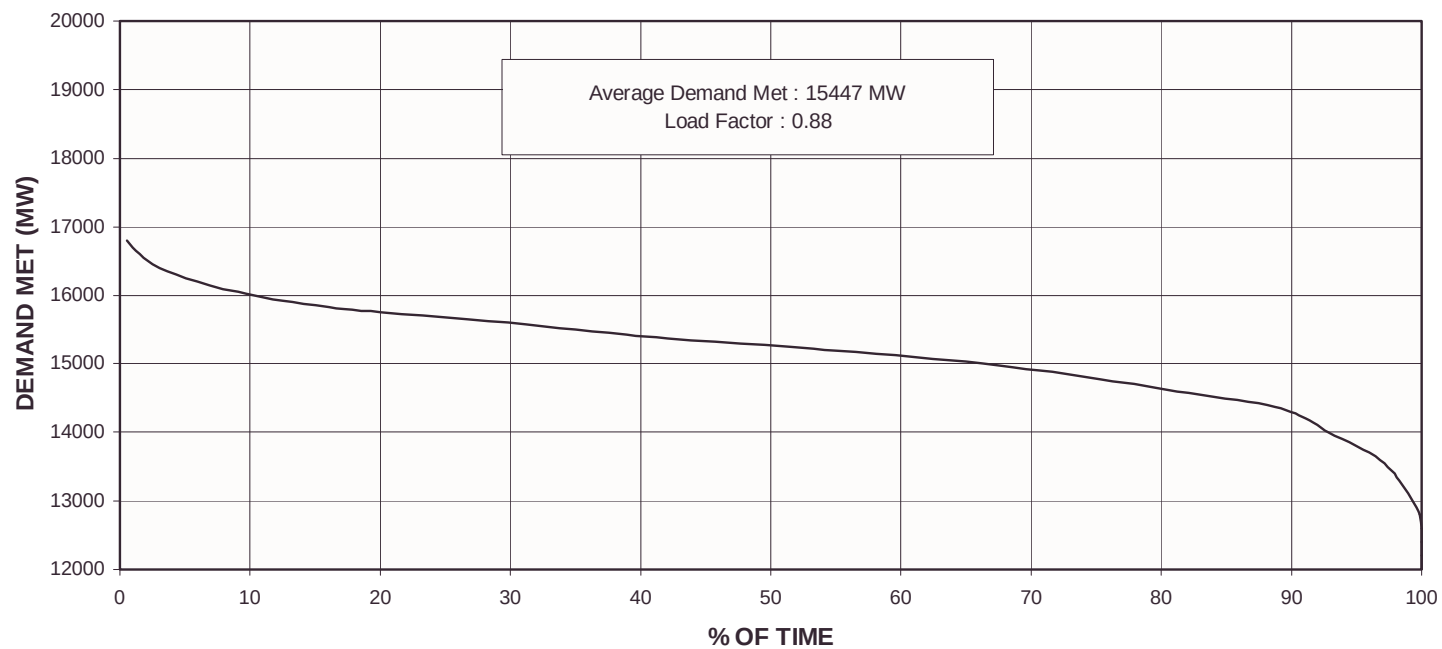
Energy content of Bhakra : Total Energy content at Bhakra, Ganguwal and Kotla power stations

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

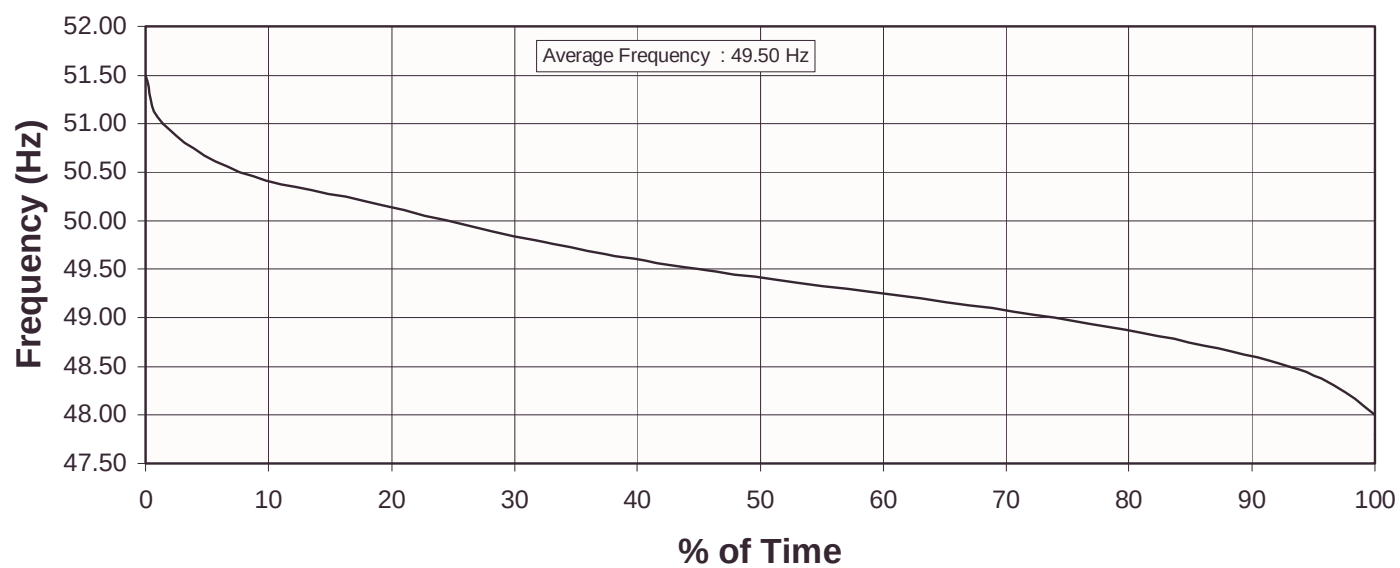
