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NORTHERN REGION GRID REPORT FOR THE MONTH OF DECEMBER 2003

A) Summary Report

1. Grid Overview during the Month

During the month of December 2003, the power supply position in the region was satisfactory. The average energy and peak demand met were 405.64 MU/day and 21121 MW compared to 368.91 MU/day and 19490 MW thereby a growth of 9.96% and 8.37% in terms both energy and peak demand. The average energy and peak shortages were 6.53% & 9.31% compared to 14.08% and 9.16% during the last year i.e. December 2002 respectively. The average system frequency was 49.71Hz and frequency remained in the normal range i.e. between 49.0 & 50.5 Hz for 92.75% of the time compared to 82.95% during the last year i.e. December 2002. The average frequency variation index during the month was 2.75. 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.

Overall voltage profile in the grid during the month was satisfactory on most of the 400 kV buses. During December 2003. HVDC Rihand-Dadri pole-II went under forced outage due to Y-Phase Converter Transformer Problem on 24.11.2003 at 09.22 hrs. was brought back into service on 02.12.2003 at 23.35 hrs.

The month of December was incident free.

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

-----NIL-----

3. Frequency Profile :

Maximum frequency	51.28	Hz	at	0306	hours on	15.12.2003
Minimum frequency	48.56	Hz	at	07.23	hours on	17.12.2003
Average frequency	49.71	Hz				

Frequency distribution in %

Hz	< 48.5	<49.0	49.0-50.5	> 50.5
% of time	0.00	5.51	92.75	1.74

Frequency Variation Index

Monthly Average	2.75
Maximum	5.17
Minimum	0.69

4. Power Supply Position :**a. Average Energy/day (Net)**

State / U.T.	Demand met MU/Day	Requirement MU/Day	Shortage MU/Day	Shortage %
Punjab	68.48	72.52	4.04	5.57
Haryana	48.81	49.87	1.06	2.13
Rajasthan	81.71	81.94	0.23	0.28
U.P.	109.71	131.21	21.50	16.39
Uttanchal	11.60	11.89	0.29	2.44
Delhi	50.09	50.52	0.43	0.85
H.P.	9.27	9.27	0.00	0.00
J & K *	21.15	22.00	0.85	3.86
Chandigarh	2.85	2.86	0.01	0.35
N.F.F./Rail	1.88	1.88	0.00	0.00
Total	405.55	433.96	28.41	6.55

b. Peak MW

State / U.T.	MAX. Demand met MW	MAX. Requirement MW	Shortage MW	Shortage %
	A	B	C	(C/B)*100
Punjab	3740	3963	223	5.63
Haryana	2920	2948	28	0.95
Rajasthan	3929	3929	0	0.00
U.P.	5599	6694	1095	16.36
Uttanchal	701	740	39	5.27
Delhi	3269	3354	85	2.53
H.P.	598	598	0	0.00
J & K *	1149	1313	164	12.49
Chandigarh	182	182	0	0.00
N.F.F./Rail	85	85	0	0.00
Region	21121	23289	2168	9.31
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	615.40	602.62	-12.78
Haryana	669.85	823.96	154.11
Rajasthan	854.37	975.83	121.46
U.P.	1363.45	1342.35	-21.10
Uttranchal	172.89	151.56	-21.33
Delhi	886.47	640.40	-246.07
H.P.	224.32	236.33	12.01
J & K	536.52	612.27	75.75
Chandigarh	102.97	88.51	-14.46
N.F.F./Rail	62.74	58.13	-4.61

6. **Inter Regional Exchanges****Import**

	Energy M.U.	Peak MW
a) From WR over HVDC Vindhyachal B/B	14.50	187
b) From WR over 220 kV Ujjain-Kota	0	0
c) From ER over HVDC Sasaram B/B	278.31	500
d) From ER over 220 kV Dehri-Sahupuri	0	0

Export

e) To WR over HVDC Vindhyachal B/B	70.88	450
f) To WR (MP) over 220 kV Auraiya-Malanpur	50.66	175
g) To WR(MP) over 220 kV Kota-Ujjain	0	0
h) To ER (Bihar) over 220 kV/132kV lines	17.12	51
i) To ER over HVDC Sasaram B/B	0	0
j) To Nepal over 132 kV Tanakpur-Mahendernagar	4.77	12

B). Detailed Report**I. Details of Installed/Effective Capacity at the end of December 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	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					
(a)	HYDRO				
	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
(g)	THERMAL				
	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					
(a)	HYDRO				
	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
(f)	THERMAL				
	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 31.12.2003

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	7.00	44.48	93.00	15.50	0.00	0.00	0.00
02	0.00	0.00	15.75	57.06	84.25	16.60	0.00	0.00	0.00
03	0.00	0.00	6.88	47.19	93.13	9.65	0.00	0.00	0.00
04	0.00	0.00	4.97	35.53	95.03	25.43	0.00	0.00	0.00
05	0.00	0.00	2.23	35.54	97.77	27.32	0.00	0.00	0.00
06	0.00	0.00	3.44	33.68	96.56	34.41	0.00	0.00	0.00
07	0.00	0.00	0.94	20.29	99.06	37.87	0.00	0.00	0.00
08	0.00	0.00	3.64	45.99	96.36	17.22	0.00	0.00	0.00
09	0.00	0.00	12.34	59.91	87.66	8.36	0.00	0.00	0.00
10	0.00	0.00	3.58	27.49	96.42	30.27	0.00	0.00	0.00
11	0.00	0.00	2.71	25.60	97.29	27.65	0.00	0.00	0.00
12	0.00	0.00	9.57	39.62	90.43	29.04	0.00	0.00	0.00
13	0.00	0.00	0.14	1.01	99.86	86.46	0.00	0.00	0.00
14	0.00	0.00	0.00	1.28	95.42	80.28	4.58	0.00	0.00
15	0.00	0.00	0.94	7.33	76.18	75.35	22.88	5.03	0.00
16	0.00	0.00	3.78	20.28	77.33	55.28	18.89	3.06	0.00
17	0.00	0.00	7.22	28.96	92.78	26.88	0.00	0.00	0.00
18	0.00	0.00	2.43	24.13	97.57	40.97	0.00	0.00	0.00
19	0.00	0.00	10.25	53.59	89.75	18.69	0.00	0.00	0.00
20	0.00	0.00	2.74	24.23	97.26	34.47	0.00	0.00	0.00
21	0.00	0.00	2.12	17.33	97.50	50.97	0.38	0.00	0.00
22	0.00	0.00	6.46	35.81	87.18	32.68	6.36	0.00	0.00
23	0.00	0.00	5.00	31.93	95.00	33.74	0.00	0.00	0.00
24	0.00	0.00	9.82	48.44	90.18	22.79	0.00	0.00	0.00
25	0.00	0.00	5.45	45.21	94.48	28.72	0.07	0.00	0.00
26	0.00	0.00	10.24	52.92	89.76	10.63	0.00	0.00	0.00
27	0.00	0.00	1.15	19.55	98.54	43.96	0.31	0.00	0.00
28	0.00	0.00	1.35	22.95	98.54	43.51	0.10	0.00	0.00
29	0.00	0.00	4.48	41.02	95.52	18.96	0.00	0.00	0.00
30	0.00	0.00	10.83	55.09	89.17	19.37	0.00	0.00	0.00
31	0.00	0.00	14.45	66.03	85.55	3.72	0.00	0.00	0.00
Max	0.00	0.00	15.75	66.03	99.86	86.46	22.88	5.03	0.00
Min	0.00	0.00	0.00	1.01	76.18	3.72	0.00	0.00	0.00
Average	0.00	0.00	5.51	34.43	92.75	32.28	1.74	0.26	0.00

