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NORTHERN REGION GRID REPORT FOR THE MONTH OF NOVEMBER 2003

A) Summary Report

1. Grid Overview during the Month

During the month of November 2003, the power supply position in the region was satisfactory. The average energy and peak shortages were 6.95% & 9.64% compared to 7.82% and 8.70% during the last year i.e. November 2002 respectively. The average system frequency was 49.67Hz and frequency remained in the normal range i.e. between 49.0 & 50.5 Hz for 95.44% of the time compared to 70.69% during the last year i.e. November 2002. The average frequency variation index during the month was 2.49. It could be seen from the above that there is substantial increase in the % of frequency band i.e. between 49.0 & 50.5 Hz. after the implementation of FGMO.

Overall voltage profile in the grid during the month was satisfactory on most of the 400 kV buses. The minimum voltage recorded at 400 kV Dadri was 384 kV compared to last year i.e. 380 kV. During November 2003 HVDC Rihand-Dadri pole-II went under forced outage at 09.22 hrs on 24.11.2003 and 400 kV Unnao-Agra remained under forced outage w.e.f 14.11.2003 to 18.11.2003.

There was no major grid incident during the month. However there was a minor incident which is reported at annex-6.

2. Commissioning of New Units/Lines/Transformers During the Month :

-----NIL-----

3. Frequency Profile :

Maximum frequency	50.63	Hz	at	23.54	hours on	16.11.2003
Minimum frequency	48.53	Hz	at	18.18	hours on	25.11.2003
Average frequency	49.67	Hz				

Frequency distribution in %

Hz	< 48.5	<49.0	49.0-50.5	> 50.5
% of time	0.00	4.52	95.44	0.04

Frequency Variation Index

Monthly Average	2.49
Maximum	4.65
Minimum	0.53

4. Power Supply Position :

a. Average Energy/day (Net)

State / U.T.	Demand met MU/Day	Requirement MU/Day	Shortage MU/Day	Shortage %
Punjab	65.96	69.19	3.23	4.67
Haryana	46.46	47.81	1.35	2.82
Rajasthan	81.75	81.75	0.00	0.00
U.P.	110.78	134.13	23.35	17.41
Uttanchal	11.24	11.43	0.19	1.66
Delhi	46.47	46.70	0.23	0.49
H.P.	9.84	9.84	0.00	0.00
J & K *	20.20	21.50	1.30	6.05
Chandigarh	2.65	2.65	0.00	0.00
N.F.F./Rail	1.79	1.79	0.00	0.00
Total	397.14	426.79	29.65	6.95

b. Peak MW

State / U.T.	MAX. Demand met MW	MAX. Requirement MW	Shortage MW	Shortage %
	A	B	C	(C/B)*100
Punjab	3534	3715	181	4.87
Haryana	2785	2985	200	6.70
Rajasthan	3979	3979	0	0.00
U.P.	5742	6994	1252	17.90
Uttanchal	695	711	16	2.25
Delhi	2801	2818	17	0.60
H.P.	578	578	0	0.00
J & K *	1160	1250	90	7.20
Chandigarh	147	147	0	0.00
N.F.F./Rail	83	83	0	0.00
Region	20525	22715	2190	9.64
Diversity Factor = 1.10				

* Approximate and Estimated

5. **Schedule Vs Drawal By the Constituents :**

(All figs in M.U)

State / U.T.	Schedule	Actual	OD/UD
Punjab	642.00	560.16	-81.84
Haryana	655.96	737.98	82.02
Rajasthan	875.22	932.42	57.20
U.P.	1249.18	1338.27	89.09
Uttranchal	132.23	108.45	-23.78
Delhi	867.84	641.29	-226.55
H.P.	199.64	212.03	12.39
J & K	427.44	559.32	131.88
Chandigarh	96.85	76.13	-20.72
N.F.F./Rail	61.25	53.64	-7.61

6. **Inter Regional Exchanges**Import

	Energy M.U.	Peak MW
a) From WR over HVDC Vindhyachal B/B	10.18	500
b) From WR over 220 kV Ujjain-Kota	0	0
c) From ER over HVDC Sasaram B/B	234.68	500
d) From ER over 220 kV Dehri-Sahupuri	0	0

Export

e) To WR over HVDC Vindhyachal B/B	86.48	500
f) To WR (MP) over 220 kV Auraiya-Malanpur	41.39	66
g) To WR(MP) over 220 kV Kota-Ujjain	0	0
h) To ER (Bihar) over 220 kV/132kV lines	15.55	32
i) To ER over HVDC Sasaram B/B	0	0
j) To Nepal over 132 kV Tanakpur-Mahendernagar	3.20	6

B). Detailed Report**I. Details of Installed/Effective Capacity at the end of November 2003**

	STATION	INSTALLED CAPACITY		EFFECTIVE CAPACITY	
			(MW)		
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-I	3x180	540.00	3x180	540.00
(f)	URI	4x120	480.00	4x120	480.00
(g)	Chamera HPS-II	1x100	100.00	1x100	100.00
	Sub-Total		2110.00		2084.20
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
D.	Nathpa-Jhakri	1x250	250.00	1x250	250.00
Total Central Sector (A + B + C)			11894.04		11683.24
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	1x60 + 5x66	390.00	1x60 + 5x66	390.00
	Total BBMB		2870.15		2870.15

contd/-

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
(d)	Pragati Gas Turbines	2x108+1x114	330.00	2x108 +1x114	330.00
	Total DELHI		1009.50		1008.50
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		8.75		8.75
(g)	Nogli	2x 0.25+4x0.50	2.50	2x 0.25+4x0.50	2.50
(h)	Bhabha (H)	3x40.00	120.00	3x40.00	120.00
(i)	Baner (H)	3x 4.00	12.00	3x 4.00	12.00
(j)	Gaj (H)	3x 3.50	10.50	3x 3.50	10.50
(k)	Sal -2	1x 2	2.00	1x 2	2.00
(l)	Gumma	.	3.00	3	3.00
(m)	Ghanvi	2x11.25	22.50	2x11.25	22.50
(n)	Diesel Gen. Sets		0.00		0.00
(o)	Malana (IPP)	2x43	86.00	2x43	86.00
(p)	Baspa (IPP)	3x100	300.00	3x100	300.00
	Total HP		712.20		712.20
7	J & K				
	HYDRO				
(a)	Lower Jhelum	3x35.0	105.00	3x35.0	105.00
(b)	Upper Sindh	2x11.30+3x35.0	127.60	2x11.30+3x35.0	127.60
(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 +3x2.5	32.80	5x4.66 +2X1.0+3x2.5	32.80
(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
(h)	Sewa	3x3.0	9.00	3x3.0	9.00
	Total Hydro		311.69		311.69

contd/-

J & K (Contd.)					
(h)	GAS TURBINES				
	Pampore GT St - I	3x25.0	75.00	3x25.0	75.00
	Pampore GT St - II	4x25.0	100.00	4x25.0	100.00
9h)	Total Gas		175.00		175.00
(I)	Diesel Gen. Sets		8.94		7.18
	Total J & K		495.63		493.87
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		14.85		14.85
	Total Hydro		434.85		434.85
	THERMAL				
(f)	Kota TPS	2x110+3x210 +1x195	1045.00	2x110+3x210 +1x195	1045.00
(g)	Suratgarh TPS	5x250	1250.00	5x250	1250.00
(g)	Ramgarh GT	1x3	3.00	1x3	3.00
(i)	Ramgarh GT EXT.	1x35.5	35.50	1x35.5	35.50
	Total Thermal		2333.50		2333.50
(J)	Wind farm		14.01		14.01
	Total Rajasthan		2782.36		2782.36

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)	Ganga Canal					
	Bhola	4x.375+2x.6+		4x.375+2x.6+		
	Salara	2x1.5+		2x1.5+		
	Nirgazni	2x2.5	10.70	2x2.5	10.70	
(e)	Khara	3x24.0	72.00	3x24.0	72.00	
(f)	Sobla & small hydro	6 +12.2	18.20	6 +12.2	18.20	
	Total Hydro		529.90		529.90	
	THERMAL					
(g)	Obra	5x50	250.00	4x40	160.00	
(h)	Obra Extn. - I	3x100	300.00	3x94	282.00	
(i)	Obra Extn. - II	5x200	1000.00	5x200	1000.00	
(j)	Panki	1x32	32.00	1x32	32.00	
(k)	Panki Extn.	2x110	220.00	2x105	210.00	
(l)	Harduaganj - A	3x30	90.00	0	0.00	
(m)	Harduaganj - B	2x50+2x60	220.00	1x40+2x55	150.00	
(n)	Harduaganj - C	2x60+1x110	230.00	2x60+1x105	225.00	
(o)	Paricha	2x110	220.00	2x110	220.00	
(p)	Anpara - A	3x210	630.00	3x210	630.00	
(q)	Anpara - B	2x500	1000.00	2x500	1000.00	
	Total Thermal		4192.00		3909.00	
	Total UP		4721.90		4438.90	
11	UTTRANCHAL					
	HYDRO					
(a)	Khatima	3x13.8	41.40	3x13.8	41.40	
(b)	Ramganga	3x66.0	198.00	3x66.0	198.00	
(c)	Ganga Canal					
	Chitwa	2x1.5+		2x1.5+		
	Mohamedpur	3x3.1+		3x3.1+		
	Pathri	3x6.8	32.70	3x6.8	32.70	
(d)	Yamuna (I & IV)					
	- Dhalipur	3x17.00+		3x17.00+		
	- Dhakrani	3x11.25+		3x11.25+		
	- Kulhal	3x10.00	114.75	3x10.00	114.75	
(e)	Chibro	4x60.0	240.00	4x60.0	240.00	
(f)	Khodri	4x30.0	120.00	4x30.0	120.00	
(g)	Chilla	4x36.0	144.00	4x36.0	144.00	
(h)	Maneri Bhali	3x30.0	90.00	3x30.0	90.00	
	Total Hydro		980.85		980.85	
Total Region (1 to 11)			29856.93		29344.77	

SUMMARY OF THE EFFECTIVE GENERATING CAPACITY (MW)

Agency / Source	Hydro	Thermal	Gas/Diesel/Wind	Nuclear	Total	% of Total
NTPC	0.00	5825.00	2344.04	0.00	8169.04	27.84%
NHPC	2084.20	0.00	0.00	0.00	2084.20	7.10%
SJVNL	250.00	0.00	0.00	0.00	250.00	0.85%
NPC	0.00	0.00	0.00	1180.00	1180.00	4.02%
BBMB	2870.15	0.00	0.00	0.00	2870.15	9.78%
CHANDIGARH	0.00	0.00	1.40	0.00	1.40	0.00%
DELHI	0.00	396.50	612.00	0.00	1008.50	3.44%
HARYANA	48.00	1025.00	25.20	0.00	1098.20	3.74%
HIMACHAL	712.20	0.00	0.00	0.00	712.20	2.43%
J&K	311.69	0.00	182.18	0.00	493.87	1.68%
PUNJAB	1145.10	2130.00	0.00	0.00	3275.10	11.16%
RAJASTHAN	434.85	2295.00	52.51	0.00	2782.36	9.48%
UP	529.90	3909.00	0.00	0.00	4438.90	15.13%
UTTRANCHAL	980.85	0.00	0.00	0.00	980.85	3.34%
Total	9366.94	15580.50	3217.33	1180.00	29344.77	100.00%
% of TOTAL	31.92%	53.09%	10.96%	4.02%	100.00%	

Notes The above table does not take into account the shares of a state in power stations located in the neighbouring state. Such details are :

- (i) Haryana has one-third share in unit Nos. 2, 3, 4 at Indraprastha power stations of Delhi viz. 62.5 MW.
- (ii) HP has 25 % share in the Dhalipur, Dhakrani, Chibro and Khodri power houses of Uttranchal viz. 111.20 MW and 20 % share in the Kulhal and Khara hydro power houses viz. 20.40 MW. However, these shares are limited to actual physical drawals over designated transmission lines.
- (iii) HP has a fixed energy share (royalty) every month in the Shanan Power House of PSEB.
0.38 LU/Day to 2.22 LU/Day.
- (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

PROJECT	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 the 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 in the first five units of Satpura TPS viz 125 MW.