Energy content of RPS : Total Energy content of Rana Pratap Sagar and Jawahar Sagar Power Stations.

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

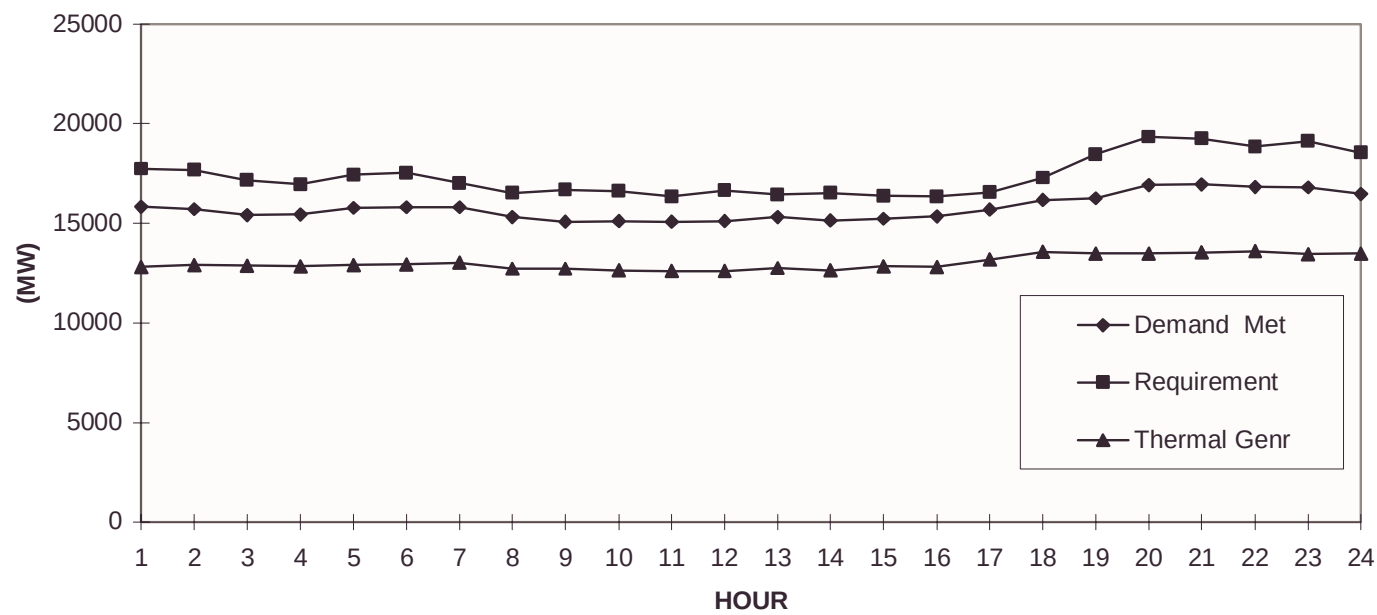
LOAD DURATION CURVE OF NORTHERN REGION FOR APRIL 2001