Frequency (Hz)				Average Frequency	Frequency Variation Index
Maximum		Minimum			
Freq	Time	Freq	Time		
50.31	16.02	48.59	18.10	49.59	3.05
50.30	17.03	48.59	18.07	49.46	4.67
50.30	20.46	48.62	07.19	49.53	3.37
50.34	06.04	48.62	10.08	49.66	2.59
50.42	05.04	48.59	10.03	49.70	2.40
50.45	13.08	48.59	21.04	49.72	2.45
50.35	17.03	48.61	18.08	49.79	1.43
50.30	03.05	48.57	6.23	49.56	3.10
50.24	23.58	48.62	17.23	49.43	4.57
50.31	05.14	48.78	18.15	49.73	1.97
50.37	05.13	48.58	18.11	49.74	1.84
50.30	21.59	48.61	07.31	49.64	3.16
50.50	02.58	48.96	18.18	50.19	0.69
50.74	02.12	49.24	05.28	50.17	0.91
51.28	03.06	48.75	17.50	50.19	2.47
51.23	03.12	48.73	19.07	49.99	2.99
50.34	00.06	48.56	07.23	49.68	2.52
50.33	05.09	48.66	18.12	49.80	1.66
50.28	03.35	48.59	18.09	49.51	3.97
50.32	03.39	48.69	09.11	49.77	1.79
50.59	23.49	48.60	09.57	49.92	1.52
50.64	00.57	48.58	18.14	49.74	3.16
50.37	03.26	48.62	21.12	49.72	2.44
50.40	06.03	48.56	18.23	49.55	3.66
50.52	06.07	48.70	10.07	49.62	3.32
50.40	07.04	48.59	10.05	49.50	3.98
50.59	03.18	48.80	08.07	49.86	1.66
50.51	3.44	48.62	12.09	49.86	1.78
50.38	03.39	48.61	21.32	49.61	2.80
50.31	03.39	48.59	12.07	49.50	4.19
50.37	08.04	48.58	21.07	49.34	5.17
51.28		49.24		50.19	5.17
50.24		48.56		49.34	0.69
50.45		48.66		49.71	2.75

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	414	02.50	390	10.27	398	03.04	384	17.52	213	02.40	204	10.12	409	08.04	381	17.53
02	414	03.05	389	18.07	399	03.11	383	18.06	209	21.57	198	18.06	412	08.00	388	11.13
03	411	20.34	379	10.41	397	00.37	379	10.14	210	01.45	198	09.33	408	20.42	380	12.22
04	412	01.56	384	10.08	397	23.54	384	19.07	213	02.19	198	10.08	407	23.47	397	19.34
05	414	02.58	387	10.19	400	03.10	386	08.16	214	01.52	200	10.20	415	08.50	381	10.06
06	416	01.49	393	06.49	398	01.18	386	07.45	213	02.55	200	18.15	410	08.00	390	12.12
07	416	04.01	390	11.30	398	23.1	386	10.04	213	02.19	202	12.02	413	08.15	388	12.01
08	417	23.49	394	05.56	408	23.57	386	18.09	214	01.59	200	18.10	411	08.04	389	13.36
09	416	24.00	396	11.32	407	24.00	392	21.02	213	02.08	203	11.30	413	22.48	390	12.47
10	416	04.02	388	11.22	409	02.29	383	18.24	213	02.32	199	18.19	408	10.23	390	12.47
11	416	04.06	384	17.47	407	03.32	382	17.44	214	02.51	200	17.52	417	08.27	381	17.47
12	414	01.59	387	11.44	407	03.35	385	18.39	213	01.56	200	18.26	414	08.04	388	10.39
13	417	00.37	383	18.17	410	04.23	384	18.45	214	01.21	198	18.17	414	00.38	386	17.21
14	416	02.05	394	06.43	409	02.20	392	17.47	214	02.00	203	12.05	412	00.02	385	16.45
15	426	23.43	390	17.51	417	23.59	392	12.21	219	23.47	200	17.50	413	23.43	385	17.46
16	426	01.44	381	17.49	418	01.45	384	19.04	219	01.46	194	17.51	413	01.43	380	17.50
17	417	01.39	388	18.35	412	02.01	389	18.49	214	01.59	197	18.20	408	00.01	382	18.51
18	419	03.09	393	18.11	412	03.11	393	18.11	214	01.59	197	18.20	408	00.00	382	17.50
19	418	03.17	390	18.19	410	03.00	388	12.23	213	02.04	197	18.09	408	00.00	382	17.50
20	417	03.14	385	17.44	408	03.12	383	19.28	213	03.00	195	18.36	409	03.19	377	17.45
21	416	01.55	390	11.45	408	02.44	383	18.09	213	01.25	198	18.09	409	02.33	385	18.12
22	417	00.17	387	18.13	412	02.37	386	13.46	214	01.01	194	18.29	411	08.20	383	18.14
23	417	00.38	389	17.49	412	01.04	384	18.22	213	01.36	196	17.49	410	01.10	385	17.51
24	414	01.02	390	17.53	411	01.45	390	20.01	212	01.53	196	17.53	409	08.13	385	17.48
25	414	01.31	386	17.45	410	01.37	384	17.47	212	02.11	194	18.07	412	23.35	386	18.07
26	411	00.14	383	11.31	409	05.03	385	11.30	210	24.00	194	10.03	408	00.12	382	11.31
27	414	23.04	385	11.16	413	03.18	388	18.39	212	01.26	194	18.19	407	13.12	381	18.17
28	415	03.14	388	10.32	412	03.34	387	10.31	211	03.22	196	12.07	409	01.21	380	18.10
29	414	03.27	383	12.10	407	03.05	383	18.07	211	03.15	193	11.36	408	01.01	383	18.08
30	412	21.56	386	18.23	407	03.02	384	18.10	209	02.23	194	10.45	411	21.58	381	17.21
31	410	08.05	384	10.34	404	08.04	383	17.27	209	03.19	194	17.42	412	08.04	379	17.28
Max	426		396		418		393		219		204		417		397	
Min	410		379		397		379		209		193		407		377	

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	19852	21974	2122	16264	16854	590	399.79
02	19615	22000	2385	16295	16585	290	402.91
03	20653	21951	1298	16562	17002	440	404.97
04	20658	22512	1854	16763	17353	590	421.92
05	20959	22080	1121	16551	16841	290	409.18
06	20646	21934	1288	16893	17211	318	420.16
07	20280	21842	1562	16509	17094	585	419.28
08	20229	22057	1828	16189	16774	585	410.30
09	19878	21910	2032	16301	16811	510	415.30
10	19848	22085	2237	15698	16283	585	415.00
11	20962	22790	1828	16810	17395	585	418.85
12	20424	22151	1727	16762	17355	593	422.79
13	20649	22244	1595	15459	16065	606	411.45
14	20468	21993	1525	16267	16857	590	410.88
15	19462	21583	2121	15040	15630	590	392.34
16	19407	21540	2133	13827	14130	303	384.44
17	19750	22353	2603	15437	16027	590	396.44
18	19966	22278	2312	15622	16212	590	404.12
19	19818	22406	2588	15892	16482	590	406.62
20	20775	23044	2269	16089	16679	590	416.65
21	20956	22599	1643	16202	16787	585	416.54
22	21049	23012	1963	15489	16076	587	417.15
23	20913	22824	1911	15685	16270	585	421.36
24	20926	22720	1794	15960	16553	593	423.08
25	20562	22948	2386	16352	16937	585	420.69
26	21121	23033	1912	16658	17243	585	424.98
27	20763	22244	1481	16072	16657	585	418.65
28	21040	22792	1752	16110	16417	307	417.24
29	20904	22832	1928	16476	17066	590	405.35
30	20724	22701	1977	16977	17567	590	423.59
31	21026	23289	2263	16859	17574	715	420.95
Maximum	21121	23289	2603	16977	17574	715	424.98
Minimum	19407	21540	1121	13827	14130	290	384.44
Average	20461	22378	1917	16131	16671	539	412.68