II. BREAKUP OF HYDRO CAPACITY (MW) IN NORTHERN REGION AS ON 30.11.2003

Agency / Source	Run-of -the -river	Reservoir	Total
NHPC	1544.20	540.00	2084.20
BBMB	1155.15	1715.00	2870.15
SJVNL	0.00	250.00	250.00
DELHI	0.00	0.00	0.00
HARYANA	48.00	0.00	48.00
HP *	712.20	0.00	712.20
J&K	311.69	0.00	311.69
PUNJAB	545.10	600.00	1145.10
RAJASTHAN	262.85	172.00	434.85
UP	229.90	300.00	529.90
UTTRANCHAL	782.85	198.00	980.85
TOTAL	5591.94	3775.00	9366.94
PERCENTAGE	59.70%	40.30%	100%

* Includes Malana IPP (86 MW) & Baspa IPP (300 MW)

III.

Frequency Profile

Date	% of Time Frequency								
	< 48.00	< 48.50	< 49.00	<49.50	49.0-50.5	> 50.00	> 50.50	> 51.00	>51.50
01	0.00	0.00	4.79	26.48	95.21	6.39	0.00	0.00	0.00
02	0.00	0.00	0.00	5.35	100.00	43.16	0.00	0.00	0.00
03	0.00	0.00	3.85	34.06	96.15	25.21	0.00	0.00	0.00
04	0.00	0.00	2.92	16.70	97.08	15.38	0.00	0.00	0.00
05	0.00	0.00	4.05	34.24	95.95	6.36	0.00	0.00	0.00
06	0.00	0.00	6.22	34.10	93.78	6.79	0.00	0.00	0.00
07	0.00	0.00	2.24	37.28	97.76	7.62	0.00	0.00	0.00
08	0.00	0.00	3.26	57.67	96.74	4.10	0.00	0.00	0.00
09	0.00	0.00	3.65	45.73	96.35	6.56	0.00	0.00	0.00
10	0.00	0.00	13.40	58.82	86.60	5.00	0.00	0.00	0.00
11	0.00	0.00	1.59	42.95	98.41	12.84	0.00	0.00	0.00
12	0.00	0.00	4.17	22.40	95.83	41.81	0.00	0.00	0.00
13	0.00	0.00	4.81	27.21	95.19	33.57	0.00	0.00	0.00
14	0.00	0.00	6.18	39.08	93.82	19.85	0.00	0.00	0.00
15	0.00	0.00	2.92	25.01	97.08	38.10	0.00	0.00	0.00
16	0.00	0.00	2.43	26.81	97.22	33.28	0.35	0.00	0.00
17	0.00	0.00	0.21	5.28	99.03	76.95	0.76	0.00	0.00
18	0.00	0.00	0.35	12.43	99.65	50.89	0.00	0.00	0.00
19	0.00	0.00	1.84	11.25	98.16	57.34	0.00	0.00	0.00
20	0.00	0.00	0.69	10.80	99.31	54.17	0.00	0.00	0.00
21	0.00	0.00	2.67	27.50	97.33	29.69	0.00	0.00	0.00
22	0.00	0.00	0.69	28.47	99.31	22.40	0.00	0.00	0.00
23	0.00	0.00	2.99	29.83	97.01	27.74	0.00	0.00	0.00
24	0.00	0.00	6.88	48.80	93.12	13.41	0.00	0.00	0.00
25	0.00	0.00	7.29	50.31	92.71	9.41	0.00	0.00	0.00
26	0.00	0.00	9.24	56.01	90.76	7.08	0.00	0.00	0.00
27	0.00	0.00	5.04	36.47	94.96	19.97	0.00	0.00	0.00
28	0.00	0.00	10.98	57.54	89.02	4.00	0.00	0.00	0.00
29	0.00	0.00	12.01	58.26	87.99	7.40	0.00	0.00	0.00
30	0.00	0.00	7.54	61.10	92.46	12.43	0.00	0.00	0.00
Max	0.00	0.00	13.40	61.10	100.00	76.95	0.76	0.00	0.00
Min	0.00	0.00	0.00	5.28	86.60	4.00	0.00	0.00	0.00
Average	0.00	0.00	4.52	34.26	95.44	23.30	0.04	0.00	0.00

Frequency (Hz)				Average Frequency	Frequency Variation
Maximum		Minimum			
Freq	Time	Freq	Time		Index
50.32	17.38	48.56	00.47	49.63	2.30
50.41	17.38	49.22	00.47	49.92	0.53
50.25	08.25	49.31	13.00	49.68	2.33
50.25	17.02	48.56	18.20	49.74	1.51
50.25	09.48	48.71	05.20	49.60	2.42
50.22	10.06	48.62	19.05	49.58	2.71
50.21	22.02	48.72	05.31	49.61	2.34
50.23	17.15	48.65	18.11	49.47	3.49
50.28	17.34	48.66	21.04	49.56	2.90
50.32	03.57	48.56	10.09	49.42	4.65
50.27	03.57	48.72	10.09	49.60	2.63
50.37	08.01	48.60	18.12	49.80	1.83
50.30	12.03	48.68	21.05	49.75	2.01
50.30	3.13	48.59	17.44	49.61	2.86
50.34	13.00	48.58	21.35	49.78	1.88
50.63	23.54	48.58	09.02	49.77	2.05
50.59	03.36	48.87	18.16	50.12	1.01
50.42	06.03	48.93	15.44	49.92	0.97
50.41	23.53	48.58	18.07	49.94	1.10
50.37	00.00	48.85	18.32	49.94	1.03
50.31	22.02	48.71	21.35	49.74	1.94
50.31	22.00	48.68	17.29	49.72	1.72
50.37	06.02	48.55	10.01	49.73	2.03
50.23	02.51	48.59	06.19	49.54	3.42
50.33	16.06	48.53	18.18	49.53	3.48
50.31	17.32	48.65	08.22	49.47	4.02
50.29	16.05	48.61	07.24	49.64	2.61
50.25	04.32	48.58	10.02	49.44	4.30
50.22	22.00	48.58	18.00	49.43	4.45
50.32	6.05	48.57	9.54	49.46	4.23
50.63		49.31		50.12	4.65
50.21		48.53		49.42	0.53
50.32		48.69		49.67	2.49

IV.

Voltage Profile

Date	400 KV Dadri Voltage (kV)				400 KV Kanpur Voltage (kV)				220 KV BTPS Voltage (kV)				400 KV Moga Voltage (kV)			
	Maximum		Minimum		Maximum		Minimum		Maximum		Minimum		Maximum		Minimum	
	Voltage	Time	Voltage	Time	Voltage	Time	Voltage	Time	Voltage	Time	Voltage	Time	Voltage	Time	Voltage	Time
01	412	23.59	390	18.13	404	06.06	386	18.36	209	02.41	193	18.17	417	08.03	391	17.52
02	416	03.02	394	10.36	404	03.06	390	12.10	211	02.45	198	18.41	418	08.07	392	17.53
03	415	02.26	391	10.14	402	01.05	390	06.47	210	01.27	195	18.22	412	01.14	389	18.26
04	415	03.13	390	10.35	408	03.09	390	17.43	210	01.51	194	18.20	412	08.00	390	18.20
05	415	02.15	391	18.23	407	02.18	390	12.13	210	02.04	188	11.30	414	09.48	390	15.34
06	414	03.02	388	18.23	406	03.05	385	16.47	205	03.00	187	18.00	412	03.05	387	14.19
07	415	02.58	387	18.16	404	02.26	384	14.53	205	03.00	191	19.00	412	02.11	385	15.43
08	414	02.40	395	10.46	402	22.00	391	15.02	205	03.00	193	11.00	411	00.00	388	07.25
09	417	13.52	398	18.23	420	13.56	387	21.38	205	03.00	193	11.00	409	02.38	390	18.11
10	415	03.57	388	10.49	403	04.33	386	12.48	209	03.57	194	10.09	410	03.12	386	17.00
11	415	03.57	388	10.49	403	04.33	386	12.48	209	03.57	194	10.09	410	03.12	386	17.00
12	415	03.40	387	10.20	399	03.00	388	14.00	207	23.58	195	18.03	410	04.00	394	17.00
13	411	22.00	387	10.08	401	03.34	386	10.08	210	23.34	197	18.17	410	01.07	385	16.52
14	416	02.41	388	18.30	401	02.28	384	18.11	213	02.28	195	18.28	410	08.16	386	18.30
15	414	02.50	389	18.29	398	23.28	385	17.48	210	00.00	195	18.28	410	08.16	386	18.30
16	416	23.54	395	18.19	404	23.58	388	12.44	212	23.17	200	18.19	410	03.06	390	06.56
17	419	02.12	386	18.34	406	02.34	386	18.31	213	01.35	198	18.14	414	03.31	381	18.14
18	417	02.26	389	15.40	406	01.52	384	18.22	213	02.02	198	18.22	409	00.57	386	19.00
19	418	03.02	390	10.42	402	00.01	387	18.07	214	02.40	197	18.12	409	23.53	386	06.47
20	417	03.13	387	18.31	404	03.01	384	18.31	213	01.55	197	10.49	409	00.44	385	18.31
21	417	01.47	385	11.01	405	21.53	390	06.52	213	01.27	199	10.31	409	04.01	386	16.47
22	417	00.57	385	10.26	405	01.59	388	18.11	213	01.02	198	10.26	411	01.01	386	18.32
23	416	04.21	395	10.00	408	16.11	391	18.18	213	01.02	198	10.26	407	01.46	385	18.19
24	417	02.51	387	18.31	408	01.36	386	18.24	213	01.02	198	10.26	408	02.51	385	18.35
25	413	23.41	393	10.49	406	04.31	388	14.16	212	00.31	199	10.52	414	08.02	384	17.52
26	414	00.48	395	11.12	406	01.16	390	11.11	212	02.09	200	17.52	411	07.57	385	12.10
27	416	02.18	391	18.32	409	02.28	386	14.51	213	02.33	197	17.47	409	08.03	384	17.46
28	412	02.09	384	10.03	404	02.09	383	11.46	211	02.28	195	18.17	405	02.09	380	15.18
29	413	05.06	388	11.27	401	05.07	385	13.24	212	05.06	198	17.58	406	05.06	382	15.52
30	415	05.04	393	18.14	399	03.02	383	18.12	213	02.40	204	10.12	410	05.10	386	17.47
Max	419		398		420		391		214		204		418		394	
Min	411		384		398		383		205		187		405		380	

V. Regional Power Supply Position

(All Figs In MUs)

Date	Availability (Gross)	Peak Hrs. Requirement	Shortage/ Restriction	Availability (Gross)	Off Peak Hrs. Requirement	Shortage/ Restriction*	Regional Availability
	MW	MW	MW	MW	MW	MW	MU
01	19536	21497	1961	17323	17958	635	410.11
02	20395	22005	1610	17090	17790	700	402.91
03	19796	21544	1748	16795	17510	715	404.97
04	19693	21604	1911	17061	17776	715	410.57
05	19877	21916	2039	17160	18100	940	409.18
06	20083	22069	1986	17237	17917	680	413.40
07	19296	20934	1638	16860	17525	665	414.50
08	20112	21672	1560	17112	17827	715	404.51
09	19601	21872	2271	16896	17556	660	390.57
10	19487	21471	1984	16270	17025	755	390.62
11	19963	21747	1784	16840	17425	585	402.79
12	20525	22258	1733	16855	17440	585	409.45
13	19996	21602	1606	16125	16710	585	402.16
14	20136	21834	1698	16597	17182	585	412.29
15	20396	22041	1645	16430	17015	585	402.45
16	19538	20993	1455	16336	16926	590	388.32
17	20230	22214	1984	15365	15957	592	394.66
18	20156	21952	1796	15838	16428	590	400.98
19	20443	22519	2076	15955	16545	590	406.21
20	20339	21920	1581	16287	16877	590	403.71
21	20161	22051	1890	16184	16774	590	403.93
22	20056	22034	1978	15784	16374	590	400.59
23	19747	21623	1876	15782	16442	660	400.16
24	20282	22715	2433	15646	16231	585	394.09
25	19630	22176	2546	16011	16596	585	392.06
26	19379	21463	2084	15482	16424	942	395.60
27	19474	21945	2471	15406	16216	810	397.40
28	20251	22648	2397	16371	16956	585	405.03
29	20214	22684	2470	16517	17102	585	405.35
30	20075	21646	1571	16175	16805	630	400.39
Maximum	20525	22715	2546	17323	18100	942	414.50
Minimum	19296	20934	1455	15365	15957	585	388.32
Average	19962	21888	1926	16393	17047	654	402.30

Note: * Shortage / Restriction figures are as given by the constituents.