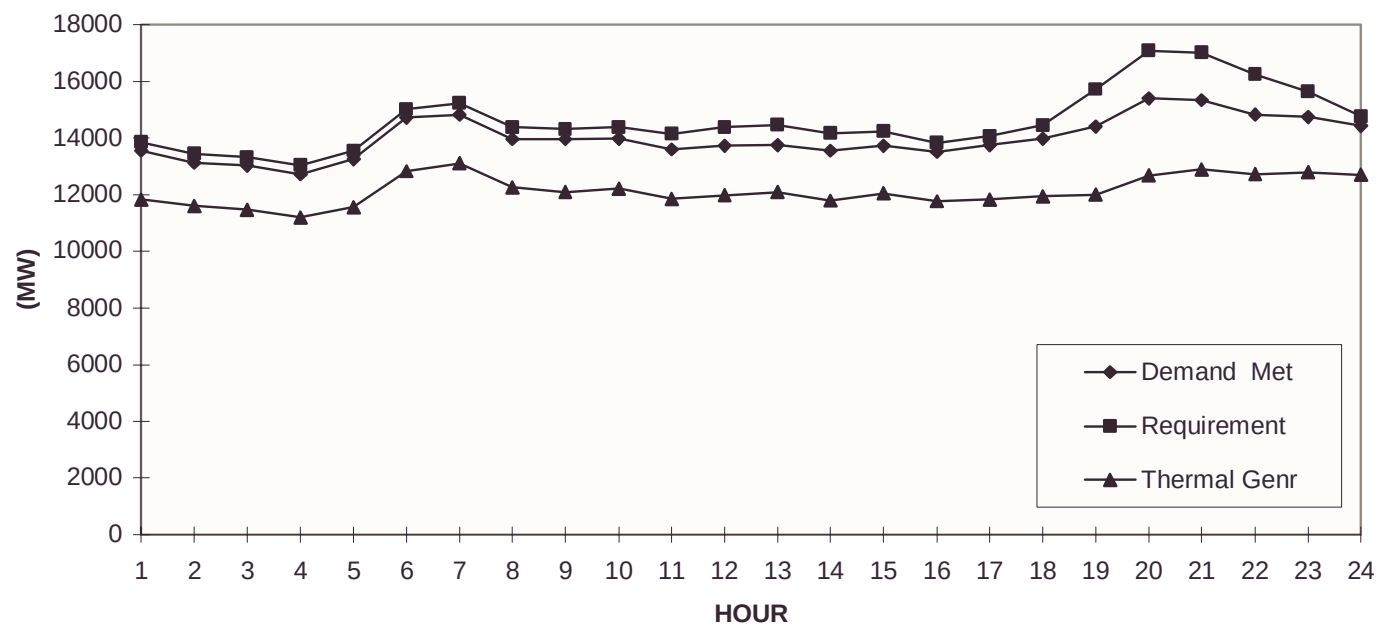
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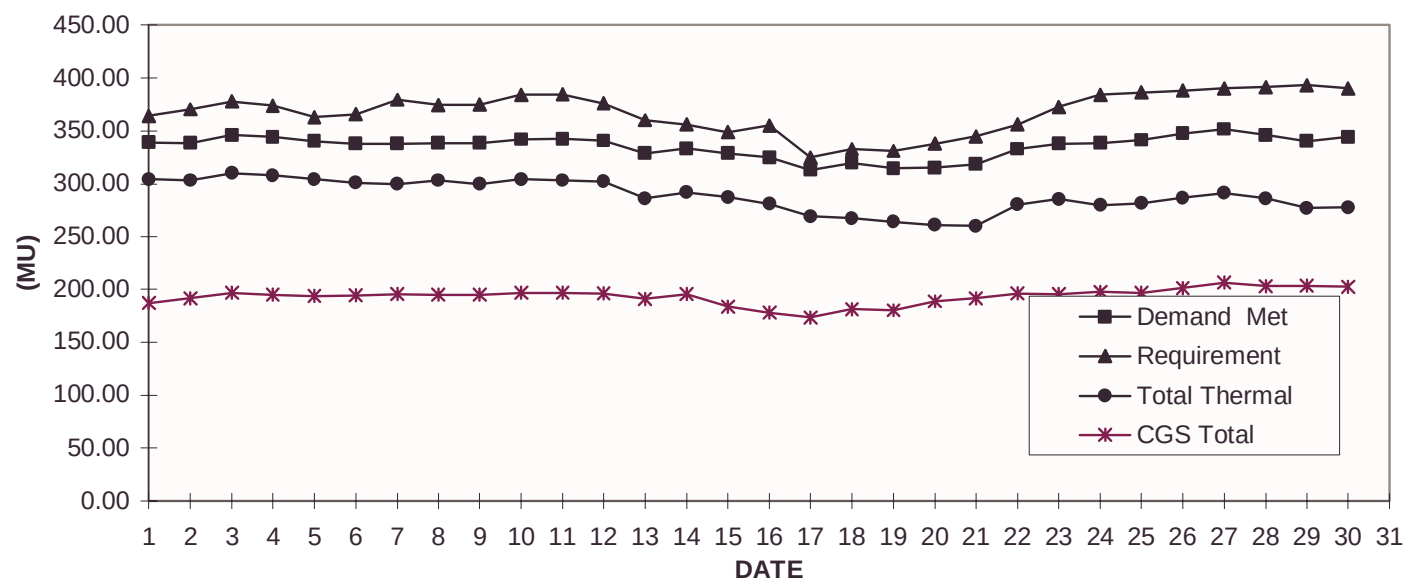
LOAD CURVE OF NORTHERN REGION FOR MAXIMUM DEMAND MET DAY (28.04.2001)



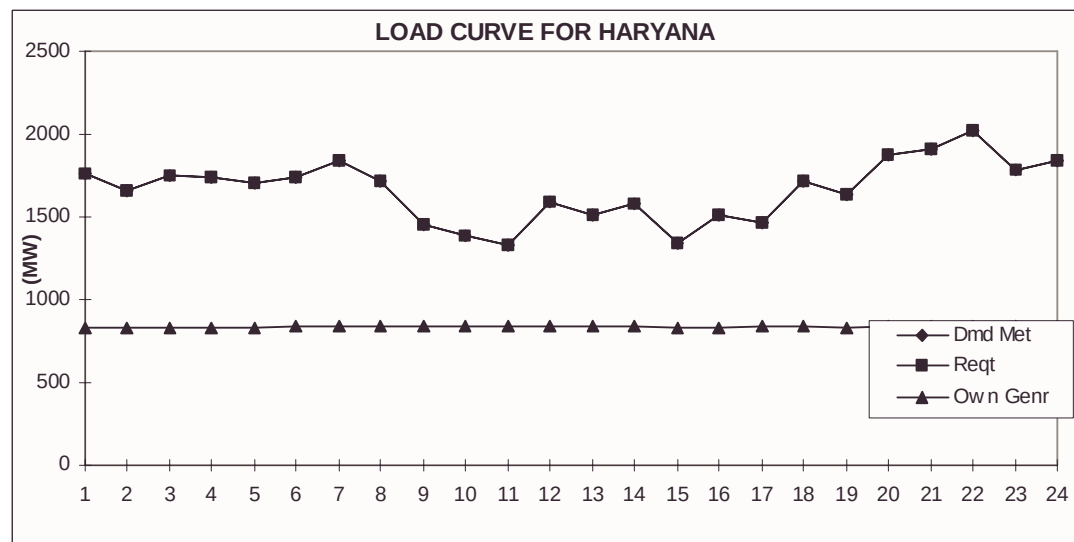
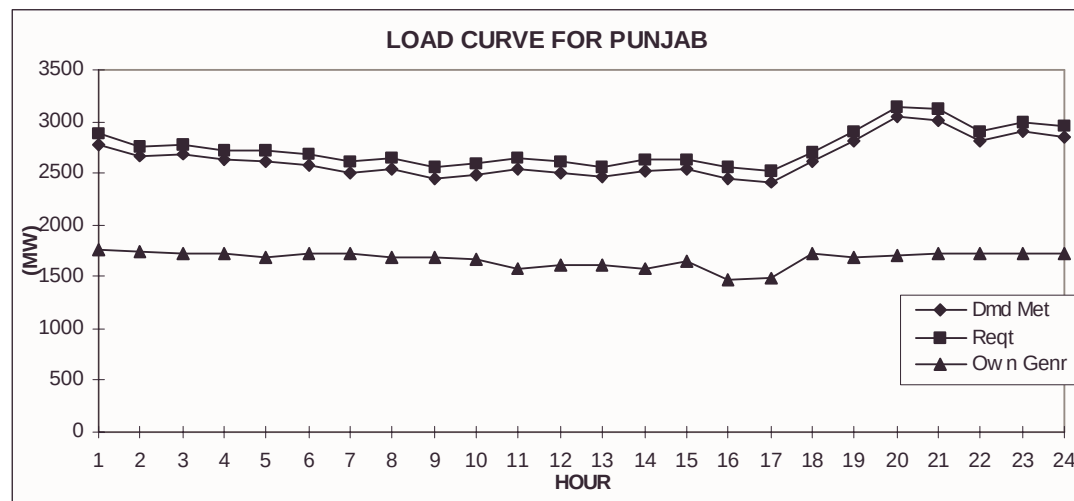