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	3618	2843	2277	1867	3676	3396	2413	1262	4690	4771
02	3225	2894	2238	1957	3682	3291	2714	1217	4685	4788
03	3602	2961	2404	1990	3742	3350	2823	1264	4853	4620
04	3557	2875	2548	2010	3826	3460	2668	1206	4993	4810
05	3405	2904	2480	1997	3823	3501	2776	1282	4961	4723
06	3627	3090	2473	2027	3631	3575	2740	1236	4958	4888
07	3476	2990	2454	2034	3705	3539	2698	1329	4964	4690
08	3352	3030	2330	2010	3617	3431	2724	1287	5288	4353
09	3389	2892	2134	2013	3533	3499	2691	1288	5156	5060
10	3317	2576	2431	1844	3774	3471	2674	1233	5206	4551
11	3575	2890	2387	1975	3824	3514	2731	1231	5312	4686
12	3740	2904	2008	1837	3724	3613	2694	1297	5105	4748
13	3608	2645	2636	1725	3781	3688	2677	1376	5162	4218
14	3249	2572	2656	2012	3799	3641	2539	1208	4944	4646
15	3270	2344	2159	1587	3626	3298	2682	1206	4669	4650
16	3078	2162	2116	1225	3569	3088	2676	1057	4886	4075
17	3176	2334	2356	1680	3667	3298	2782	1211	4586	4657
18	3347	2292	2279	1778	3697	3404	2768	1253	4557	4492
19	3293	2388	2292	1801	3541	3353	2901	1299	4502	4683
20	3557	2449	2504	1877	3871	3425	2677	1373	5105	4561
21	3358	2581	2525	1934	3810	3474	2669	1368	5216	4710
22	3462	2419	2434	1834	3674	3355	2919	1280	5400	4371
23	3407	2401	2469	1975	3617	3430	2929	1327	5214	4388
24	3386	2346	2348	2033	3787	3373	2847	1342	5077	4562
25	3365	2400	2447	1983	3510	3459	2939	1444	5006	4854
26	3487	2719	2584	2047	3695	3380	3031	1513	4922	4823
27	3500	2561	2799	2079	3828	3363	2948	1437	4531	3913
28	3478	2589	2525	2085	3753	3375	2822	1493	4825	3963
29	3238	2618	2573	2051	3722	3322	2920	1487	4950	4291
30	3335	2728	2630	2187	3591	3492	3044	1564	4949	4537
31	3319	2674	2587	2137	3694	3443	3085	1559	5130	4880
Maximum	3740	3090	2799	2187	3871	3688	3085	1564	5400	5060
Minimum	3078	2162	2008	1225	3510	3088	2413	1057	4502	3913
Average	3413	2647	2422	1922	3703	3429	2781	1320	4961	4579

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	654	387	139	63	473	311	854	849
02	634	367	144	64	565	290	794	718
03	632	379	149	65	599	286	835	752
04	567	379	150	64	512	287	934	792
05	658	381	148	70	606	304	973	845
06	626	392	139	66	670	292	959	830
07	627	364	131	71	656	292	947	825
08	636	365	146	64	536	286	882	808
09	649	384	145	64	558	286	914	791
10	621	415	149	70	538	266	762	832
11	668	373	141	67	503	247	851	841
12	677	382	147	68	561	283	784	772
13	622	333	142	67	556	283	743	821
14	644	345	121	69	528	274	940	776
15	656	382	141	66	548	263	849	664
16	598	272	145	63	539	226	745	648
17	620	227	148	69	545	262	909	795
18	630	352	150	70	537	258	1045	875
19	635	379	146	65	552	287	922	915
20	641	356	151	69	543	280	894	888
21	653	415	132	65	537	259	1003	877
22	629	365	156	68	565	261	985	885
23	651	379	157	63	550	261	1040	897
24	662	377	157	65	555	260	982	919
25	660	394	152	67	546	285	1030	935
26	671	410	161	69	548	275	970	872
27	640	399	159	72	545	293	970	724
28	667	362	141	71	552	307	980	943
29	667	395	159	68	546	276	998	899
30	677	415	167	68	547	268	1043	970
31	700	415	173	80	531	278	945	834
Maximum	700	415	173	80	670	311	1045	970
Minimum	567	227	121	63	473	226	743	648
Average	644	372	148	67	553	277	919	832

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	71.130	46.278	79.435	43.500	106.943	11.520	2.668	9.175	20.856	1.920	393.425
02	66.262	48.350	78.603	46.507	104.710	11.456	2.702	9.049	21.096	1.933	390.667
03	73.063	48.408	79.684	45.534	109.041	11.470	2.773	9.502	21.171	1.892	402.538
04	72.556	49.845	82.999	48.567	111.647	12.277	2.740	9.418	20.830	1.987	412.865
05	72.308	50.058	83.177	48.634	116.251	11.261	2.770	9.352	21.012	1.964	416.787
06	73.930	50.043	83.370	47.104	112.204	11.505	2.618	9.155	20.924	1.975	412.828
07	71.543	49.976	83.214	46.694	116.629	11.393	2.451	9.191	21.377	1.910	414.377
08	71.039	48.559	82.182	47.226	106.835	11.321	2.691	9.216	21.021	1.894	401.984
09	68.403	46.477	80.402	46.970	111.024	11.685	2.729	9.202	20.856	1.911	399.658
10	69.748	48.201	82.762	47.682	110.447	11.325	2.736	8.702	20.420	1.966	403.989
11	72.160	49.823	83.368	47.787	113.570	11.766	2.707	9.223	20.097	2.019	412.519
12	74.210	51.463	83.752	47.853	112.181	11.878	2.760	9.460	20.344	2.011	415.912
13	73.230	49.292	86.390	44.473	107.933	11.341	2.646	9.264	20.401	1.958	406.929
14	67.645	50.189	85.307	45.462	110.609	11.311	2.368	8.929	17.723	2.035	401.577
15	63.169	40.523	80.537	47.239	111.394	11.420	2.692	9.325	16.223	1.978	384.499
16	63.698	41.089	79.166	44.742	104.579	10.147	2.752	8.742	18.738	1.950	375.604
17	65.230	47.572	80.323	48.645	105.276	11.038	2.848	9.128	20.571	1.757	392.389
18	65.449	47.091	82.059	49.406	104.048	10.981	2.880	9.454	21.730	1.707	394.805
19	66.475	45.528	80.935	51.930	106.390	11.372	2.889	9.588	21.632	1.912	398.652
20	68.662	47.860	83.329	51.562	109.544	11.687	2.874	9.546	22.166	1.869	409.098
21	66.551	48.218	83.515	50.436	115.597	11.530	2.637	8.945	22.320	1.806	411.554
22	66.995	48.287	82.707	51.415	111.476	11.235	3.002	9.499	22.265	1.793	408.674
23	66.843	51.359	82.264	54.149	108.957	11.566	3.054	9.534	22.234	1.809	411.769
24	65.493	50.920	82.059	55.416	112.269	11.722	3.095	9.189	22.579	1.736	414.477
25	66.802	51.080	80.449	54.248	113.318	12.053	2.942	9.346	23.176	1.925	415.339
26	69.008	52.156	78.986	56.415	112.105	12.587	3.246	10.043	22.491	1.756	418.792
27	68.837	49.730	80.801	56.355	102.174	12.049	3.117	9.963	22.328	1.764	407.118
28	67.230	50.020	82.122	54.966	102.502	11.562	2.823	9.343	22.251	1.845	404.663
29	64.958	50.989	80.425	55.623	107.171	12.292	3.242	9.098	22.589	1.748	408.135
30	65.888	51.440	79.116	57.134	110.121	12.647	3.473	8.955	22.334	1.689	412.796
31	64.493	52.223	79.415	59.180	114.189	12.182	3.581	8.932	21.775	1.710	417.680
Maximum	74.210	52.223	86.390	59.180	116.629	12.647	3.581	10.043	23.176	2.035	418.792
Minimum	63.169	40.523	78.603	43.500	102.174	10.147	2.368	8.702	16.223	1.689	375.604
Average	68.484	48.808	81.705	50.092	109.714	11.599	2.855	9.273	21.146	1.875	405.552
Month Total	2123.005	1513.046	2532.851	1552.854	3401.132	359.579	88.506	287.467	655.530	58.129	12572.100