VI. Daily Peak/Off-Peak Demand Met By Constituents (Sheet 1 of 2)

State	Punjab		Haryana		Rajasthan		Delhi		Uttar Pradesh	
Date	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak
01	3249	2812	2227	2202	3521	3513	2617	1538	5079	5175
02	3342	2645	2277	2104	3649	3447	2566	1475	4964	5153
03	3245	2689	1976	2182	3651	3418	2747	1446	4919	5184
04	2987	2874	2153	2127	3635	3549	2668	1429	5068	5032
05	2950	2593	2311	2166	3644	3665	2713	1424	5077	5177
06	3247	2799	2063	2186	3654	3665	2708	1550	5219	5165
07	3484	2718	2275	1934	3693	3617	2799	1447	5195	5321
08	3487	2844	2106	1986	3679	3565	2580	1488	5144	5201
09	3371	2735	2131	1949	3770	3560	2607	1472	4675	5276
10	3441	2662	2008	1974	3621	3425	2712	1353	4655	4832
11	3412	2569	2191	1993	3511	3546	2657	1380	4822	5154
12	3534	2723	2209	2114	3557	3553	2703	1286	4949	4849
13	3458	2426	2235	1995	3591	3578	2687	1277	5118	5128
14	3289	2507	2321	1970	3693	3554	2678	1330	5139	5103
15	3380	2670	2376	1947	3741	3549	2588	1301	5043	4974
16	3189	2446	1976	1877	3425	3567	2500	1273	4970	5043
17	3377	2155	2348	1792	3678	3449	2607	1250	5024	4665
18	3060	2246	2301	1844	3833	3517	2668	1329	5106	4945
19	3196	2299	2412	1868	3790	3475	2668	1360	5122	4964
20	3144	2423	2350	1872	3785	3475	2687	1260	5014	5089
21	3192	2599	2202	1878	3786	3481	2558	1249	4911	5018
22	3346	2471	2261	1810	3788	3425	2600	1210	4655	4792
23	3307	2496	2180	1793	3688	3425	2531	1248	2733	4870
24	3311	2616	2480	1792	3682	3333	2620	1181	4909	4590
25	3338	2704	2337	1836	3639	3353	2663	1274	4538	4670
26	3363	2626	2261	1842	3731	3405	2578	1260	4378	4774
27	3467	2677	2264	1854	3620	3455	2648	1193	4861	4544
28	3580	2851	2286	1859	3419	3415	2822	1203	4579	4690
29	3493	2889	2364	1939	3718	3472	2599	1195	4694	4735
30	3477	2930	2280	1896	3602	3263	2578	1293	4944	4792
Maximum	3580	2930	2480	2202	3833	3665	2822	1550	5219	5321
Minimum	2950	2155	1976	1792	3419	3263	2500	1181	2733	4544
Average	3324	2623	2239	1953	3660	3490	2645	1332	4850	4964

Remarks: Peak - 1900 hrs offpeak - 0300 hrs

VI. Daily Peak/Off-Peak demand Met By Constituents (Sheet 2 of 2)

State	Uttaranchal		Chandigarh		Himachal Pradesh		Jammu & Kashmir	
Date	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak	Peak	Off Peak
01	621	406	144	72	497	269	948	758
02	637	384	115	69	466	284	959	744
03	650	366	144	70	485	267	1108	741
04	637	374	144	67	509	270	1009	698
05	654	419	145	67	516	254	893	727
06	577	390	147	67	507	255	1106	770
07	631	391	140	63	507	262	899	804
08	631	376	134	71	501	270	1019	810
09	637	383	123	64	496	266	990	804
10	584	364	136	64	490	261	932	792
11	663	374	145	65	529	270	971	706
12	679	390	145	60	527	276	827	685
13	663	387	146	63	503	280	855	801
14	666	423	142	64	512	276	924	856
15	680	426	141	65	503	269	868	674
16	647	391	122	69	505	240	848	681
17	655	331	142	64	519	260	986	620
18	695	381	141	62	535	283	1028	749
19	686	381	141	63	535	272	1006	773
20	660	390	135	66	519	268	894	718
21	641	383	142	62	528	302	1003	807
22	638	365	135	66	522	275	1049	843
23	633	431	123	66	521	294	1018	767
24	631	390	140	63	528	280	1065	817
25	662	406	143	64	552	227	1022	867
26	629	400	131	64	528	300	1160	779
27	669	399	144	63	538	286	1024	724
28	624	423	145	61	571	280	1020	794
29	652	371	142	57	550	282	1001	743
30	627	337	126	64	569	288	1017	734
Maximum	695	431	147	72	571	302	1160	867
Minimum	577	331	115	57	466	227	827	620
Average	645	388	138	65	519	272	982	760

Remarks: Peak - 1900 hrs offpeak - 0300 hrs

VII Daily Energy Consumption By Constituents

(All Figs In MUs)

Date	Punjab	Haryana	Rajasthan	Delhi	UP	Uttaranchal	Chandigarh	HP	J & K	NFF/RAIL	Total
01	68.538	51.479	81.146	47.785	113.697	11.179	2.635	9.331	19.505	1.828	407.124
02	67.384	49.005	81.267	45.844	110.894	10.894	2.241	9.298	19.625	1.785	398.238
03	67.384	49.005	81.267	46.888	110.894	10.894	2.595	9.311	19.560	1.872	399.670
04	68.056	49.777	83.195	47.411	113.632	11.160	2.621	9.073	19.128	1.808	405.860
05	65.681	47.594	82.213	47.679	114.923	10.997	2.625	9.380	19.256	1.417	401.766
06	66.421	49.859	83.799	48.165	113.168	10.693	2.591	8.850	19.879	1.765	405.190
07	70.656	46.442	83.170	49.030	116.452	10.918	2.610	9.481	19.805	1.856	410.420
08	68.885	46.035	81.826	45.852	114.650	10.959	2.445	9.447	18.847	1.787	400.733
09	65.203	45.072	81.344	43.690	107.510	10.840	2.234	9.424	19.319	1.835	386.470
10	65.967	44.747	79.516	46.583	101.287	11.558	2.542	9.572	19.493	1.887	383.154
11	65.314	45.399	81.622	46.100	113.267	11.127	2.579	9.634	19.518	1.854	396.414
12	66.642	47.535	83.041	46.109	116.248	11.229	2.610	9.580	19.747	1.985	404.726
13	65.755	46.205	78.600	46.032	115.966	11.210	2.604	9.853	19.604	1.878	397.707
14	65.045	50.673	82.977	47.331	116.332	11.421	2.654	10.054	20.353	1.651	408.491
15	64.741	45.710	83.464	45.797	112.540	11.459	2.450	9.753	20.274	1.731	397.920
16	59.967	42.629	78.082	44.969	110.750	11.197	2.285	10.052	20.463	1.734	382.129
17	60.178	44.375	83.477	46.093	110.223	11.183	2.533	10.357	18.373	1.700	388.493
18	62.431	45.658	83.635	46.460	112.558	11.469	2.581	10.211	19.712	1.734	396.450
19	63.473	47.025	83.461	47.147	114.840	11.330	2.607	10.018	20.611	1.725	402.237
20	64.430	45.844	82.999	46.954	113.725	11.344	2.584	10.012	20.712	1.711	400.315
21	64.017	43.412	82.191	46.581	116.648	11.373	2.598	10.277	21.046	1.857	400.000
22	64.991	45.425	82.395	45.975	109.495	11.364	2.546	10.037	21.259	1.833	395.320
23	62.177	44.171	80.787	44.319	104.836	11.535	2.359	9.939	21.349	1.889	383.361
24	65.606	44.595	79.329	46.145	106.595	11.298	2.555	10.157	21.365	1.936	389.581
25	66.428	44.428	79.350	46.907	102.944	11.635	2.620	10.114	20.893	1.780	387.100
26	66.770	45.128	81.308	46.072	103.238	11.460	2.557	10.170	21.926	1.838	390.466
27	68.633	45.569	81.524	46.397	105.259	11.316	2.605	10.331	20.962	1.718	394.313
28	69.968	47.326	82.216	47.970	106.383	11.330	2.630	10.383	20.990	1.748	400.944
29	69.649	47.751	82.296	47.174	107.757	11.438	2.624	10.977	21.042	1.746	402.453
30	68.460	45.809	81.021	44.788	106.703	11.473	2.406	10.162	21.418	1.751	393.991
Maximum	70.656	51.479	83.799	49.030	116.648	11.635	2.654	10.977	21.926	1.985	410.420
Minimum	59.967	42.629	78.082	43.690	101.287	10.693	2.234	8.850	18.373	1.417	382.129
Average	65.962	46.456	81.751	46.475	110.781	11.243	2.538	9.841	20.201	1.788	397.034
Month Total	1978.851	1393.683	2452.516	1394.247	3323.416	337.283	76.126	295.238	606.035	53.639	11911.034

VIII. Schedule VS Actual Drawals of Northern Regional Constituents (Sheet 1 of 2)

Date	Punjab		Haryana		Rajasthan		Delhi		Uttar Pradesh		Uttaranchal	
	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual
1-Nov-2003	26944	23418	22418	26459	29434	32795	27773	21655	45268	50613	4339	1797
2-Nov-2003	26701	24380	21674	26448	29049	30301	30420	20453	44775	49106	2430	2683
3-Nov-2003	25809	22840	22107	25955	27661	28398	29972	22997	41121	45788	3781	1836
4-Nov-2003	24841	22726	20958	24737	26461	29704	31965	23278	39668	46135	3043	2309
5-Nov-2003	25348	23367	21399	24347	26784	30667	31540	22856	40116	46978	3092	2000
6-Nov-2003	24631	23243	22137	24943	26194	29525	29515	22731	41588	46500	5696	3612
7-Nov-2003	23972	21717	22003	25812	27123	31205	31682	24864	43230	45403	3517	2963
8-Nov-2003	22498	17339	23266	25847	28067	32170	29103	23323	39376	46322	3002	2650
9-Nov-2003	22570	16938	23839	23528	28632	31751	28362	20365	40205	50675	4248	3228
10-Nov-2003	23268	15620	25050	25814	29272	30918	28071	21881	41129	48365	3284	2831
11-Nov-2003	21423	17938	24735	26003	29125	31159	29132	20764	41275	43850	4836	3574
12-Nov-2003	20941	18516	24185	26519	28931	31312	29712	19464	41224	42079	4837	3527
13-Nov-2003	20823	17257	22414	25861	28762	29972	29582	19896	40162	40041	3765	3415
14-Nov-2003	20363	15515	21185	23896	28429	27257	29170	21375	41197	43799	3852	3725
15-Nov-2003	19058	16038	21641	24069	28683	28823	29117	21045	41829	42113	5116	3797
16-Nov-2003	19925	13907	21615	23361	30659	34675	27304	19765	41824	40122	3959	3290
17-Nov-2003	18999	16978	21058	21951	28987	30912	28669	20859	41835	40746	4935	3482
18-Nov-2003	19403	17413	20285	23677	29196	28695	31332	21074	42101	45115	4033	3908
19-Nov-2003	20090	19510	21006	22361	29190	28538	28882	19807	42152	44436	4011	4037
20-Nov-2003	18504	19230	20284	23104	28975	30667	29883	20093	41761	40770	3946	4184
21-Nov-2003	19611	18382	20049	23536	29514	30609	29533	20819	42073	42688	4584	4696
22-Nov-2003	19997	17968	20672	25538	28294	31456	28950	20575	42229	40656	4613	4300
23-Nov-2003	19908	18188	20824	22904	28281	30831	28852	20651	42562	44422	4646	4374
24-Nov-2003	18258	15475	21315	24070	28312	31373	28028	21657	41376	45732	5573	4307
25-Nov-2003	17956	15629	21669	24481	29227	31724	27005	21438	39446	44246	5228	4329
26-Nov-2003	18976	17951	22056	23069	32036	32501	26027	21568	39421	42230	5256	4582
27-Nov-2003	17868	17496	21652	24527	32435	34013	26804	21990	40258	41135	5303	4646
28-Nov-2003	20812	18333	21649	25894	33260	32812	27785	22188	43197	45440	5696	4790
29-Nov-2003	21251	19941	20851	24591	32070	32043	27343	21523	43329	47988	5787	4678
30-Nov-2003	21251	16904	21965	24495	32179	35619	26330	20335	43454	44776	5825	4900
Total MU	641.999	560.157	655.961	737.797	875.222	932.425	867.843	641.289	1249.181	1338.269	132.233	108.450
Max. MWH	26944	24380	25050	26519	33260	35619	31965	24864	45268	50675	5825	4900
Min MWH	17868	13907	20049	21951	26194	27257	26027	19464	39376	40041	2430	1797
Avg. MWH	21400	18672	21865	24593	29174	31081	28928	21376	41639	44609	4408	3615