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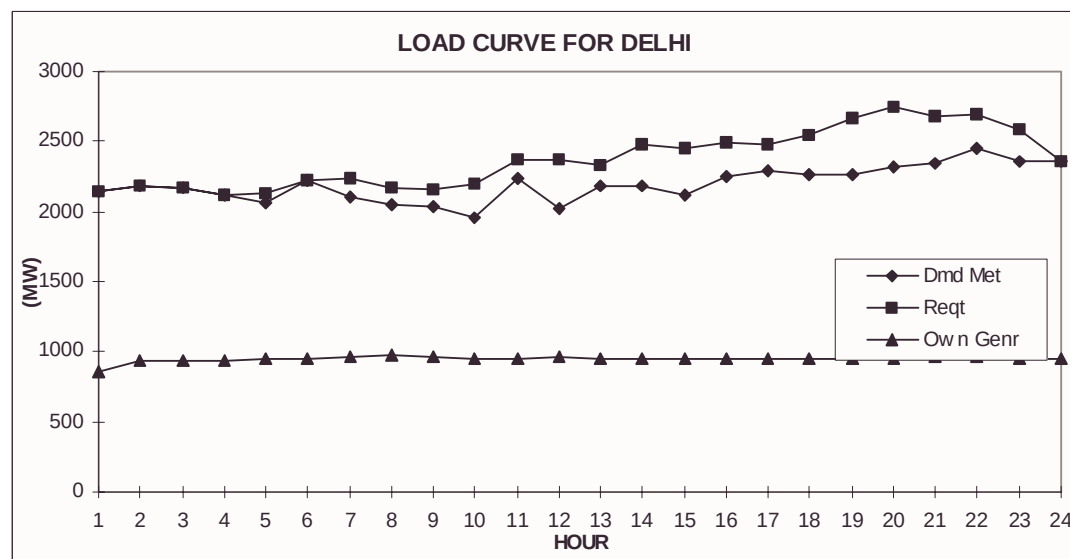
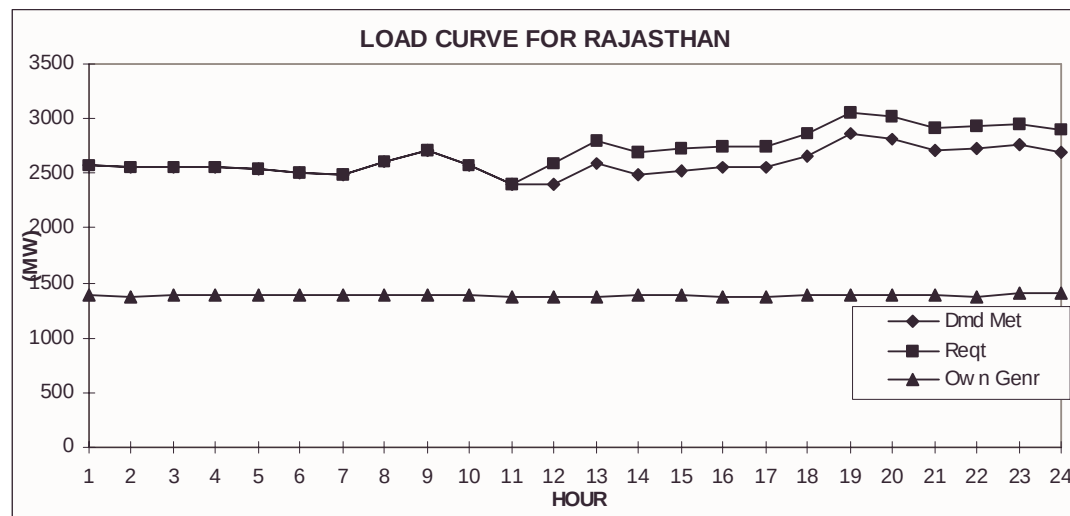


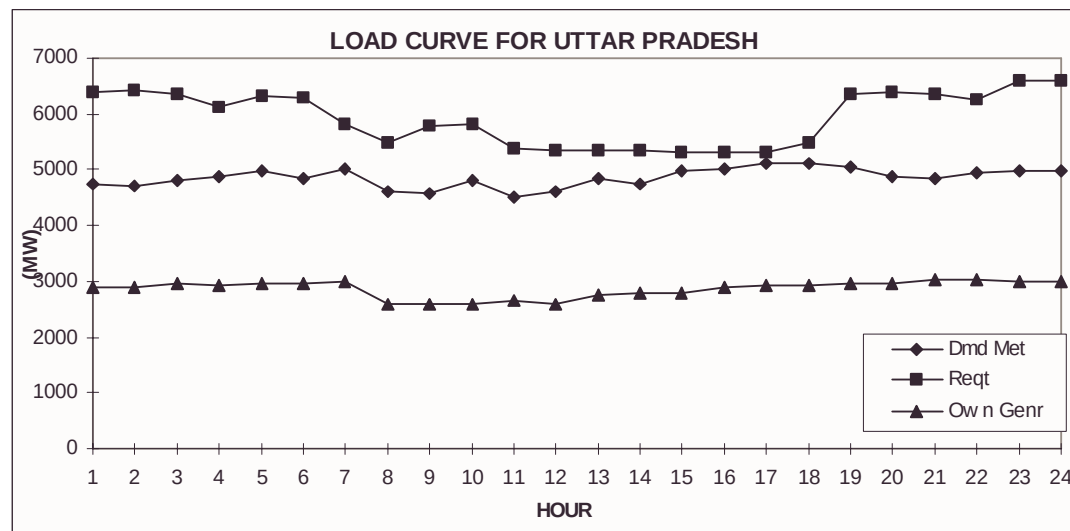
DAYWISE DEMAND MET AND REQUIREMENT (In MU) OF NORTHERN REGION DURING APRIL 2001