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-Dec-2003	21319	17873	21938	25940	31741	33938	25568	15239	42216	46570	5633	5165
2-Dec-2003	21605	19015	22411	26708	30162	33543	27026	17530	43169	46387	5767	5021
3-Dec-2003	20760	19700	22948	27947	29651	34449	27109	18817	44034	41299	5887	4960
4-Dec-2003	20442	19945	23183	29023	26941	31122	27692	20054	44631	40779	5977	5131
5-Dec-2003	20055	21629	23657	27112	27020	29158	25992	19873	44806	42822	5980	5018
6-Dec-2003	20858	21213	23123	28999	27090	30662	25698	17644	44802	42538	6010	5384
7-Dec-2003	20745	19164	23239	27965	26924	29878	24228	19460	43178	40699	5875	5412
8-Dec-2003	19833	18066	21943	27186	28243	31438	23662	17388	41606	39414	5643	5471
9-Dec-2003	19686	16797	21392	26884	27649	30984	23788	16436	41862	41042	5945	5543
10-Dec-2003	20897	20245	23359	29979	27192	30028	25097	17218	44600	43120	6511	4709
11-Dec-2003	21261	22733	22859	28240	27092	28767	25572	17608	44408	42077	5295	3631
12-Dec-2003	21474	20619	22965	28522	26841	30121	24933	17251	44047	43326	4905	3929
13-Dec-2003	21845	25319	23211	26058	27585	33645	25872	14339	44758	41022	4914	3685
14-Dec-2003	22695	25750	22467	27922	27779	31495	28239	15629	43255	43628	4856	3313
15-Dec-2003	21860	24239	21469	22108	28138	31735	26919	16589	42214	50289	4614	3949
16-Dec-2003	21522	23795	20055	25042	28129	31746	26031	18255	43250	45991	4571	2079
17-Dec-2003	21717	21279	20533	25027	27944	30785	28155	19698	43472	49334	4824	2604
18-Dec-2003	20680	19028	20161	22290	27305	32523	27993	20338	43994	48244	4849	3162
19-Dec-2003	20264	17756	20266	23390	27340	30737	27586	22885	44013	45501	4848	4848
20-Dec-2003	18336	17344	21408	25027	26972	32017	31333	22669	44163	46796	5904	5175
21-Dec-2003	18126	19044	19898	25581	26692	29844	31391	22057	44296	43066	5708	5697
22-Dec-2003	17729	16432	20093	25317	26909	29394	32018	24571	45085	43134	6230	5629
23-Dec-2003	15840	14951	19854	25186	26689	29514	30328	23744	43987	41846	5978	5501
24-Dec-2003	15798	15085	20420	26325	26727	30784	29644	23657	44171	41605	6043	5520
25-Dec-2003	15958	14474	21432	28084	25539	32225	32463	22709	44300	42766	6061	6221
26-Dec-2003	16854	15113	21772	26764	25942	33859	33384	24844	44285	44231	6050	5682
27-Dec-2003	17790	17450	21686	28805	27718	34256	33332	24986	43230	36747	5530	5483
28-Dec-2003	17853	17682	20323	27710	28954	33346	33046	27084	44286	38535	5680	4871
29-Dec-2003	19732	19522	20643	27212	27696	32053	34802	27341	45146	39738	5844	6134
30-Dec-2003	19719	19005	20511	26611	27767	32132	33792	26765	46234	42821	5463	6496
31-Dec-2003	22147	22351	20629	24995	26002	29657	33777	27726	45953	46985	5496	6142
Total MU	615.400	602.618	669.848	823.959	854.373	975.835	886.470	640.404	1363.451	1342.352	172.891	151.565
Max. MWH	22695	25750	23657	29979	31741	34449	34802	27726	46234	50289	6511	6496
Min MWH	15798	14474	19854	22108	25539	28767	23662	14339	41606	36747	4571	2079
Avg. MWH	19852	19439	21608	26579	27560	31479	28596	20658	43982	43302	5577	4889

VIII. Schedule vs Actual Drawals of Northern Regional Constituents (Sheet 2 of 2)**Figs. In MWH**

Date	Himachal Pradesh		Jammu & Kashmir		Chandigarh		NFF		Railways	
	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual
1-Dec-2003	6242	7200	14897	19533	3213	2668	480	313	1879	1607
2-Dec-2003	6836	7217	15321	19616	3285	2702	480	314	1685	1619
3-Dec-2003	6945	7795	16318	19704	3352	2773	480	385	1684	1507
4-Dec-2003	7055	7806	16795	19362	3345	2740	480	407	1901	1580
5-Dec-2003	7156	7580	16777	19610	3358	2770	480	408	1813	1556
6-Dec-2003	7380	7497	16525	19485	3362	2618	480	367	1654	1608
7-Dec-2003	7309	7501	16257	19899	3299	2451	480	413	1808	1497
8-Dec-2003	6915	7542	15727	19565	3198	2691	480	379	1319	1515
9-Dec-2003	6875	7604	15593	19428	3201	2729	480	335	1492	1576
10-Dec-2003	7251	6909	16244	19027	3347	2736	480	332	1761	1634
11-Dec-2003	7202	7509	16338	18643	3326	2707	480	349	1509	1670
12-Dec-2003	7195	7762	16231	19029	3327	2760	480	352	1657	1659
13-Dec-2003	7409	7603	16706	19232	3320	2646	480	363	1675	1595
14-Dec-2003	7314	7278	17754	17592	3298	2368	480	352	1143	1683
15-Dec-2003	7556	7600	19833	14628	3324	2692	480	366	839	1612
16-Dec-2003	7214	6735	19684	16974	3300	2752	480	350	835	1600
17-Dec-2003	7098	7450	18136	18897	3295	2848	480	339	992	1418
18-Dec-2003	7502	7850	18092	20087	3331	2880	480	329	1725	1378
19-Dec-2003	7607	7952	17893	20151	3326	2889	480	322	1449	1590
20-Dec-2003	7670	7949	17853	20653	3336	2874	480	335	1496	1534
21-Dec-2003	7599	7448	17638	20816	3275	2637	480	259	1750	1547
22-Dec-2003	7704	7952	15897	20757	3313	3002	480	341	1392	1452
23-Dec-2003	7544	7973	16555	20770	3346	3054	480	335	1404	1474
24-Dec-2003	7520	7561	16982	21085	3384	3095	480	335	1625	1401
25-Dec-2003	7402	7780	19084	21761	3378	2942	480	337	1640	1588
26-Dec-2003	7645	8492	19410	21100	3357	3246	480	332	1652	1424
27-Dec-2003	7397	8390	19088	21001	3421	3117	480	323	1768	1441
28-Dec-2003	7412	7796	18845	20964	3371	2823	480	316	1754	1529
29-Dec-2003	6839	7531	18405	21303	3425	3242	480	313	1404	1435
30-Dec-2003	6506	7435	19191	21066	3301	3473	480	339	1439	1350
31-Dec-2003	7023	7634	16456	20531	3260	3581	480	337	1716	1373
Total MU	224.322	236.331	536.525	612.269	102.974	88.506	14.880	10.677	47.860	47.452
Max. MWH	7704	8492	19833	21761	3425	3581	480	413	1901	1683
Min MWH	6242	6735	14897	14628	3198	2368	480	259	835	1350
Avg. MWH	7236	7624	17307	19751	3322	2855	480	344	1544	1531

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-Dec-2003	44093	44246	21840	21897	13680	13697	4552	4552	8059	7941	16439	16424
2-Dec-2003	44160	44341	21840	21852	13680	13732	4552	4583	9128	9142	16084	16039
3-Dec-2003	44160	44328	21840	21861	13680	13700	4552	4609	9128	9158	15561	15548
4-Dec-2003	44160	44304	21840	21870	13680	13687	4552	4602	9128	9127	15171	15095
5-Dec-2003	44160	44296	21840	21868	13680	13669	4552	4602	9120	9098	14523	14472
6-Dec-2003	44105	44248	21840	21868	13302	13383	4552	4605	9128	9125	13579	13697
7-Dec-2003	44040	44183	19195	19044	12328	13012	4552	4605	9128	9136	12376	12426
8-Dec-2003	44040	44267	10920	10949	13680	13696	4552	4581	9128	9157	14100	14260
9-Dec-2003	44040	44249	13145	13036	13143	13462	4552	4588	9128	9165	14182	14229
10-Dec-2003	44040	44190	21840	21865	12924	13020	4552	4570	9128	9155	14167	14121
11-Dec-2003	44040	44179	21840	21862	12975	13293	4552	4567	9128	9157	13993	13987
12-Dec-2003	44040	44176	21840	21864	13128	13437	4552	4560	9128	9159	14054	14063
13-Dec-2003	44040	44109	21840	21844	12518	12222	6057	5983	9128	8990	13922	13877
14-Dec-2003	44040	44123	21840	21785	12663	12456	6134	5913	9084	8915	13010	12970
15-Dec-2003	43934	43599	21212	20489	12529	12330	4444	4322	8774	8537	10943	10866
16-Dec-2003	43184	42767	21448	21076	11735	11712	5811	5707	8789	8667	10630	10838
17-Dec-2003	43692	44144	21630	21860	12097	12712	6023	5960	8962	9121	10975	10976
18-Dec-2003	43692	44141	21630	21853	12458	12696	4520	4541	8929	9074	13682	13611
19-Dec-2003	43692	44129	21630	21838	12455	12845	4520	4552	8962	9097	13880	14048
20-Dec-2003	43750	44129	21665	21825	15249	15627	4520	4542	8941	9071	14645	14746
21-Dec-2003	43750	44007	21665	21780	16812	16822	5171	5098	9000	9061	14089	14111
22-Dec-2003	44040	44021	21840	21807	16782	16875	7611	7247	9079	8993	14075	13990
23-Dec-2003	43750	44032	21665	21797	16778	16937	4532	4537	9048	9153	14169	14104
24-Dec-2003	43750	44103	21665	21861	16829	17024	4532	4534	9048	9121	14256	14174
25-Dec-2003	44040	44176	21840	21869	17034	16950	4532	4526	9048	9131	14723	14706
26-Dec-2003	44040	44146	21840	21872	17580	18047	4538	4563	9072	9176	15203	15248
27-Dec-2003	43990	44109	21840	21850	18264	17981	5947	5914	9136	9128	13897	13402
28-Dec-2003	43794	44007	21696	21708	17427	17316	9102	9037	9060	9054	14030	14067
29-Dec-2003	44040	44195	21755	21773	17619	17658	9136	9110	9128	9183	14433	15113
30-Dec-2003	44040	44221	21840	21860	17744	17738	8168	8185	9136	9172	15035	15906
31-Dec-2003	44040	44217	21840	21858	17749	18194	8573	8566	9144	9172	16804	17656
Total MU	1362.376	1367.382	652.201	652.441	452.202	455.930	168.495	167.861	279.927	280.336	436.630	438.770
Max. MWH	44160	44341	21840	21897	18264	18194	9136	9110	9144	9183	16804	17656
Min MWH	43184	42767	10920	10949	11735	11712	4444	4322	8059	7941	10630	10838
Avg. MWH	43948	44109	21039	21046	14587	14707	5435	5415	9030	9043	14085	14154