VIII. Schedule vs Actual Drawals of Northern Regional Constituents (Sheet 2 of 2)

Date	Himachal Pradesh		Jammu & Kashmir		Chandigarh		NFF		Railways	
	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual
1-Nov-2003	6211	6227	12779	18000	3433	2635	480	347	1185	1481
2-Nov-2003	6831	6268	12377	18152	3377	2241	480	354	1737	1431
3-Nov-2003	6451	6157	11890	18078	3239	2595	480	347	1462	1525
4-Nov-2003	6617	5860	11696	17502	3186	2621	480	339	1080	1469
5-Nov-2003	6489	5939	11734	17706	3212	2625	480	-138	1500	1555
6-Nov-2003	5842	5699	12104	18259	3244	2591	480	98	2152	1667
7-Nov-2003	6308	6532	12119	18271	3287	2610	480	319	1971	1537
8-Nov-2003	5985	6549	11320	17222	3125	2445	480	277	1916	1510
9-Nov-2003	6162	6616	11829	17761	3039	2234	480	284	2121	1551
10-Nov-2003	6390	6746	12199	17923	3171	2542	480	296	1764	1591
11-Nov-2003	6745	6778	12346	17968	3206	2579	480	312	1586	1542
12-Nov-2003	6444	6818	12675	18246	3168	2610	480	315	1769	1670
13-Nov-2003	6760	7066	12338	18122	3137	2604	480	320	1224	1558
14-Nov-2003	6728	7411	13115	18838	3198	2654	480	316	1296	1335
15-Nov-2003	6774	7061	13288	18848	3263	2450	480	312	1691	1419
16-Nov-2003	6805	7396	13564	19116	3292	2285	480	312	1528	1422
17-Nov-2003	7084	7578	13692	16731	3275	2533	480	268	1547	1432
18-Nov-2003	7104	7457	15303	18156	3225	2581	480	240	1197	1494
19-Nov-2003	6730	7210	17899	19176	3294	2607	480	211	1176	1514
20-Nov-2003	7130	7465	18704	19134	3296	2584	480	247	1091	1464
21-Nov-2003	7092	7699	17323	19521	3284	2598	480	256	1216	1601
22-Nov-2003	6862	7465	17404	19355	3268	2546	480	301	1329	1532
23-Nov-2003	6856	7344	17327	19307	3211	2359	480	334	1616	1555
24-Nov-2003	6776	7657	16295	19441	3079	2555	480	327	1775	1609
25-Nov-2003	7064	7652	16339	19241	3104	2620	480	320	1393	1460
26-Nov-2003	6262	7748	16162	20348	3102	2557	480	297	1455	1541
27-Nov-2003	6921	7907	16489	19558	3138	2605	480	317	1899	1401
28-Nov-2003	6800	7937	15572	19548	3327	2630	480	329	1716	1419
29-Nov-2003	6792	8165	15727	19679	3356	2624	480	341	1818	1405
30-Nov-2003	6628	7625	15830	20112	3315	2406	480	345	1637	1406
Total MU	199.643	212.032	427.439	559.319	96.851	76.126	14.400	8.543	46.847	45.096
Max. MWH	7130	8165	18704	20348	3433	2654	480	354	2152	1670
Min MWH	5842	5699	11320	16731	3039	2234	480	-138	1080	1335
Avg. MWH	6655	7068	14248	18644	3228	2538	480	285	1562	1503

IX Schedule vs Actual Injection of ISGS (Sheet 1 of 4)

Date	Singrauli		Rihand		Dadri(T)		Unchahar-I		Unchahar-II		Dadri GPS	
	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual
1-Nov-2003	44040	44171	10920	10996	12762	13716	9136	9155	9128	9159	14478	16883
2-Nov-2003	44040	44153	10920	10965	16070	17454	8925	8767	9128	9112	14762	15882
3-Nov-2003	38144	37979	10920	10991	17469	17911	8624	8197	9128	9126	12498	12806
4-Nov-2003	33360	33500	10920	10978	18264	18424	9136	9136	9128	9128	10608	11468
5-Nov-2003	33360	33507	10920	10986	18264	18367	9136	9142	9128	9135	11979	12460
6-Nov-2003	33360	33489	10920	10978	18264	18278	9136	9154	9128	9132	14873	16774
7-Nov-2003	38756	38866	10388	10482	18264	18257	9128	9162	9128	9133	14182	16144
8-Nov-2003	44040	44231	-420	-321	18264	18307	4696	4794	9128	9131	14316	15695
9-Nov-2003	44040	44169	3389	3454	17082	16779	4504	4532	9128	9129	14604	15797
10-Nov-2003	44040	44174	10920	10983	17238	17226	4512	4568	9128	9094	15308	15287
11-Nov-2003	44040	44191	10920	10979	17463	17455	4512	4558	9128	9068	14752	14770
12-Nov-2003	44040	44182	10920	10991	18264	18220	4512	4533	9128	9096	14837	14860
13-Nov-2003	44220	44467	10920	11009	18264	18214	4512	4512	9128	9102	12354	12310
14-Nov-2003	44040	44193	10920	10972	17537	17701	4527	4561	9136	9136	13671	13811
15-Nov-2003	44040	44181	10920	10962	17639	17612	4552	4561	9128	9079	14336	14229
16-Nov-2003	44040	44047	10920	10958	17229	17333	4552	4523	9097	8942	14633	14658
17-Nov-2003	44040	43674	10920	10862	17434	17035	4547	4443	9098	8886	14521	14510
18-Nov-2003	44040	44075	10920	10945	17222	17234	4552	4557	9128	9129	14417	14424
19-Nov-2003	44040	44116	10920	10946	17222	17077	4552	4552	9128	9098	14275	14292
20-Nov-2003	43185	43240	10920	10943	17222	17102	4552	4554	9128	9094	14395	14309
21-Nov-2003	44040	44247	10920	10971	17180	17193	4552	4563	9103	9137	14184	14215
22-Nov-2003	44040	44200	10920	10952	17170	17550	4552	4574	9128	9154	14125	14088
23-Nov-2003	44040	44223	10920	10968	17127	18128	5326	5315	9128	9147	14136	14020
24-Nov-2003	44040	44214	10920	10945	18264	18266	8299	8276	9128	9175	15248	15134
25-Nov-2003	44040	44201	10920	10963	18264	18280	4512	4529	9128	9151	15506	15801
26-Nov-2003	44040	44214	10884	10934	18264	18278	4512	4555	9128	9099	15919	15959
27-Nov-2003	44040	44245	10920	10963	18264	18270	4560	4578	9136	9158	16169	16118
28-Nov-2003	44040	44217	20954	21058	17934	17948	4552	4573	9128	9149	15903	15971
29-Nov-2003	44040	44191	21840	21896	13680	13652	4552	4565	9105	9126	16574	16639
30-Nov-2003	44040	44228	21840	21857	13680	13629	4552	4574	8852	8871	16121	16135
Total MU	1277.305	1280.785	340.035	341.566	517.264	520.896	172.272	172.063	273.471	273.076	433.684	445.449
Max. MWH	44220	44467	21840	21896	18264	18424	9136	9162	9136	9175	16574	16883
Min MWH	33360	33489	-420	-321	12762	13629	4504	4443	8852	8871	10608	11468
Avg. MWH	42577	42693	11335	11386	17242	17363	5742	5735	9116	9103	14456	14848

IX. Schedule vs Actual Injection of ISGS (Sheet 2 of 4)

Date	Anta GPS		Auraiya GPS		NAPS		RAPS-B		Bairasiul		Salal	
	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual
1-Nov-2003	7673	8888	11048	12553	7680	7621	7512	6986	765	783	4192	4283
2-Nov-2003	7663	8073	10539	10825	7680	7633	6984	7013	735	751	4022	4123
3-Nov-2003	7672	8518	11079	11841	7680	7610	6984	6982	735	752	4148	4242
4-Nov-2003	7603	8747	11821	13660	7680	7602	6984	6977	690	707	3975	4064
5-Nov-2003	7606	8778	11925	13269	7656	7601	6984	6921	690	708	4054	4153
6-Nov-2003	7712	8889	11849	12175	7656	7624	6984	6918	690	704	3871	3954
7-Nov-2003	7612	9026	11611	12009	7680	7553	6984	6964	660	679	3821	3911
8-Nov-2003	7638	8466	12127	12779	7704	7679	6984	6930	630	645	3712	3801
9-Nov-2003	7623	7818	12354	12698	7680	7660	6984	6928	630	647	3617	3701
10-Nov-2003	7697	7973	9311	9603	7704	7553	6984	7007	600	616	3576	3650
11-Nov-2003	7737	7999	9571	9652	7680	7648	6984	7030	630	645	3632	3711
12-Nov-2003	7769	7774	9560	9545	7632	7582	6984	7102	585	601	3448	3531
13-Nov-2003	7738	7745	9221	9188	7680	7613	7032	7117	600	616	3402	3457
14-Nov-2003	7470	7556	8869	9040	7656	7701	7128	7063	525	540	3463	3551
15-Nov-2003	6823	6866	9038	8981	7680	7513	7056	7075	495	510	3548	3642
16-Nov-2003	7807	7865	9257	9222	7680	7674	7056	7014	495	508	3481	3576
17-Nov-2003	6939	6836	8731	8479	7680	7630	7056	7065	840	853	3884	3966
18-Nov-2003	7629	7722	9019	8993	7680	7579	7008	7040	690	703	4511	4599
19-Nov-2003	7686	7706	8752	8709	7704	7632	7104	7098	615	630	3938	4028
20-Nov-2003	7200	7224	8892	8740	7704	7673	7056	7077	645	662	3724	3815
21-Nov-2003	7539	7590	8960	8995	7680	7571	7056	7083	645	660	3456	3548
22-Nov-2003	6992	7073	8913	8903	7728	7575	7128	6977	690	701	3593	3688
23-Nov-2003	6863	7203	8785	8855	7728	7590	7056	7024	660	672	3520	3617
24-Nov-2003	5213	5456	7150	7353	7632	7504	7056	7012	615	631	3441	3529
25-Nov-2003	6145	6224	7618	7644	7656	7598	7056	7063	615	628	3496	3571
26-Nov-2003	6166	6394	7797	7808	7656	7709	7536	7073	555	566	3264	3320
27-Nov-2003	6154	6392	9643	9631	7656	7705	7800	7078	555	569	3270	3350
28-Nov-2003	6171	6309	8959	9261	7704	7524	7800	7086	555	569	3117	3193
29-Nov-2003	6428	6643	9293	9536	7704	7656	7800	7136	555	567	2960	3044
30-Nov-2003	8085	8123	9245	9250	7680	7684	8280	7367	525	535	3094	3188
Total MU	217.053	227.876	290.937	299.197	230.400	228.497	215.400	211.206	18.915	19.358	109.230	111.806
Max. MWH	8085	9026	12354	13660	7728	7709	8280	7367	840	853	4511	4599
Min MWH	5213	5456	7150	7353	7632	7504	6984	6918	495	508	2960	3044
Avg. MWH	7235	7596	9698	9973	7680	7617	7180	7040	631	645	3641	3727