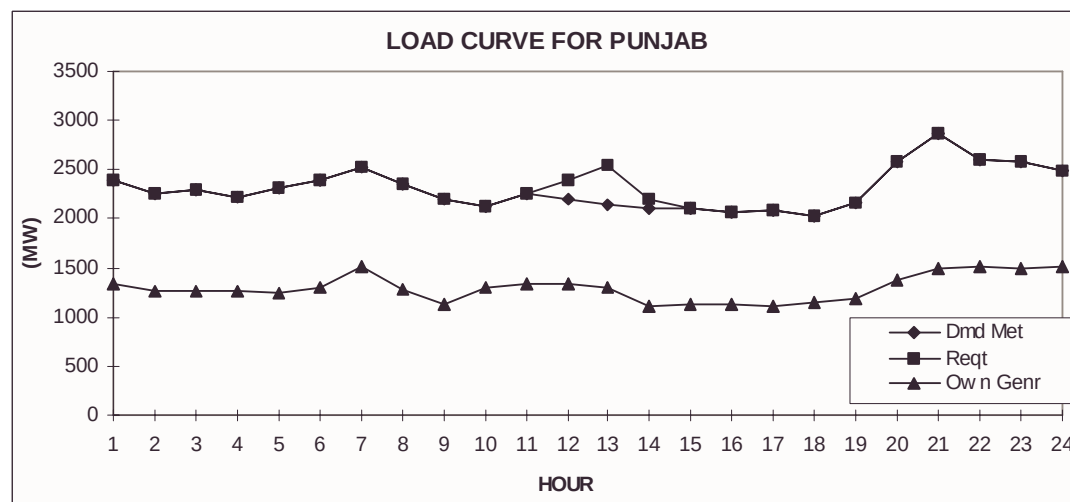
STATE LOAD CURVES FOR REGIONAL MAXIMUM DEMAND MET DAY(28.04.2001)

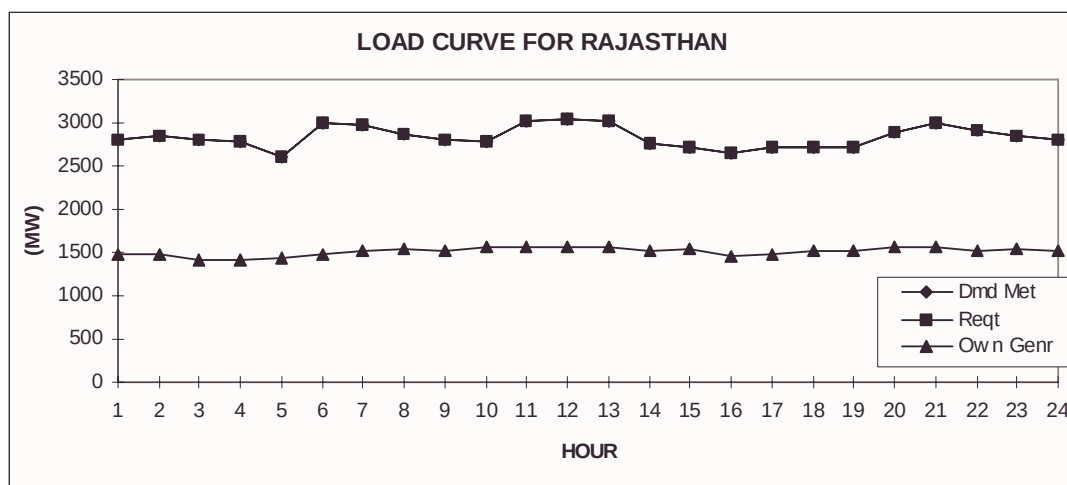
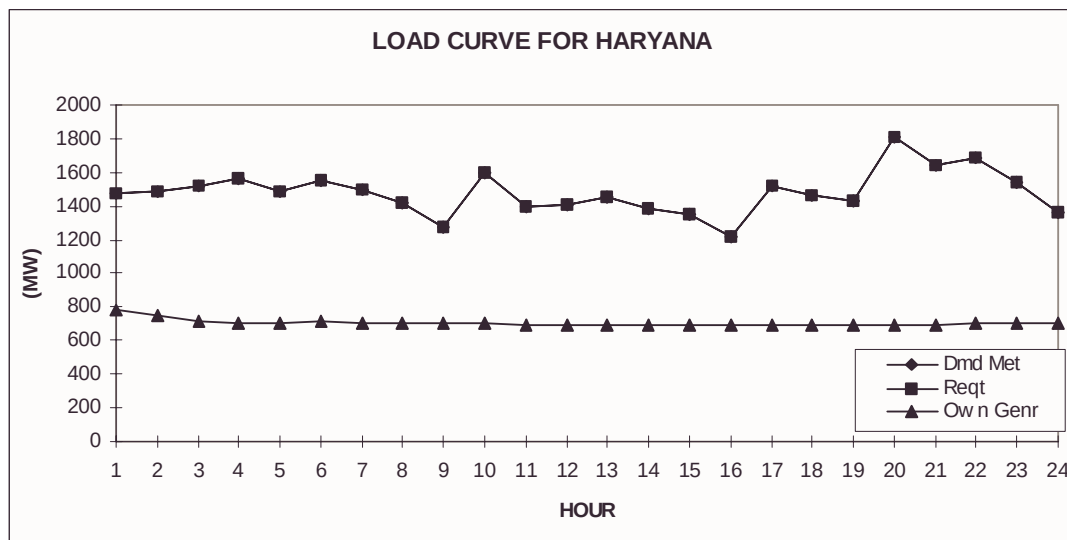


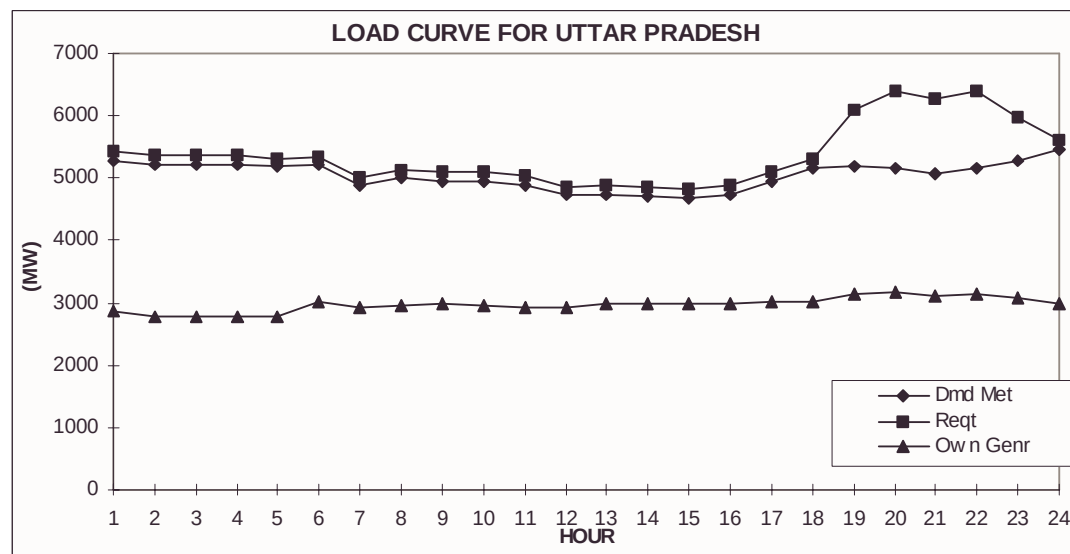