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-Dec-2003	6151	6207	8527	8533	7752	7648	8160	7618	540	552	2957	3021
2-Dec-2003	5501	6006	10329	10385	8054	8098	7584	7741	480	492	3233	3317
3-Dec-2003	6836	7630	11689	11726	8088	8358	7800	7876	540	553	2988	3061
4-Dec-2003	7736	8563	11393	11425	8400	8453	7824	7893	510	524	3139	3199
5-Dec-2003	7035	7724	10755	10849	8400	8342	7848	7881	510	522	2949	3014
6-Dec-2003	6983	7626	11849	12030	8424	8351	7848	7884	510	523	2925	3004
7-Dec-2003	7240	7525	11820	11874	8424	8415	7848	7939	495	508	3020	3079
8-Dec-2003	7855	8146	12043	12244	8424	8388	7848	7872	480	494	2828	2900
9-Dec-2003	7277	8190	11078	11467	8468	8332	7896	7774	480	490	2688	2746
10-Dec-2003	7106	7302	10983	10896	8472	8330	7848	7839	540	553	3082	3152
11-Dec-2003	6682	6805	11155	11098	8472	8418	7848	7900	480	492	3020	3104
12-Dec-2003	6419	7076	10170	10214	8472	8340	7848	7868	480	491	3107	3168
13-Dec-2003	6748	6575	9907	9644	8472	8520	7848	7918	525	534	2967	3056
14-Dec-2003	5307	5215	8877	8698	8472	8203	7920	7942	510	523	5355	5496
15-Dec-2003	5689	5547	8555	8405	8472	8349	7920	7942	510	521	5899	5986
16-Dec-2003	5296	5362	8675	8702	8472	8392	7920	7954	510	524	6063	6099
17-Dec-2003	5522	5906	9691	9688	8424	8292	7920	7931	405	416	4346	4451
18-Dec-2003	4997	5762	10629	10381	8424	8424	7920	7966	480	492	3364	3435
19-Dec-2003	5766	6491	11070	10990	8424	8412	7920	7907	435	446	3130	3212
20-Dec-2003	5279	6445	11269	11023	8424	8405	7920	7922	465	478	3097	3180
21-Dec-2003	5311	5986	9756	9600	8462	8437	7920	7957	450	463	3100	3177
22-Dec-2003	5981	6318	9897	9851	8424	8350	7920	7922	450	462	3049	3127
23-Dec-2003	6083	6814	9931	9914	8472	8433	7920	7913	450	462	2966	3046
24-Dec-2003	7460	8423	9698	9751	8448	8346	7920	7913	450	461	3021	3083
25-Dec-2003	7765	8274	9526	9503	8496	8440	7920	7968	450	461	3021	3099
26-Dec-2003	8096	8463	10017	10032	8424	8299	8400	7929	450	463	2990	3070
27-Dec-2003	8076	8147	9769	9578	8448	8483	8400	8017	450	461	2688	2750
28-Dec-2003	6432	6460	9149	9008	8472	8415	8400	7901	450	462	3068	3143
29-Dec-2003	7192	7430	9680	9627	8367	8169	8400	7929	465	477	2688	2752
30-Dec-2003	8085	8226	10078	9899	8112	7808	8400	7872	420	431	2688	2746
31-Dec-2003	7721	7969	9633	9522	7920	7432	8400	7885	450	463	2688	2753
Total MU	205.627	218.613	317.598	316.557	259.479	257.082	247.488	244.773	14.820	15.194	102.124	104.426
Max. MWH	8096	8563	12043	12244	8496	8520	8400	8017	540	553	6063	6099
Min MWH	4997	5215	8527	8405	7752	7432	7584	7618	405	416	2688	2746
Avg. MWH	6633	7052	10245	10212	8370	8293	7983	7896	478	490	3294	3369

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-Dec-2003	990	1006	1602	1644	2636	2702	17100	17849	3794	3515	4319	3843
2-Dec-2003	960	981	1914	1969	2878	2944	18516	18270	3680	3355	3031	2239
3-Dec-2003	960	975	1647	1696	2611	2677	18396	17640	3501	2987	2346	2273
4-Dec-2003	960	974	1602	1644	2461	2503	18396	18347	3130	3054	2266	2257
5-Dec-2003	950	959	1602	1651	2427	2495	18396	18304	3130	3049	2596	2959
6-Dec-2003	859	880	1602	1645	2462	2523	18396	18143	3130	3420	2594	2568
7-Dec-2003	931	961	1602	1642	2557	2636	18396	18334	3478	3950	2594	2486
8-Dec-2003	898	914	1602	1648	2490	2533	18396	18238	3478	3522	2594	2987
9-Dec-2003	923	936	1602	1643	2352	2416	18384	17783	3231	3359	2798	3102
10-Dec-2003	912	919	1602	1642	2605	2662	17784	17754	3231	3062	3043	3230
11-Dec-2003	897	910	1602	1637	1077	1097	17784	17780	3231	3186	3216	3168
12-Dec-2003	834	853	1068	1100	1246	1285	17784	18259	3434	3399	3216	4175
13-Dec-2003	898	909	1068	1087	2595	2594	18384	18122	3648	3408	4165	4014
14-Dec-2003	776	785	1068	1099	3977	3848	18384	18095	3648	3357	4165	4119
15-Dec-2003	850	856	1068	1090	7552	7730	18384	18560	3648	3062	4165	4293
16-Dec-2003	768	779	1068	1085	6449	6507	18384	18009	3411	3347	4299	3952
17-Dec-2003	855	867	1068	1097	5173	5192	18627	18192	3648	3640	3873	3276
18-Dec-2003	520	507	1068	1096	4953	5006	18454	18227	3648	3482	3275	3088
19-Dec-2003	0	-18	1068	1097	4278	4386	18548	18227	3648	3377	3117	2772
20-Dec-2003	0	-13	1068	1089	4331	4460	18442	18167	3411	3422	2762	2367
21-Dec-2003	150	156	1068	1090	4353	4487	18442	18135	3411	3051	2338	2439
22-Dec-2003	647	668	1602	1646	4419	4471	18442	18305	3226	3091	2400	2356
23-Dec-2003	594	599	1691	1739	4112	4176	18442	18162	3016	2972	2340	2272
24-Dec-2003	528	538	1602	1641	3900	3949	18348	18215	3016	2951	2133	2057
25-Dec-2003	550	561	1602	1645	3898	3985	18348	18072	3016	2864	2126	2233
26-Dec-2003	595	606	1602	1647	3830	3905	18348	18170	2885	2980	2341	2468
27-Dec-2003	575	582	1602	1632	3719	3799	18371	17975	2893	2855	2428	2365
28-Dec-2003	557	569	1602	1640	3548	3622	18524	18006	2895	2838	1667	1720
29-Dec-2003	623	638	1602	1645	3406	3443	18330	18053	2895	2921	1684	1719
30-Dec-2003	736	754	1625	1662	3610	3655	18145	18211	2895	2755	1666	1477
31-Dec-2003	720	732	1914	1964	3474	3537	18222	17889	2786	2837	1463	2548
Total MU	22.016	22.343	45.103	46.252	109.379	111.225	567.297	561.493	102.092	99.068	87.020	86.822
Max. MWH	990	1006	1914	1969	7552	7730	18627	18560	3794	3950	4319	4293
Min MWH	0	-18	1068	1085	1077	1097	17100	17640	2786	2755	1463	1477
Avg. MWH	710	721	1455	1492	3528	3588	18300	18113	3293	3196	2807	2801