IX. Schedule & Actual Injection of ISGS (Sheet 3 of 4)

Date	Tanakpur		Chamera		Uri		Bhakra Complex		Dehar		Pong	
	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual
1-Nov-2003	1583	1598	3249	3344	3071	3144	19839	18099	5165	5179	4857	4567
2-Nov-2003	1463	1500	2670	2721	3180	3226	18414	18079	5144	4841	4486	4731
3-Nov-2003	1503	1536	1869	1906	3169	3241	18414	18197	5144	4832	4730	4642
4-Nov-2003	1383	1434	1869	1922	2957	3012	18459	18412	5431	5529	4199	4578
5-Nov-2003	1488	1504	1869	1936	2540	2595	18459	18081	5431	5555	4560	4888
6-Nov-2003	1430	1459	1869	1904	2659	2723	18456	18214	5026	4683	4770	4612
7-Nov-2003	1401	1421	1869	1917	2434	2481	18456	18032	4695	4439	4693	4622
8-Nov-2003	1393	1405	2314	2353	2616	2680	18456	18211	4381	4306	4399	4730
9-Nov-2003	1348	1359	1869	1904	2520	2570	18456	18172	4381	4393	4616	4573
10-Nov-2003	1320	1341	1869	1916	2542	2592	18456	18159	4381	4298	4616	4659
11-Nov-2003	1300	1329	1869	1918	2640	2694	17655	17170	4214	4203	4309	4091
12-Nov-2003	1275	1290	1202	1238	2516	2566	17445	17004	4214	4041	4099	4130
13-Nov-2003	1270	1289	1202	1237	2386	2454	17310	16941	4214	3919	4092	4057
14-Nov-2003	1270	1280	1602	1642	2457	2520	17325	17538	4751	4701	4106	4396
15-Nov-2003	1245	1269	3160	3232	2483	2537	17325	16834	4211	3961	4104	4000
16-Nov-2003	1206	1220	3160	3237	2543	2604	17325	16636	4211	4046	4027	3882
17-Nov-2003	1220	1237	3160	3308	2417	2460	17226	16723	4100	3772	4027	3953
18-Nov-2003	1199	1216	3160	3245	2765	2837	17256	16749	4126	4646	4045	4152
19-Nov-2003	1200	1210	3516	3601	2803	2872	17064	16660	4666	4562	4045	4045
20-Nov-2003	1130	1146	3204	3278	2879	2956	17064	16951	4666	4535	4277	4103
21-Nov-2003	1128	1136	3204	3329	2873	2944	17454	17412	4170	3966	4100	4004
22-Nov-2003	1113	1126	3783	3862	3009	3058	17454	17115	4170	3982	4100	4024
23-Nov-2003	1046	1069	3204	3278	3043	3129	17454	16851	4170	3810	4100	3946
24-Nov-2003	999	1017	3204	3293	3104	3173	17376	17199	3900	4036	4100	4185
25-Nov-2003	960	975	3204	3286	2925	2940	17376	17399	3833	3643	4100	4163
26-Nov-2003	1039	1051	3204	3278	2995	3065	17217	17336	3750	3691	4109	4204
27-Nov-2003	1007	1029	3204	3291	2759	2836	17217	17236	3750	3710	4109	3702
28-Nov-2003	1032	1057	2937	3015	2821	2898	17100	17154	3609	3519	3653	3785
29-Nov-2003	1046	1058	3071	3137	2759	2822	17100	17121	3609	3704	4105	4071
30-Nov-2003	960	981	2181	2241	2753	2816	17100	17160	3794	3703	4317	4360
Total MU	36.957	37.542	77.747	79.769	82.618	84.445	531.708	522.845	131.307	128.205	127.850	127.855
Max. MWH	1583	1598	3783	3862	3180	3241	19839	18412	5431	5555	4857	4888
Min MWH	960	975	1202	1237	2386	2454	17064	16636	3609	3519	3653	3702
Avg. MWH	1232	1251	2592	2659	2754	2815	17724	17428	4377	4274	4262	4262

IX. Schedule & Actual Injection of ISGS (Sheet 4 of 4)

Date	Nathpa-Jhakri HEP		Chamera stage-II	
	Schedule	Actual	Schedule	Actual
1-Nov-2003	5935	6159	0	2157
2-Nov-2003	5928	6050	1659	1699
3-Nov-2003	5928	6133	1412	1468
4-Nov-2003	5928	6072	1515	1607
5-Nov-2003	5928	6143	1874	1939
6-Nov-2003	5064	5060	900	930
7-Nov-2003	5928	6184	0	0
8-Nov-2003	5928	6248	0	0
9-Nov-2003	5928	6197	0	0
10-Nov-2003	5187	5272	0	0
11-Nov-2003	5928	6177	53	70
12-Nov-2003	5928	6090	105	35
13-Nov-2003	5928	6056	0	0
14-Nov-2003	5928	6136	0	0
15-Nov-2003	5928	6098	0	0
16-Nov-2003	5928	6096	0	0
17-Nov-2003	5928	5948	0	0
18-Nov-2003	5928	6042	0	0
19-Nov-2003	5434	5443	0	0
20-Nov-2003	5928	6010	0	0
21-Nov-2003	5928	6138	0	0
22-Nov-2003	5928	6102	0	0
23-Nov-2003	5928	6176	0	0
24-Nov-2003	5928	6178	0	0
25-Nov-2003	5928	6192	0	0
26-Nov-2003	5928	6623	0	0
27-Nov-2003	5928	6021	0	0
28-Nov-2003	5928	6163	0	0
29-Nov-2003	5928	6512	0	0
30-Nov-2003	5928	6041	0	0
Total MU	175.748	181.760	7.518	9.905
Max. MWH	5935	6623	1874	2157
Min MWH	5064	5060	0	0
Avg. MWH	5858	6059	251	330

X. Daily Generation Details of State Sector Stations

(All Figs In MUs)

Date	Punjab(T)	Punjab(H)	Haryana(T)	Haryana(H)	Rajasthan(T)	Rajasthan(H)	UP (T)	UP (H)	Uttaranchal(H)	Delhi	HP	J & K	Total
01	32.15	9.60	15.96	0.74	41.82	2.65	49.99	7.76	9.02	13.84	3.14	1.50	188.16
02	31.56	9.77	12.67	0.70	44.76	4.01	53.42	7.36	8.45	12.55	3.06	1.47	182.75
03	30.81	10.07	16.99	0.79	45.07	4.07	54.67	7.57	8.37	12.22	3.19	1.48	189.07
04	30.81	10.07	16.99	0.79	45.07	4.07	54.67	7.57	8.37	12.19	3.25	1.63	196.96
05	29.09	10.23	16.67	0.76	45.36	4.55	55.82	7.04	6.66	12.94	3.48	1.55	187.09
06	29.09	10.23	16.67	0.76	45.36	4.55	55.82	7.04	6.66	13.41	3.18	1.62	185.74
07	35.35	9.90	13.11	0.67	42.75	5.21	59.24	6.42	7.54	12.54	2.98	1.53	186.38
08	38.92	9.45	14.97	0.74	40.68	4.92	55.69	6.67	7.85	12.18	2.93	1.62	185.97
09	35.98	9.31	15.67	0.72	40.76	4.64	48.32	6.47	7.34	11.65	2.84	1.56	188.46
10	36.43	9.89	13.29	0.68	39.31	4.98	45.26	6.41	7.52	11.98	2.86	1.57	205.52
11	36.46	9.21	13.90	0.69	40.74	5.27	55.69	6.23	7.09	12.57	2.89	1.55	206.64
12	37.00	8.78	15.14	0.65	41.95	5.26	56.38	7.31	7.38	14.35	2.79	1.50	200.31
13	37.53	8.52	14.89	0.68	39.17	5.37	58.54	6.85	7.40	14.12	2.82	1.48	200.46
14	37.38	8.87	16.16	0.54	45.96	5.26	56.00	6.84	7.29	13.87	2.67	1.52	197.89
15	36.23	9.41	15.90	0.66	45.54	4.90	56.72	4.63	7.24	12.67	2.72	1.43	195.76
16	34.44	8.16	13.31	0.64	33.55	5.56	57.83	4.50	7.17	13.00	2.68	1.35	206.97
17	33.39	7.84	13.82	0.62	43.63	4.59	56.68	3.87	7.20	13.35	2.81	1.64	215.83
18	33.12	8.93	13.95	0.62	45.15	5.36	52.37	5.86	7.17	12.99	2.78	1.56	210.96
19	31.60	9.04	15.62	0.66	45.13	5.07	54.25	6.28	6.80	14.08	2.84	1.44	211.95
20	31.18	9.33	13.78	0.61	44.91	5.49	56.80	6.52	6.80	14.01	2.57	1.58	209.16
21	32.00	9.32	13.71	0.61	45.49	5.56	54.35	7.00	6.49	14.35	2.60	1.53	213.02
22	34.30	9.41	12.30	0.60	45.00	5.41	53.14	7.09	6.70	13.48	2.60	1.90	214.14
23	31.13	9.46	12.84	0.58	44.34	5.14	46.41	6.99	6.70	12.88	2.62	2.04	218.55
24	37.06	9.78	12.71	0.60	42.23	5.20	45.65	6.85	6.80	12.34	2.53	1.92	218.48
25	37.86	9.50	13.57	0.56	42.08	5.06	44.70	6.48	6.90	13.13	2.49	1.65	221.67
26	35.05	10.45	14.23	0.60	43.62	4.67	48.28	6.71	6.47	12.31	2.45	1.58	223.25
27	37.83	9.82	13.69	0.51	41.39	5.41	47.25	6.49	6.34	12.03	2.45	1.40	222.98
28	38.20	9.80	13.68	0.54	43.72	5.32	46.18	6.50	6.34	13.23	2.47	1.44	229.02
29	36.42	9.75	15.72	0.52	44.65	5.18	44.64	6.43	6.42	13.20	2.84	1.36	231.27
30	37.68	9.47	14.50	0.52	40.41	4.96	45.66	6.25	6.35	13.14	2.56	1.31	230.02
Maximum	38.92	10.45	16.99	0.79	45.96	5.56	59.24	7.76	9.02	14.35	3.48	2.04	231.27
Minimum	29.09	7.84	12.30	0.51	33.55	2.65	44.64	3.87	6.34	11.65	2.45	1.31	182.75
Average	34.53	9.45	14.55	0.65	42.99	4.92	52.35	6.53	7.16	13.02	2.80	1.56	205.81
Month Total	1036.03	283.40	436.37	19.35	1289.60	147.70	1570.43	195.98	214.82	390.59	84.05	46.72	6174.42

XI. Performance Of Generating Stations

S.No.	Power Station	Effective Capacity MW	Energy Generated during Nov, 2003 (Ex Bus MU)	Cummulative from 01.04.2003 (Ex-bus MU)
1	CENTRAL SECTOR			
A	NTPC (Thermal)			
(a)	Badarpur TPS	705.00	390.59	3196.03
(b)	Singrauli STPS	2000.00	1280.78	9565.58
(c)	Rihand STPS	1000.00	341.56	4676.07
(d)	Dadri NCTPS	840.00	520.90	3691.10
(e)	Unchahar-I TPS	420.00	172.06	1922.78
(f)	Unchahar-II TPS	420.00	273.08	1853.23
(g)	Tanda TPS	440.00	236.95	1625.68
(h)	Anta GPS	419.33	227.88	1749.28
(i)	Auraiya GPS	663.36	299.20	2839.24
(j)	Dadri GPS	829.78	445.45	3285.78
(k)	Faridabad GPS	431.57	198.70	1801.42
	Total NTPC	8169.04	4387.15	36206.19
B	NHPC			
(a)	Bairasiul	180.00	19.36	550.50
(b)	Salal	690.00	111.81	2922.85
(c)	Tanakpur HPS	94.20	37.54	428.11
(d)	Chamera HPS	540.00	79.77	2162.82
(e)	Uri HPS	480.00	84.44	2067.44
(f)	Chamera2 HPS	300.00	9.90	12.83
	Total NHPC	2284.20	342.82	8144.54
C	Nathpa-Jhakri	250.00	181.76	367.35
D	NPC			
(a)	RAPS -A	300.00	67.80	739.31
(b)	RAPS -B	440.00	211.21	1653.95
(c)	NAPS	440.00	228.50	1701.30
	Total NPC	1180.00	507.51	4094.56
2	JOINTLY OWNED (BBMB)			
(a)	Bhakra Complex	1490.15	522.84	4917.41
(b)	Dehar	990.00	128.20	2744.00
(c)	Pong	390.00	127.85	728.04
	Total BBMB	2870.15	778.89	8389.45
3	DELHI			
(a)	Indra Prastha	247.50	41.88	366.51
(b)	Rajghat	149.00	36.79	373.37
(c)	Gas Turbines	282.00	108.35	753.64
(d)	Pragati Gas	330.00	204.69	1467.91
	Total DELHI	1008.50	391.71	2961.42
4	HARYANA			
(a)	WYC	48.00	19.69	210.08
(b)	Faridabad (New)	165.00	27.65	434.95
(c)	Panipat	860.00	452.94	3334.24
(d)	Magnum Diesel(IPP)	25.20	0.00	26.32
	Total Haryana	1098.20	500.28	4005.59