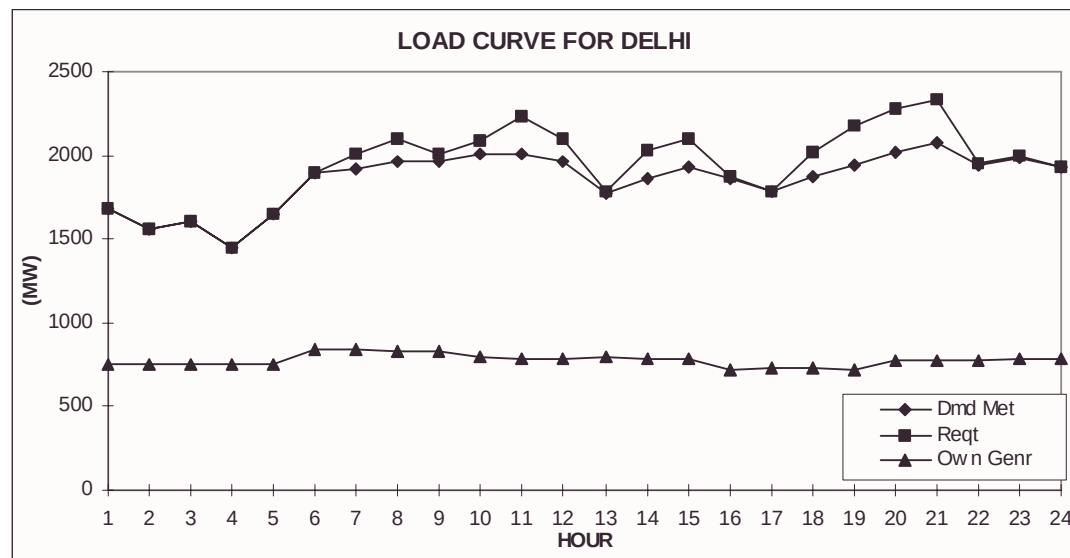




STATE LOAD CURVES FOR REGIONAL MINIMUM DEMAND MET DAY(18.04.2001)







Minor Incidents During April, 2001

- A. On 06.04.2001 at 1348 Hrs, all the running units at Guru Nanak Dev Thermal Power Plant, Bhatinda (300 Mw) tripped due to Bus fault at Bhatinda. All the tripped units were synchronized by 1630 Hrs of 06.04.2001.
- B. On 12.04.2001 at 1702 Hrs, all the running units of Obra (B) Power Station (800 MW) of UPRVUNL tripped due to fire in Cable Gallery and consequently auxiliary supply failure.
- C. On 14.04.2001 at 1510 Hrs all the running units at Kota Thermal Power Plant (640 MW) of RRVUNL tripped due to bus fault at Kota. All the tripped units were synchronized by 2002 hrs of 14.04.2001.