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

Date	Nathpa-Jhakri HEP		Chamera stage-II	
	Schedule	Actual	Schedule	Actual
1-Dec-2003	5928	6051	0	0
2-Dec-2003	5928	6383	0	0
3-Dec-2003	5928	6216	0	0
4-Dec-2003	5928	6039	0	0
5-Dec-2003	5928	6084	0	63
6-Dec-2003	5928	5939	0	33
7-Dec-2003	5928	6022	0	339
8-Dec-2003	5928	6095	0	158
9-Dec-2003	5928	6109	0	1
10-Dec-2003	5928	6041	0	26
11-Dec-2003	5928	6045	0	73
12-Dec-2003	5928	6079	300	485
13-Dec-2003	5928	5964	225	934
14-Dec-2003	5928	5987	0	0
15-Dec-2003	5928	5978	375	340
16-Dec-2003	5928	6052	642	661
17-Dec-2003	5928	6097	1176	1583
18-Dec-2003	5928	6079	1093	1124
19-Dec-2003	5928	6097	297	627
20-Dec-2003	5928	6087	507	1486
21-Dec-2003	5928	6058	594	1171
22-Dec-2003	5928	6090	0	1045
23-Dec-2003	5928	6098	297	819
24-Dec-2003	5928	6108	705	1342
25-Dec-2003	5928	6103	676	1038
26-Dec-2003	5928	6092	1084	1113
27-Dec-2003	5928	6017	1154	1184
28-Dec-2003	5928	6059	1113	1145
29-Dec-2003	5928	6472	1113	774
30-Dec-2003	4693	6903	1084	1116
31-Dec-2003	1482	7330	1081	1113
Total MU	178.087	190.774	13.516	19.793
Max. MWH	5928	7330	1176	1583
Min MWH	1482	5939	0	0
Avg. MWH	5745	6154	436	638

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	40.81	9.16	14.39	0.51	40.63	4.68	44.84	6.25	6.16	14.23	1.98	1.32	184.97
02	35.72	8.13	14.48	0.51	40.11	4.64	43.98	6.21	6.39	15.49	1.83	1.48	178.97
03	42.39	7.20	10.12	0.52	40.90	4.71	54.15	6.67	6.26	15.55	1.71	1.47	191.66
04	42.21	7.28	11.47	0.50	45.07	4.18	58.10	5.49	6.10	14.82	1.61	1.47	198.29
05	39.42	7.55	14.78	0.51	45.59	4.26	56.96	5.75	6.10	14.44	1.77	1.40	198.54
06	40.78	7.64	15.05	0.54	44.00	4.67	54.20	6.44	6.05	14.06	1.66	1.44	196.52
07	40.39	7.58	16.29	0.44	44.70	4.78	59.29	6.48	5.82	13.75	1.69	1.48	202.68
08	40.07	8.35	15.35	0.54	42.24	5.15	52.39	5.41	5.97	16.06	1.67	1.46	194.67
09	36.21	8.93	12.90	0.52	45.70	4.68	54.03	4.62	6.50	16.71	1.60	1.43	193.83
10	36.21	8.93	12.90	0.52	45.70	4.68	54.03	4.62	6.50	16.31	1.79	1.39	193.58
11	35.88	8.64	14.89	0.53	45.82	4.79	56.32	5.25	8.03	16.27	1.71	1.45	199.60
12	38.28	9.76	16.08	0.54	44.72	4.87	54.08	6.17	7.84	16.53	1.70	1.31	201.88
13	33.64	9.72	15.83	0.49	43.80	4.51	54.72	4.12	7.65	17.17	1.66	1.17	194.49
14	31.22	8.82	15.70	0.53	43.75	4.73	52.56	5.84	7.93	17.09	1.65	0.13	189.94
15	29.43	8.52	12.68	0.48	38.96	4.65	46.72	5.93	7.75	16.78	1.72	1.59	175.20
16	28.04	9.38	9.41	0.57	37.84	5.06	43.78	5.20	8.20	15.12	2.01	1.76	166.38
17	31.26	9.01	15.36	0.61	40.17	5.16	40.22	6.25	8.26	16.35	1.68	1.67	176.01
18	34.94	8.08	17.98	0.56	40.34	4.82	43.16	5.70	8.02	16.38	1.60	1.64	183.22
19	36.04	8.47	16.27	0.55	40.88	4.92	45.39	6.27	6.74	15.43	1.64	1.48	184.09
20	38.79	7.81	16.04	0.50	42.88	4.90	47.99	6.02	6.38	15.29	1.60	1.51	189.70
21	34.92	8.08	14.65	0.51	45.11	4.64	55.62	5.51	5.94	15.00	1.50	1.50	192.99
22	37.83	8.14	14.54	0.53	44.55	4.87	53.31	5.55	5.94	14.64	1.55	1.51	192.95
23	39.17	7.89	18.49	0.48	44.26	4.94	53.60	4.97	6.21	16.51	1.56	1.46	199.55
24	38.17	8.29	15.80	0.51	43.21	4.57	56.02	5.03	6.17	17.88	1.63	1.49	198.76
25	39.36	8.04	14.68	0.47	39.33	4.58	53.04	6.27	6.08	17.40	1.57	1.41	192.22
26	40.23	8.79	17.76	0.50	36.59	4.63	53.23	6.07	6.98	17.63	1.55	1.39	195.35
27	38.45	7.90	16.37	0.45	43.09	0.11	53.47	3.82	6.88	17.80	1.57	1.33	191.24
28	38.48	7.23	16.00	0.44	41.41	4.36	54.87	4.62	6.81	17.15	1.55	1.29	194.19
29	33.39	7.88	16.91	0.45	42.57	4.44	55.03	5.64	6.81	16.93	1.57	1.29	192.90
30	34.65	7.61	16.50	0.45	43.63	3.66	53.24	5.81	6.81	17.03	1.52	1.27	192.17
31	30.21	8.05	17.03	0.44	43.89	3.57	51.37	5.75	6.49	17.27	1.30	1.24	186.61
Maximum	42.39	9.76	18.49	0.61	45.82	5.16	59.29	6.67	8.26	17.88	2.01	1.76	202.68
Minimum	28.04	7.20	9.41	0.44	36.59	0.11	40.22	3.82	5.82	13.75	1.30	0.13	166.38
Average	36.66	8.29	15.06	0.51	42.63	4.49	51.93	5.60	6.77	16.10	1.65	1.40	191.07
Month Total	1136.61	256.86	466.71	15.67	1321.45	139.21	1609.71	173.73	209.73	499.06	51.14	43.26	5923.12