contd/-

5	HP			
(a)	Giri	60.00	11.50	129.05
(b)	Bassi	60.00	10.53	269.10
(c)	Binwa	6.00	1.28	26.37
(d)	Rongtong (+Nogli+Micro+Thirot+Sal-2)	15.25	1.61	16.53
(e)	Andhra	16.95	3.15	59.94
(f)	Bhabha (H)	120.00	0.22	495.84
(g)	Baner (H)	12.00	1.30	32.40
(h)	Gaj (H)	10.50	1.51	38.12
(i)	Gumma	3.00	0.56	13.16
(j)	Ghanvi	22.50	3.93	54.99
(k)	Malana (IPP)	86.00	9.87	319.33
(l)	Baspa (IPP)	300.00	43.96	1002.93
	Total HP	712.20	89.42	2457.74
6	J & K			
(a)	Lower Jhelum	105.00	14.96	360.32
(b)	Upper Sindh	127.60	13.95	190.68
(c)	Ganderbal	15.00	3.25	14.75
(d)	Mohra	9.00	0.00	0.00
(e)	Chenani	32.80	3.19	47.99
(f)	Stakna	9.75	0.00	0.00
(g)	Small Hydel	3.54	0.00	0.00
(h)	Sewa	9.00	0.00	0.00
(i)	Diesel gen set	7.18	0.00	0.00
(j)	Pampore GT St - I	75.00	0.00	0.00
(k)	Pampore GT St - II	100.00	10.85	11.73
	Total J & K	493.87	46.19	625.47
7	PUNJAB			
(a)	Jogindernagar/ Shanan	110.00	18.29	477.92
(b)	UBDC	90.00	26.06	280.12
(c)	Mukerian	207.00	113.42	675.88
(d)	Anandpur Sahib (APS)	134.00	51.68	579.62
(e)	Ranjit Sagar HPS	600.00	73.82	1304.20
(f)	Small Hydel	4.10	0.00	2.32
(g)	GNDTPS (Bhatinda)	440.00	165.01	1557.26
(h)	GGSTPS (Ropar)	1260.00	593.86	4883.45
(i)	Jhalkeri Peda & Sugarmill	10.00	1.72 4.71	3.38 0.00
(j)	Lehra Mohabbat TPS	420.00	273.05	2069.15
	Total Punjab	3275.10	1321.62	11833.29
8	RAJASTHAN			
(a)	Mahi Bajaj Sagar	140.00	34.54	72.55
(b)	Rana Pratap Sagar (RPS)	172.00	67.50	100.27
(c)	Jawahar Sagar (JS)	99.00	55.56	102.01
(d)	ACW	9.00	1.28	3.46
(e)	MMH	14.85	2.11	8.02
(f)	Kota TPS	1045.00	549.84	3726.28
(g)	RAMGARH GT	3.00	0.00	
(h)	RAMGARH GT EXT	35.50	15.87	139.34
(i)	Suratgarh TPS	1250.00	735.01	4436.66
(j)	Wind Farm	14.01	5.84	81.70
(k)	Others (KPTL bio-mass)		3.07	8.91
	Total Rajasthan	2782.36	1470.62	8679.19

contd/-

9	U.P.			
	<u>HYDRO</u>			
(a)	Rihand	300.00	110.11	700.93
(b)	Obra	99.00	40.90	281.06
(c)	Matatilla	30.00	21.36	72.22
(d)	Ganga Canal	10.70	0.00	0.00
(e)	Small hydro	18.20	0.00	0.00
(f)	Khara	72.00	23.59	324.11
	Total U.P. (Hydro)	529.90	195.96	1378.32
	<u>THERMAL</u>			
(e)	Obra	1442.00	491.91	3710.81
(f)	Panki	242.00	95.48	567.82
(g)	Harduaganj	375.00	67.15	362.31
(h)	Paricha	220.00	32.03	309.32
(i)	Anpara	1630.00	878.56	6740.04
	Total U.P. (Thermal)	3909.00	1565.12	11690.29
	Total U.P.	4438.90	1761.08	13068.62
10	UTTRANCHAL			
(a)	Khatima	41.40	12.34	133.57
(b)	Ramganga	198.00	3.36	25.15
(c)	Ganga Canal	32.70	13.08	86.07
(d)	Yamuna (I & IV)	114.75	32.66	456.52
(e)	Chibro	240.00	41.16	693.82
(f)	Khodri	120.00	19.95	322.75
(g)	Chilla	144.00	50.38	570.02
(h)	Maneri Bhali	90.00	42.52	374.31
	Total Uttranchal	980.85	215.45	2662.20
11	CHANDIGARH			
	Diesel gen set	1.40		
	Total Region	29544.77	11994.50	103495.60

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%

-----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%

XII. DETAILS OF ENERGY EXCHANGES THROUGH BILATERAL AGREEMENTS (INTRA-REGIONAL) DURING NOVEMBER 2003**(ALL FIGS IN MWH)**

FROM / TO	PUNJAB	HARYANA	RAJASTHAN	DELHI	UP	UTTRANCHAL	HP	J & K	CHANDIGARH
PUNJAB	-	-	-	9700 *	-	-	-	-	-
HARYANA	-	-	-	49000 **	-	-	-	-	-
RAJASTHAN	-	-	-	8700 ** 6500 *	-	-	-	-	-
DELHI	-	-	-	-	-	-	-	-	-
UP	-	-	-	-	-	-	-	-	-
UTTRANCHAL	12200 ***	-	-	-	-	-	-	-	-
HP	35077.5 ***	-	-	14400 *	-	-	-	-	-
J & K	34075 ***	-	-	-	-	-	-	-	-
CHANDIGARH	-	-	-	-	-	-	-	-	-

* Through PTC

** Through Mutual

*** Through Banking

REMARKS : Figures are provisional and indicative only.

XIII. DETAILS OF ENERGY EXCHANGES THROUGH BILATERAL AGREEMENTS (INTER-REGIONAL) DURING NOVEMBER 2003

(ALL FIGS IN MWH)

FROM / TO	GRIDCO	MP	WBPCL	DVC	NEEPCO	CSEB	GEB	GOA
PUNJAB	-	-	-	-	-		-	-
HARYANA	-	-	-	0.425			-	-
RAJASTHAN	-	-	-	31624			-	-
DELHI	14155 * 182 ***	-35650 *	68237 *	-	-	-9585 *	-37500 *	5223 **
UTTRANCHAL	-	-15865 *	-	-	-	-	-	-
J & K	-	-	28320 *	-	-	-	-	-

* Through PTC

(+)

Import by NR constituents

(-)

Export by NR constituents

** Through Global Energy Limited

*** Throgh NVVN

REMARKS : provisional and indicative only

XIV. Inter Regional Exchanges During November 2003 (Sheet 1 of 2)

1 OF 2

Date	Wiith WR Over Vindhyachal HVDC B/B {Export (-)/Import(+)}							With WR Over Auraiya - Malanpur {Export(-)/Import(+)}						
	Peak MW	Off Peak MW	Max Import	Max Export	Energy Import	Energy Export	Net (MU)	Peak MW	Off Peak MW	Max Import	Max Export	Energy Import	Energy Export	Net (MU)
01	-100	-250	0	347	0.00	2.56	-2.56	-50	-50	0	50	0.00	1.24	-1.24
02	-100	-350	0	250	0.00	4.01	-4.01	-50	-50	0	50	0.00	1.20	-1.20
03	-100	-250	100	300	0.22	2.13	-1.91	-58	-60	0	62	0.00	1.26	-1.26
04	-50	-300	250	350	0.18	2.47	-2.29	-50	-48	0	60	0.00	1.26	-1.26
05	-50	-300	100	300	0.07	2.60	-2.53	-53	-55	0	62	0.00	1.27	-1.27
06	-50	-300	100	300	0.11	1.80	-1.69	-53	-55	0	62	0.00	1.31	-1.31
07	-50	-300	50	300	0.00	2.80	-2.80	0	-60	0	67	0.00	0.81	-0.81
08	-50	-300	50	300	0.00	2.32	-2.32	-61	-61	0	68	0.00	1.47	-1.47
09	50	-250	150	250	0.18	1.51	-1.33	-61	-59	0	68	0.00	1.38	-1.38
10	-50	-300	100	300	0.14	2.22	-2.08	-60	-50	0	60	0.00	1.42	-1.42
11	-25	-275	0	275	0.00	2.18	-2.18	-60	-57	0	65	0.00	1.47	-1.47
12	-25	-275	50	275	0.03	2.19	-2.16	-59	-60	0	65	0.00	1.42	-1.42
13	-25	-450	100	450	0.08	4.05	-3.97	-59	-60	0	65	0.00	1.45	-1.45
14	-25	-475	25	475	0.04	4.40	-4.36	-59	-60	0	65	0.00	1.43	-1.43
15	-25	-450	0	450	0.00	4.28	-4.28	-50	-67	0	65	0.00	1.30	-1.30
16	-25	-450	25	450	0.02	4.60	-4.58	-50	-64	0	64	0.00	1.50	-1.50
17	-25	-450	25	500	0.03	4.68	-4.65	-60	-55	0	60	0.00	1.39	-1.39
18	-25	-450	50	450	0.22	3.33	-3.11	-60	-55	0	60	0.00	1.40	-1.40
19	-25	-450	25	450	0.06	4.48	-4.42	-49	-50	0	55	0.00	1.47	-1.47
20	-75	-450	25	450	0.11	4.45	-4.34	-49	-50	0	55	0.00	1.49	-1.49
21	-50	-450	150	450	0.25	3.06	-2.81	-52	-50	0	55	0.00	1.36	-1.36
22	0	-450	200	450	0.54	2.84	-2.30	-52	-50	0	55	0.00	1.54	-1.54
23	0	-450	200	450	0.59	2.77	-2.18	-66	-60	0	70	0.00	1.54	-1.54
24	50	-450	250	450	1.11	2.30	-1.19	-37	-48	0	61	0.00	1.42	-1.42
25	0	-200	150	450	0.87	1.81	-0.94	-38	-43	0	61	0.00	1.44	-1.44
26	50	-450	200	450	1.62	2.83	-1.21	-32	-40	0	56	0.00	1.44	-1.44
27	150	-450	350	450	2.07	2.19	-0.12	-59	-57	0	65	0.00	1.28	-1.28
28	0	-450	250	450	0.41	2.76	-2.35	-59	-57	0	67	0.00	1.41	-1.41
29	0	-150	150	250	0.91	0.88	0.03	-59	-57	0	67	0.00	1.42	-1.42
30	50	-450	150	450	0.31	1.99	-1.68	-59	-57	0	67	0.00	1.59	-1.59
Maximum	150	-150	350	500	2.07	4.68	0.03	0	-40	0	70	0.00	1.59	-0.81
Minimum	-100	-475	0	250	0.00	0.88	-4.65	-66	-67	0	50	0.00	0.81	-1.59
Average	-20	-368	109	384	0.34	2.88	-2.54	-52	-55	0	62	0.00	1.38	-1.38
Total					10.18	86.48	-76.30					0.00	41.39	-41.39

XIV. Inter Regional Exchanges During November 2003 (Sheet 2 of 2)

2 of 2

Date	With WR Over Ujjain - Kota {Export(-)/Import(+)}							With ER {Export(-)/Import(+)}						
	Peak MW	Off Peak MW	Max Import	Max Export	Energy Import	Energy Export	Net	Peak MW	Off Peak MW	Max Import	Max Export	Energy Import	Energy Export	Net
	MW	MW	MW	MW	MU	MU	MU	MW	MW	MW	MW	MU	MU	MU
01	0	0	0	0	0.00	0.00	0.00	355	109	355	0	3.85	0.00	3.85
02	0	0	0	0	0.00	0.00	0.00	255	105	355	0	3.59	0.00	3.59
03	0	0	0	0	0.00	0.00	0.00	395	105	395	0	4.46	0.00	4.46
04	0	0	0	0	0.00	0.00	0.00	423	209	500	0	7.06	0.00	7.06
05	0	0	0	0	0.00	0.00	0.00	452	208	500	0	7.90	0.00	7.90
06	0	0	0	0	0.00	0.00	0.00	452	208	500	0	8.20	0.00	8.20
07	0	0	0	0	0.00	0.00	0.00	353	250	500	0	7.29	0.00	7.29
08	0	0	0	0	0.00	0.00	0.00	397	500	500	0	10.25	0.00	10.25
09	0	0	0	0	0.00	0.00	0.00	390	297	500	0	8.53	0.00	8.53
10	0	0	0	0	0.00	0.00	0.00	342	450	500	0	9.33	0.00	9.33
11	0	0	0	0	0.00	0.00	0.00	345	300	450	0	8.14	0.00	8.14
12	0	0	0	0	0.00	0.00	0.00	275	225	425	0	7.48	0.00	7.48
13	0	0	0	0	0.00	0.00	0.00	315	315	425	0	7.48	0.00	7.48
14	0	0	0	0	0.00	0.00	0.00	227	315	365	0	5.88	0.00	5.88
15	0	0	0	0	0.00	0.00	0.00	172	305	347	0	6.75	0.00	6.75
16	0	0	0	0	0.00	0.00	0.00	172	402	500	0	6.15	0.00	6.15
17	0	0	0	0	0.00	0.00	0.00	222	302	342	0	5.85	0.00	5.85
18	0	0	0	0	0.00	0.00	0.00	343	302	402	0	6.28	0.00	6.28
19	0	0	0	0	0.00	0.00	0.00	343	402	452	0	9.34	0.00	9.34
20	0	0	0	0	0.00	0.00	0.00	343	403	452	0	9.33	0.00	9.33
21	0	0	0	0	0.00	0.00	0.00	313	377	450	0	9.01	0.00	9.01
22	0	0	0	0	0.00	0.00	0.00	464	323	464	0	7.88	0.00	7.88
23	0	0	0	0	0.00	0.00	0.00	451	273	451	0	7.85	0.00	7.85
24	0	0	0	0	0.00	0.00	0.00	450	350	500	0	8.31	0.00	8.31
25	0	0	0	0	0.00	0.00	0.00	451	303	500	0	9.32	0.00	9.32
26	0	0	0	0	0.00	0.00	0.00	453	398	500	0	10.03	0.00	10.03
27	0	0	0	0	0.00	0.00	0.00	389	399	500	0	9.58	0.00	9.58
28	0	0	0	0	0.00	0.00	0.00	353	399	450	0	9.58	0.00	9.58
29	0	0	0	0	0.00	0.00	0.00	450	453	500	0	10.37	0.00	10.37
30	0	0	0	0	0.00	0.00	0.00	425	452	475	0	9.64	0.00	9.64
Maximum	0	0	0	0	0.00	0.00	0.00	464	500	500	0	10.37	0.00	10.37
Minimum	0	0	0	0	0.00	0.00	0.00	172	105	342	0	3.59	0.00	3.59
Average	0	0	0	0	0.00	0.00	0.00	359	315	452	0	7.82	0.00	7.82
Total					0.00	0.00	0.00					234.68	0.00	234.68

XV. Progress Of Installation Of Shunt Capacitors As On 30.11.2003

(ALL FIGS IN MVAR)

CONSTITUENT	REQUIREMENT AT THE END OF Mar-04	CAPACITORS AS ON 31.03.2003	CAPACITORS ADDITION DURING		BALANCE TO BE INSTALLED DURING 2003-04
		INSTALLED	2002-03	2003 - 04	
Chandigarh	150	92	0	0	58
Delhi	3364	2755	122	189	420
Haryana	3435	2685	333	162	588
H.P.	347	278	73	17	52
J & K	892	147	0	0	745
Punjab	4874	4706	76	14	154
Rajasthan	2863	2698	221	157	8
U.P.	5495	4965	274	47	483
Uttaranchal	344	123	0	2	219
BBMB	381	381	0	0	0
TOTAL	22145	18830	1099	588	2727

SOURCE: Minutes of 346th OCC meeting of NREB held on 14th November, 2003.

XVI. Hydraulic Data For Reservoirs During November 2003

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 November 2003 (m)	501.17 1644.26	410.97 1348.32	264.26 867.00	348.58 1143.62	384.69 1262.11
Level on last day of November 2002 (m)	495.78 1626.59	404.05 1325.62	262.59 861.50	346.43 1136.58	381.63 1252.06
Live Capacity as on (mhmt) last day of November 2003 (maft)	0.50 4.07	0.36 2.90	0.39 3.17	0.05 0.42	0.06 0.50
Live Capacity as on (mhmt) last day of November 2002(maft)	0.42 3.40	0.24 1.96	0.31 2.50	0.04 0.34	0.01 0.08
Energy content as on last day of November 2003 (MU)	2000.00	515.00	770.00	150.00	170.00
Energy content as on last day of November 2002 (MU)	1700.00	325.00	585.00	84.00	70.00
Maximum level (m) (ft) (date)	506.25 1660.94 01.11.2003	413.70 1357.29 01.11.2003	265.42 870.80 01.11.2003	348.58 1143.62 30.11.2003	387.12 1270.08 01.11.2003
Minimum level (m) (ft) (date)	501.17 1644.26 30.11.2003	410.97 1348.32 30.11.2003	264.26 867.00 30.11.2003	348.51 1143.39 01.11.2003	384.69 1262.11 30.11.2003

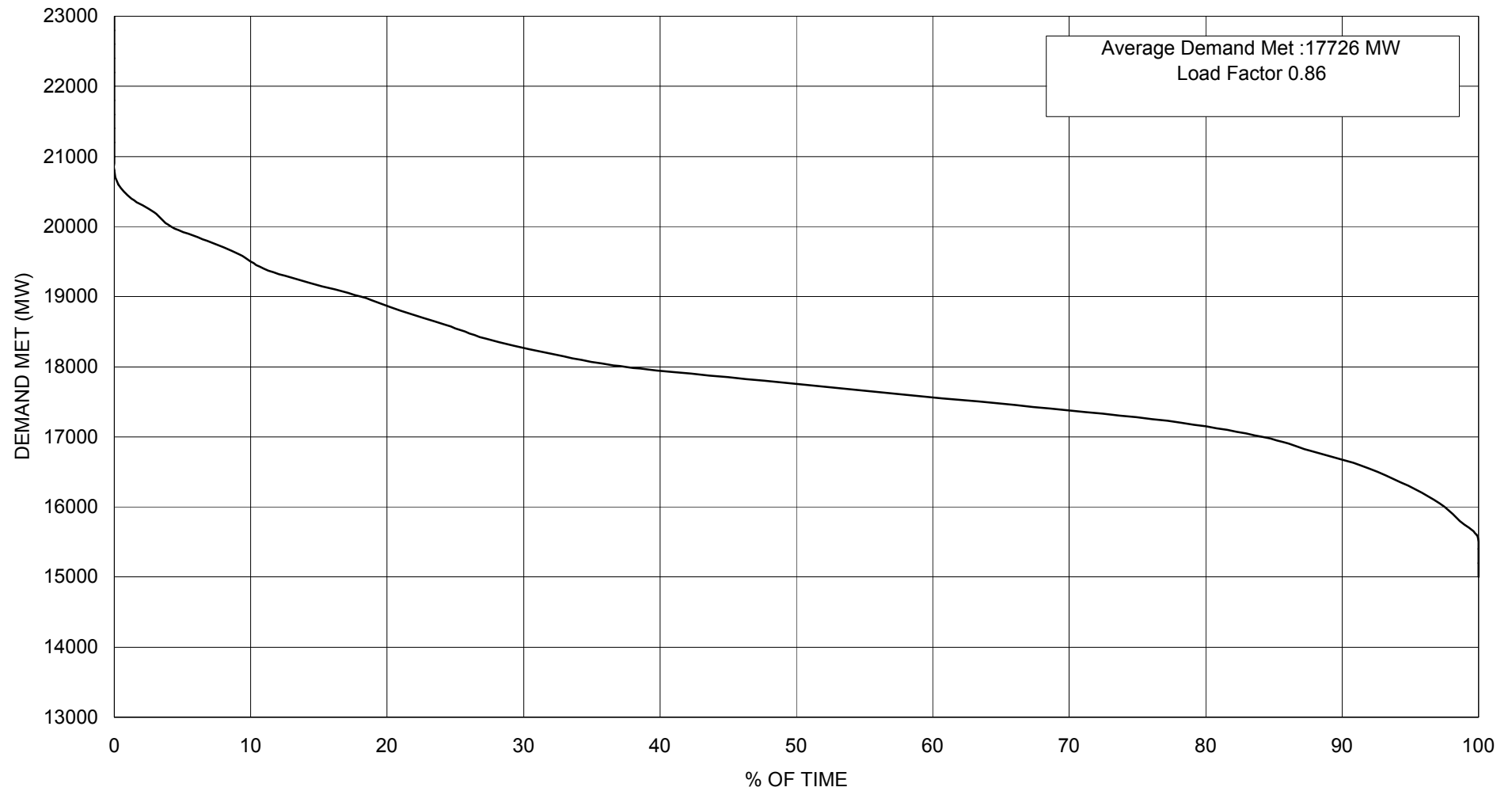
Energy content of Bhakra : Total Energy content at Bhakra, Ganguwal and Kotla power stations

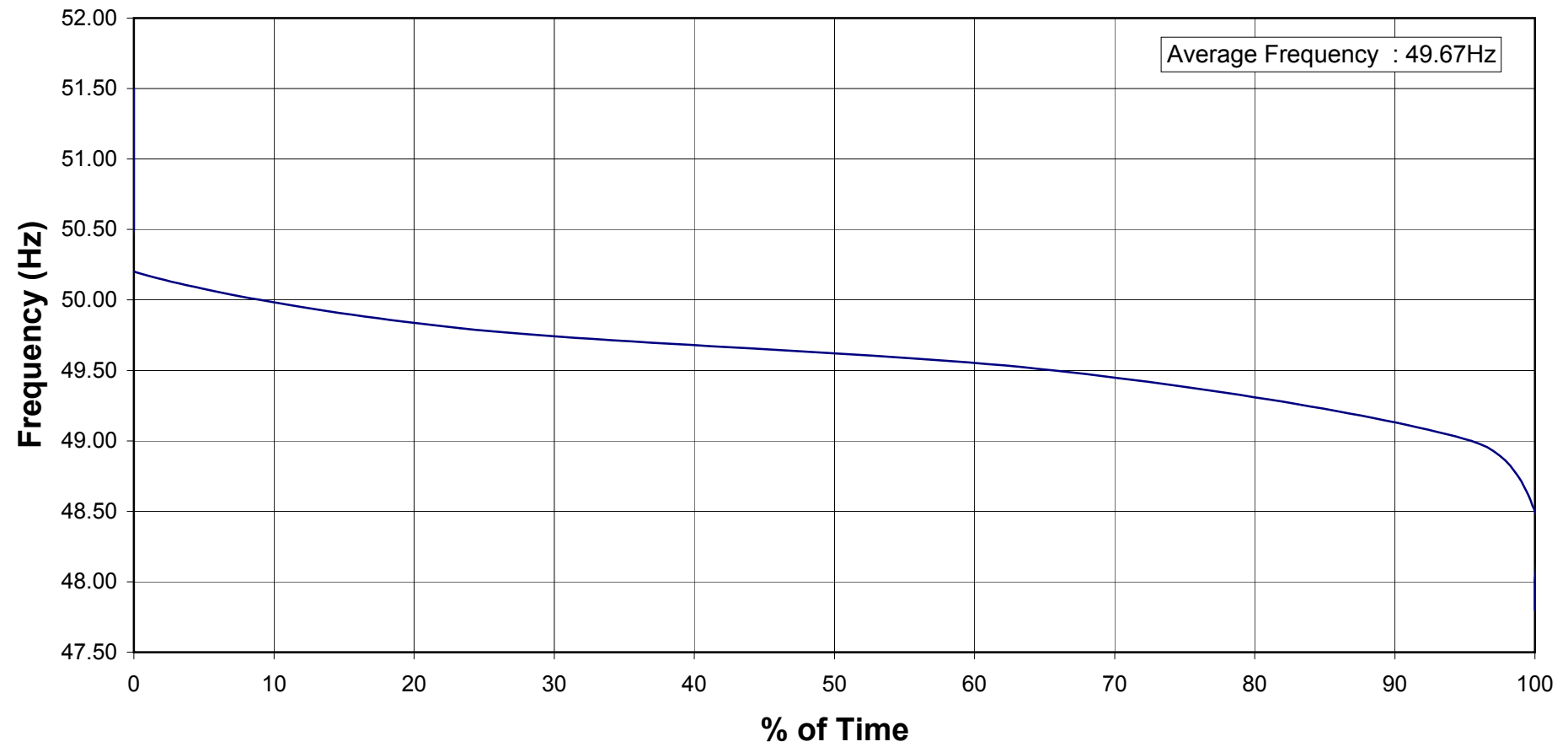
Energy content of Rihand : Total Energy content at Rihand & Obra power stations