XI. Performance Of Generating Stations

S.No.	Power Station	Effective Capacity MW	Energy Generated during Dec, 2003 (Ex Bus MU)	Cummulative from 01.04.2003 (Ex-bus MU)
1	CENTRAL SECTOR			
A	NTPC (Thermal)			
(a)	Badarpur TPS	705.00	449.43	3645.46
(b)	Singrauli STPS	2000.00	1367.38	10932.96
(c)	Rihand STPS	1000.00	652.44	5328.51
(d)	Dadri NCTPS	840.00	455.93	4147.03
(e)	Unchahar-I TPS	420.00	167.86	2090.64
(f)	Unchahar-II TPS	420.00	280.34	2133.57
(g)	Tanda TPS	440.00	256.75	1882.43
(h)	Anta GPS	419.33	218.61	1967.89
(i)	Auraiya GPS	663.36	316.56	3155.80
(j)	Dadri GPS	829.78	438.77	3724.55
(k)	Faridabad GPS	431.57	198.57	1999.99
	Total NTPC	8169.04	4802.64	41008.82
B	NHPC			
(a)	Bairasiul	180.00	15.19	565.69
(b)	Salal	690.00	104.43	3027.28
(c)	Tanakpur HPS	94.20	22.34	450.45
(d)	Chamera HPS	540.00	46.25	2209.07
(e)	Uri HPS	480.00	111.23	2178.67
(f)	Chamera2 HPS	300.00	19.79	32.62
	Total NHPC	2284.20	319.23	8463.77
C	Nathpa-Jhakri	250.00	190.77	558.12
D	NPC			
(a)	RAPS -A	300.00	97.76	837.07
(b)	RAPS -B	440.00	244.77	1898.72
(c)	NAPS	440.00	257.08	1958.38
	Total NPC	1180.00	599.61	4694.17
2	JOINTLY OWNED (BBMB)			
(a)	Bhakra Complex	1490.15	561.49	5478.90
(b)	Dehar	990.00	99.07	2843.07
(c)	Pong	390.00	86.82	814.86
	Total BBMB	2870.15	747.38	9136.83
3	DELHI			
(a)	Indra Prastha	247.50	75.20	441.71
(b)	Rajghat	149.00	86.23	459.60
(c)	Gas Turbines	282.00	115.93	869.57
(d)	Pragati Gas	330.00	224.62	1692.52
	Total DELHI	1008.50	501.98	3463.40
4	HARYANA			
(a)	WYC	48.00	19.69	225.90
(b)	Faridabad (New)	165.00	27.65	474.20
(c)	Panipat	860.00	452.94	3807.18
(d)	Magnum Diesel(IPP)	25.20	0.00	26.32
	Total Haryana	1098.20	500.28	4533.60

contd/-

5	HP			
(a)	Giri	60.00	10.36	139.41
(b)	Bassi	60.00	8.40	277.49
(c)	Binwa	6.00	1.02	27.39
(d)	Rongtong (+Nogli+Micro+Thirot+Sal-2)	15.25	1.55	18.08
(e)	Andhra	16.95	2.26	62.20
(f)	Bhabha (H)	120.00	21.95	517.79
(g)	Baner (H)	12.00	1.01	33.40
(h)	Gaj (H)	10.50	1.11	39.24
(i)	Gumma	3.00	0.41	13.57
(j)	Ghanvi	22.50	2.86	57.85
(k)	Malana (IPP)	86.00	6.72	326.05
(l)	Baspa (IPP)	300.00	382.81	1385.74
	Total HP	712.20	440.46	2898.20
6	J & K			
(a)	Lower Jhelum	105.00	29.33	389.65
(b)	Upper Sindh	127.60	13.82	204.50
(c)	Ganderbal	15.00	2.14	16.89
(d)	Mohra	9.00	0.00	0.00
(e)	Chenani	32.80	3.72	51.71
(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	1.50	1.50
(k)	Pampore GT St - II	100.00	2.90	14.63
	Total J & K	493.87	53.42	678.89
7	PUNJAB			
(a)	Jogindernagar/ Shanan	110.00	13.91	491.83
(b)	UBDC	90.00	26.73	306.85
(c)	Mukerian	207.00	81.01	756.89
(d)	Anandpur Sahib (APS)	134.00	65.92	645.54
(e)	Ranjit Sagar HPS	600.00	68.29	1372.49
(f)	Small Hydel	4.10	0.76	3.08
(g)	GNDTPS (Bhatinda)	440.00	171.73	1728.98
(h)	GGSTPS (Ropar)	1260.00	688.13	5571.58
(i)	Jhalkeri	10.00	1.84	5.22
	Peda & Sugarmill		13.62	0.00
(j)	Lehra Mohabbat TPS	420.00	280.26	2349.41
	Total Punjab	3275.10	1412.20	13231.87
8	RAJASTHAN			
(a)	Mahi Bajaj Sagar	140.00	32.42	104.97
(b)	Rana Pratap Sagar (RPS)	172.00	65.50	165.77
(c)	Jawahar Sagar (JS)	99.00	45.93	147.94
(d)	ACW	9.00	1.47	4.93
(e)	MMH	14.85	1.70	9.72
(f)	Kota TPS	1045.00	538.53	4264.81
(g)	RAMGARH GT	3.00		
(h)	RAMGARH GT EXT	35.50	17.59	156.93
(i)	Suratgarh TPS	1250.00	768.35	5205.01
(j)	Wind Farm	14.01	6.26	87.96
(k)	Others (KPTL bio-mass)		3.00	11.91
	Total Rajasthan	2782.36	1480.75	10159.94

contd/-

9	U.P.			
	<u>HYDRO</u>			
(a)	Rihand	300.00	100.21	801.14
(b)	Obra	99.00	39.72	320.78
(c)	Matatilla	30.00	17.04	89.26
(d)	Ganga Canal	10.70	0.00	0.00
(e)	Small hydro	18.20	0.00	0.00
(f)	Khara	72.00	18.64	342.75
	Total U.P. (Hydro)	529.90	175.60	1553.92
	<u>THERMAL</u>			
(e)	Obra	1442.00	545.13	4255.94
(f)	Panki	242.00	98.46	666.28
(g)	Harduaganj	375.00	77.01	439.32
(h)	Paricha	220.00	47.60	356.92
(i)	Anpara	1630.00	918.43	7658.46
	Total U.P. (Thermal)	3909.00	1686.63	13376.92
	Total U.P.	4438.90	1862.22	14930.84
10	UTTRANCHAL			
(a)	Khatima	41.40	11.52	145.09
(b)	Ramganga	198.00	36.70	61.85
(c)	Ganga Canal	32.70	12.12	98.19
(d)	Yamuna (I & IV)	114.75	25.91	482.43
(e)	Chibro	240.00	33.46	727.28
(f)	Khodri	120.00	16.87	339.62
(g)	Chilla	144.00	37.83	607.84
(h)	Maneri Bhali	90.00	33.31	407.62
	Total Uttranchal	980.85	207.72	2869.92
11	CHANDIGARH			
	Diesel gen set	1.40		
	Total Region	29544.77	13118.66	116628.36

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 DECEMBER 2003**(ALL FIGS IN MWH)**

FROM / TO	PUNJAB	HARYANA	RAJASTHAN	DELHI	UP	UTTRANCHAL	HP	J & K	CHANDIGARH
PUNJAB	-	-	-	12075 *	-	-	-	-	-
HARYANA	-	-	-	18750 **	-	-	-	-	-
RAJASTHAN	-	-	-	13500 ** 1200 *	-	1250 *	-	-	300 *
DELHI	-	-	-	-	-	7644 *	-	-	-
UP	-	-	-	-	-	-	-	-	-
UTTRANCHAL	31486 ***	-	-	-	-	-	-	-	-
HP	81167 ***	-	-	34050 *	-	-	-	-	-
J & K	22013 ***	-	-	-	-	-	-	-	-
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 DECEMBER 2003

(ALL FIGS IN MWH)

FROM / TO	GRIDCO	MP	WBPCL	DVC	NEEPCO	CSEB	GEB	GOA
PUNJAB	-	-	-	-	-		-	-
HARYANA	-	-	-	17373 *			-	-
RAJASTHAN	-	-	1090 *	7806 *			-	-
DELHI	3000 * 18532 ***	-36400 *	75828 *	8657 *	-	-6900 *	-43300 *	10098 **
UTTRANCHAL	-	-	-	-	-	-	-	-
J & K	-	-	65193 *	-	-	-	-	-

* 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 December 2003 (Sheet 1 of 2)