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

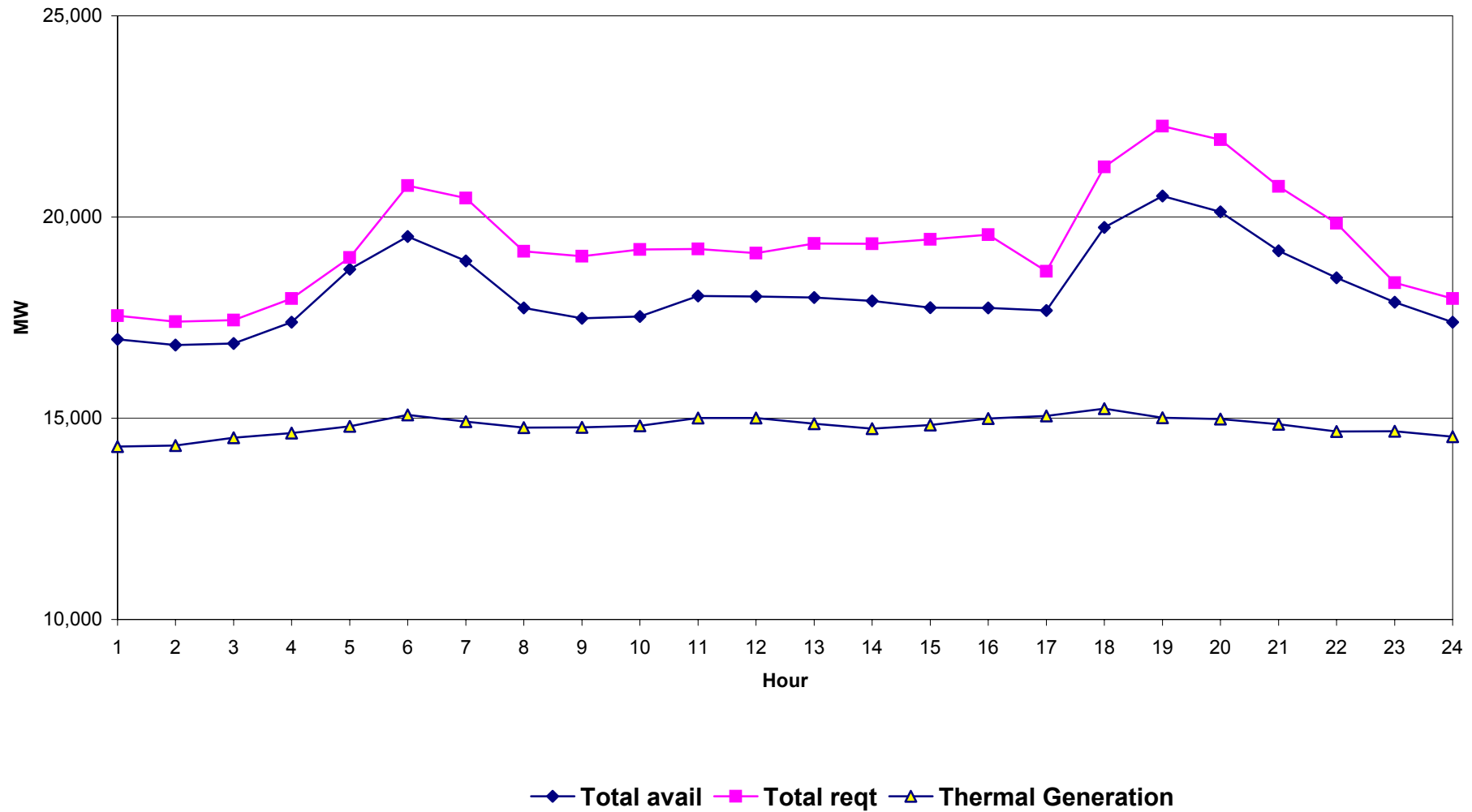
Energy Content of G. Sagar : Total Energy content at Gandhi Sagar, RP Sagar and Jawahar Sagar Power Stations.

Load Duration Curve For Northern Region For November 2003

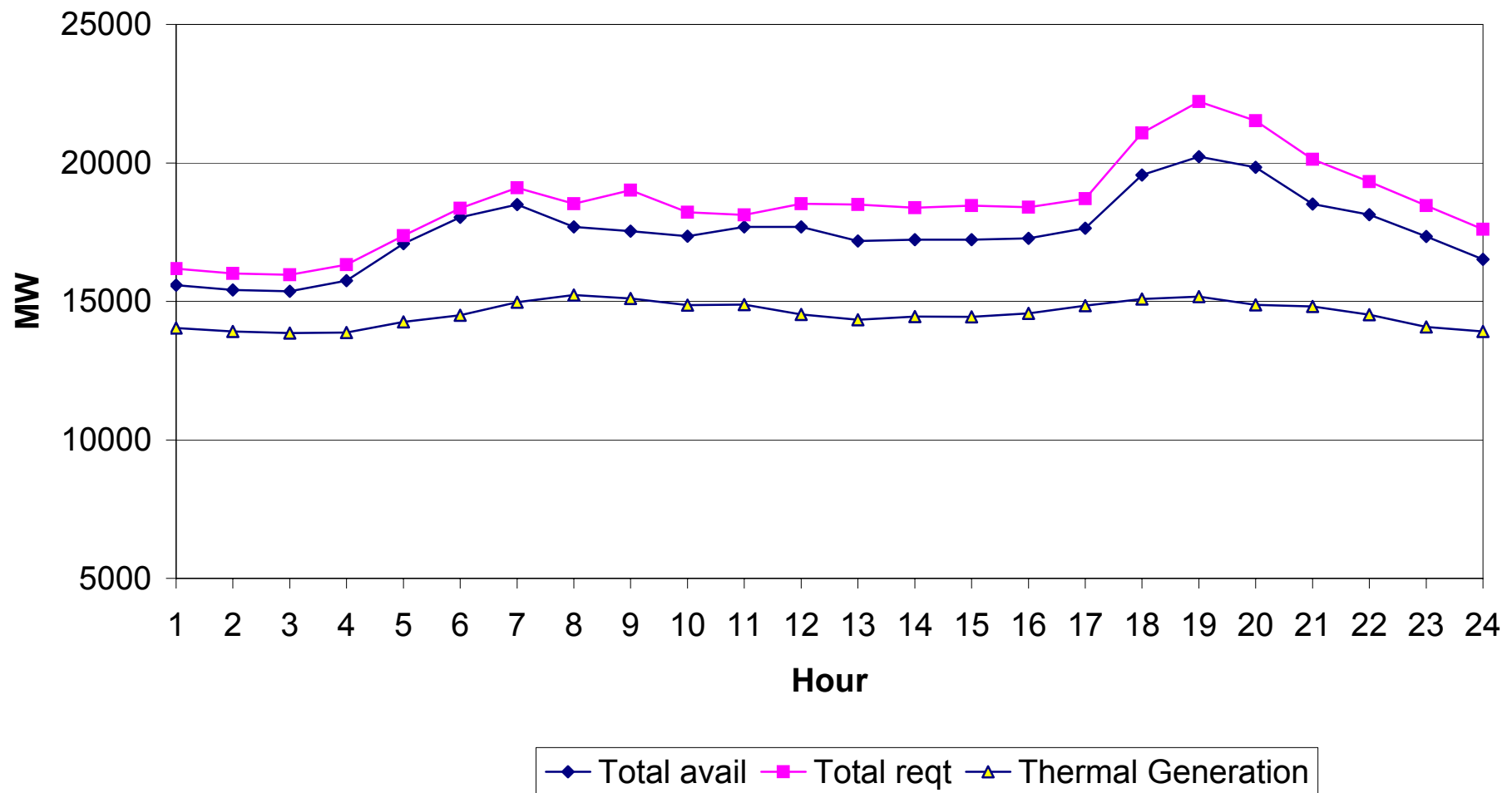


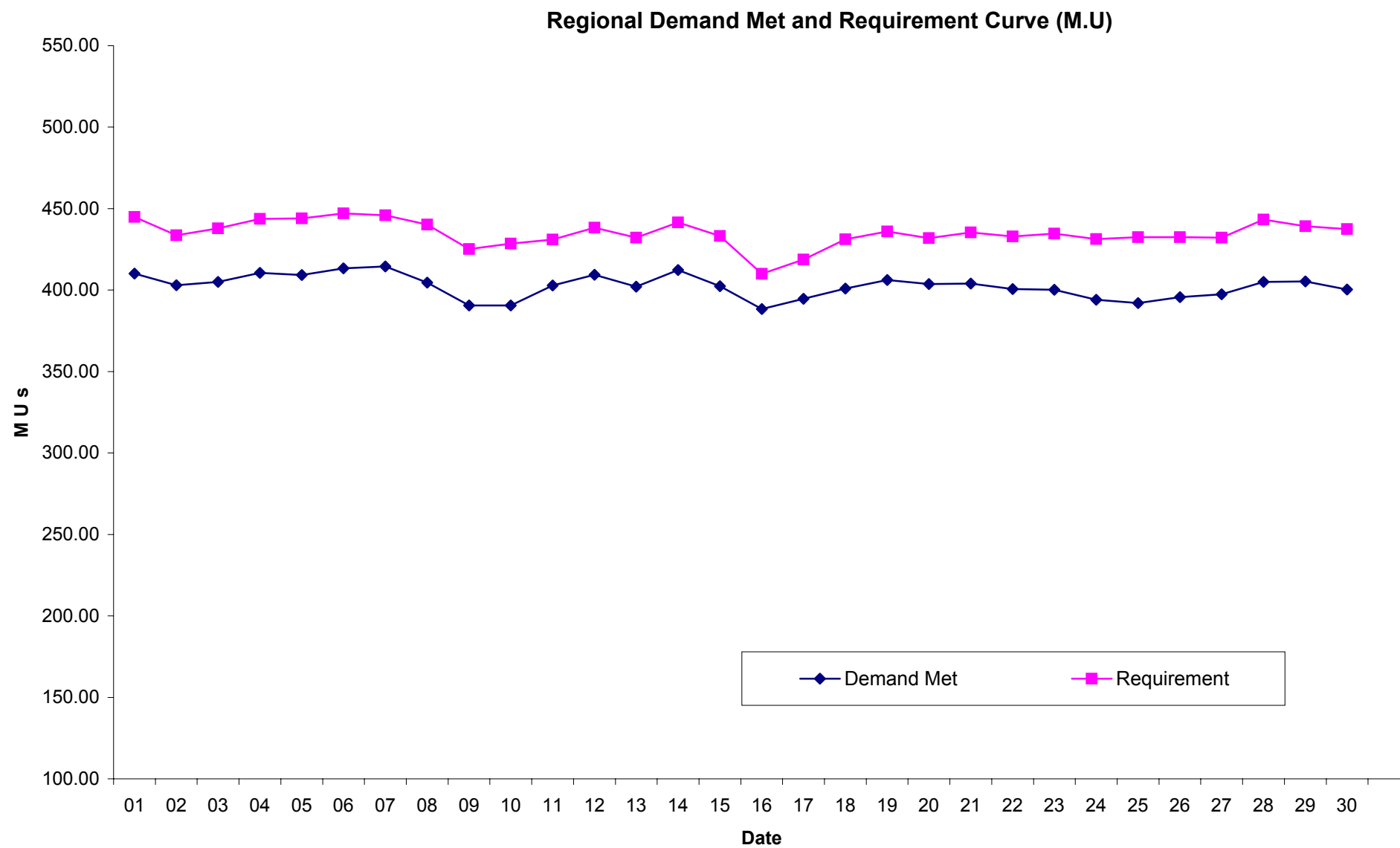
Frequency Duration Curve For Northern Region For November 2003

**Load Curve Of Northern Region For Maximum Demand Met Day
(12th November 2003)**



Load Curve Of Northern Region For Minimum Demand Met Day (17th November 2003)





Grid Incident during November 2003

Date	Time	Incident
16.11.2003	06.55 hrs	All the running units at Suratgarh TPS (1250 MW) tripped due to tripping of 220 kV Ratangarh-Jhunjhunu line because of wave trap jumper failure. This had further resulted in tripping of other 220 kV lines emanating from Ratangarh. 400 kV bus voltage at Ratangarh shoot upto 525 kV due to load throw off at Ratangarh. resulting in tripping of 400 kV Ratangarh-suratgarh line on O/V protection. All the units at Suratgarh were brought back on bar by 20.11 hrs of the same day.