1 OF 2

Date	With 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	0	-450	50	450	1.07	0.09	0.98	-29	-23	0	40	0.00	1.49	-1.49
02	0	-200	150	250	0.73	0.09	0.64	-58	-55	0	65	0.00	1.37	-1.37
03	0	-350	50	350	0.85	0.64	0.21	-60	-55	0	60	0.00	1.46	-1.46
04	0	-450	150	450	1.37	0.57	0.80	-60	-50	0	60	0.00	1.40	-1.40
05	0	-450	150	450	0.47	1.79	-1.32	-60	-55	0	65	0.00	1.28	-1.28
06	0	-450	100	450	0.64	1.64	-1.00	-52	-50	0	65	0.00	1.46	-1.46
07	50	-450	50	450	0.62	1.89	-1.28	-52	-50	0	65	0.00	1.57	-1.57
08	0	-250	100	450	1.02	1.30	-0.28	-59	-57	0	65	0.00	1.42	-1.42
09	0	-450	100	450	0.74	1.96	-1.22	-40	-56	0	61	0.00	1.32	-1.32
10	0	-450	50	450	0.80	2.32	-1.52	-40	-56	0	61	0.00	1.36	-1.36
11	0	-450	50	450	0.01	2.93	-2.92	-45	-50	0	59	0.00	1.11	-1.11
12	0	-450	150	450	0.32	2.32	-2.00	-35	-35	0	60	0.00	1.06	-1.06
13	0	-450	50	450	0.50	2.20	-1.70	-35	-35	0	65	0.00	1.46	-1.46
14	0	-200	50	450	0.35	2.32	-1.96	-52	-51	0	65	0.00	1.54	-1.54
15	100	-350	100	400	0.61	1.95	-1.34	-52	-51	0	65	0.00	1.43	-1.43
16	0	-400	100	450	0.33	3.43	-3.10	-52	-51	0	65	0.00	1.43	-1.43
17	100	-250	150	250	0.20	3.09	-2.90	-63	-53	0	65	0.00	1.53	-1.53
18	50	-300	100	350	0.31	2.47	-2.16	-50	-60	0	63	0.00	1.50	-1.50
19	0	-300	100	300	0.30	3.30	-3.00	-50	-50	0	60	0.00	1.38	-1.38
20	0	-300	100	350	0.40	3.17	-2.77	-50	-50	0	50	0.00	1.21	-1.21
21	0	-350	50	350	0.15	3.54	-3.40	-48	-52	0	55	0.00	0.76	-0.76
22	25	-300	130	350	0.19	3.47	-3.28	0	-52	0	55	0.00	0.45	-0.45
23	29	-325	79	325	0.37	2.62	-2.25	0	0	0	0	0.00	0.00	0.00
24	29	-221	129	221	0.53	1.82	-1.29	0	0	0	0	0.00	0.00	0.00
25	0	-300	100	350	0.19	3.34	-3.15	-154	-113	0	162	0.00	3.08	-3.08
26	0	-300	150	300	0.30	2.91	-2.61	-154	-150	0	162	0.00	3.03	-3.03
27	0	-300	150	300	0.24	3.55	-3.31	-152	-148	0	152	0.00	2.32	-2.32
28	0	-63	187	113	0.25	4.00	-3.75	-150	-140	0	152	0.00	2.91	-2.91
29	0	-100	150	213	0.23	2.79	-2.57	-160	-160	0	165	0.00	3.25	-3.25
30	0	0	150	50	0.31	1.43	-1.12	-170	-165	0	175	0.00	3.55	-3.55
31	0	150	150	200	0.13	1.96	-1.83	-170	-165	0	175	0.00	3.57	-3.57
Maximum	100	150	187	450	1.37	4.00	0.98	0	0	0	175	0.00	3.57	0.00
Minimum	0	-450	50	50	0.01	0.09	-3.75	-170	-165	0	0	0.00	0.00	-3.57
Average	12	-307	107	351	0.47	2.29	-1.82	-69	-69	0	80	0.00	1.63	-1.63
Total					14.50	70.88	-56.38					0.00	50.66	-50.66

XIV. Inter Regional Exchanges During December 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	453	459	500	0	9.59	0.00	9.59
02	0	0	0	0	0.00	0.00	0.00	450	459	500	0	9.56	0.00	9.56
03	0	0	0	0	0.00	0.00	0.00	450	400	500	0	10.15	0.00	10.15
04	0	0	0	0	0.00	0.00	0.00	450	300	450	0	9.26	0.00	9.26
05	0	0	0	0	0.00	0.00	0.00	395	405	450	0	9.74	0.00	9.74
06	0	0	0	0	0.00	0.00	0.00	386	406	500	0	9.84	0.00	9.84
07	0	0	0	0	0.00	0.00	0.00	396	406	450	0	9.97	0.00	9.97
08	0	0	0	0	0.00	0.00	0.00	407	407	482	0	10.04	0.00	10.04
09	0	0	0	0	0.00	0.00	0.00	412	407	500	0	9.77	0.00	9.77
10	0	0	0	0	0.00	0.00	0.00	397	432	457	0	10.31	0.00	10.31
11	0	0	0	0	0.00	0.00	0.00	412	397	450	0	10.39	0.00	10.39
12	0	0	0	0	0.00	0.00	0.00	443	412	453	0	9.80	0.00	9.80
13	0	0	0	0	0.00	0.00	0.00	449	418	459	0	9.91	0.00	9.91
14	0	0	0	0	0.00	0.00	0.00	444	429	459	0	10.43	0.00	10.43
15	0	0	0	0	0.00	0.00	0.00	449	363	500	0	9.21	0.00	9.21
16	0	0	0	0	0.00	0.00	0.00	500	309	500	0	9.84	0.00	9.84
17	0	0	0	0	0.00	0.00	0.00	449	309	500	0	9.83	0.00	9.83
18	0	0	0	0	0.00	0.00	0.00	494	309	500	0	9.81	0.00	9.81
19	0	0	0	0	0.00	0.00	0.00	459	307	500	0	10.15	0.00	10.15
20	0	0	0	0	0.00	0.00	0.00	449	359	500	0	10.71	0.00	10.71
21	0	0	0	0	0.00	0.00	0.00	449	259	449	0	8.33	0.00	8.33
22	0	0	0	0	0.00	0.00	0.00	0	209	449	0	2.28	0.00	2.28
23	0	0	0	0	0.00	0.00	0.00	0	0	0	0	0.02	0.00	0.02
24	0	0	0	0	0.00	0.00	0.00	0	0	0	0	0.02	0.00	0.02
25	0	0	0	0	0.00	0.00	0.00	448	293	500	0	9.09	0.00	9.09
26	0	0	0	0	0.00	0.00	0.00	448	400	500	0	10.96	0.00	10.96
27	0	0	0	0	0.00	0.00	0.00	449	343	454	0	9.76	0.00	9.76
28	0	0	0	0	0.00	0.00	0.00	449	259	500	0	8.96	0.00	8.96
29	0	0	0	0	0.00	0.00	0.00	450	350	450	0	9.86	0.00	9.86
30	0	0	0	0	0.00	0.00	0.00	449	309	449	0	10.02	0.00	10.02
31	0	0	0	0	0.00	0.00	0.00	458	449	459	0	10.73	0.00	10.73
Maximum	0	0	0	0	0.00	0.00	0.00	500	459	500	0	10.96	0.00	10.96
Minimum	0	0	0	0	0.00	0.00	0.00	0	0	0	0	0.02	0.00	0.02
Average	0	0	0	0	0.00	0.00	0.00	398	341	446	0	8.98	0.00	8.98
Total					0.00	0.00	0.00					278.31	0.00	278.31

XV. Progress Of Installation Of Shunt Capacitors As On 31.12.2003

(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	202	407
Haryana	3435	2685	333	417	333
H.P.	347	278	73	17	52
J & K	892	147	0	0	745
Punjab	4874	4706	76	15	153
Rajasthan	2863	2698	221	162	3
U.P.	5495	4965	274	66	464
Uttaranchal	344	123	0	2	219
BBMB	381	381	0	0	0
TOTAL	22145	18830	1099	881	2434

SOURCE: Minutes of 347th OCC meeting of NREB held on 11th December, 2003.

XVI. Hydraulic Data For Reservoirs During December 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 December 2003 (m)	493.47 1618.98	408.94 1341.66	262.77 862.10	346.41 1136.51	383.44 1257.99
Level on last day of December 2002 (m)	486.04 1594.63	403.93 1325.24	261.61 858.30	347.21 1139.14	379.94 1246.53
Live Capacity as on (mhmt) last day of December 2003 (maft)	0.41 3.32	0.32 2.56	0.30 2.42	0.05 0.37	0.05 0.38
Live Capacity as on (mhmt) last day of December 2002(maft)	0.33 2.69	0.20 1.66	0.26 2.10	0.06 0.50	0.00 0.00
Energy content as on last day of December 2003 (MU)	1600.00	450.00	595.00	85.00	100.00
Energy content as on last day of December 2002 (MU)	1220.00	275.00	525.00	118.00	0.00
Maximum level (m) (ft) (date)	500.97 1643.61 01.12.2003	410.87 1347.99 01.12.2003	264.20 866.80 01.12.2003	348.57 1143.61 01.12.2003	384.57 1261.70 01.12.2003
Minimum level (m) (ft) (date)	493.47 1618.98 31.12.2003	408.94 1341.66 31.12.2003	262.77 862.10 31.12.2003	346.41 1136.51 31.12.2003	383.44 1257.99 31.12.2003

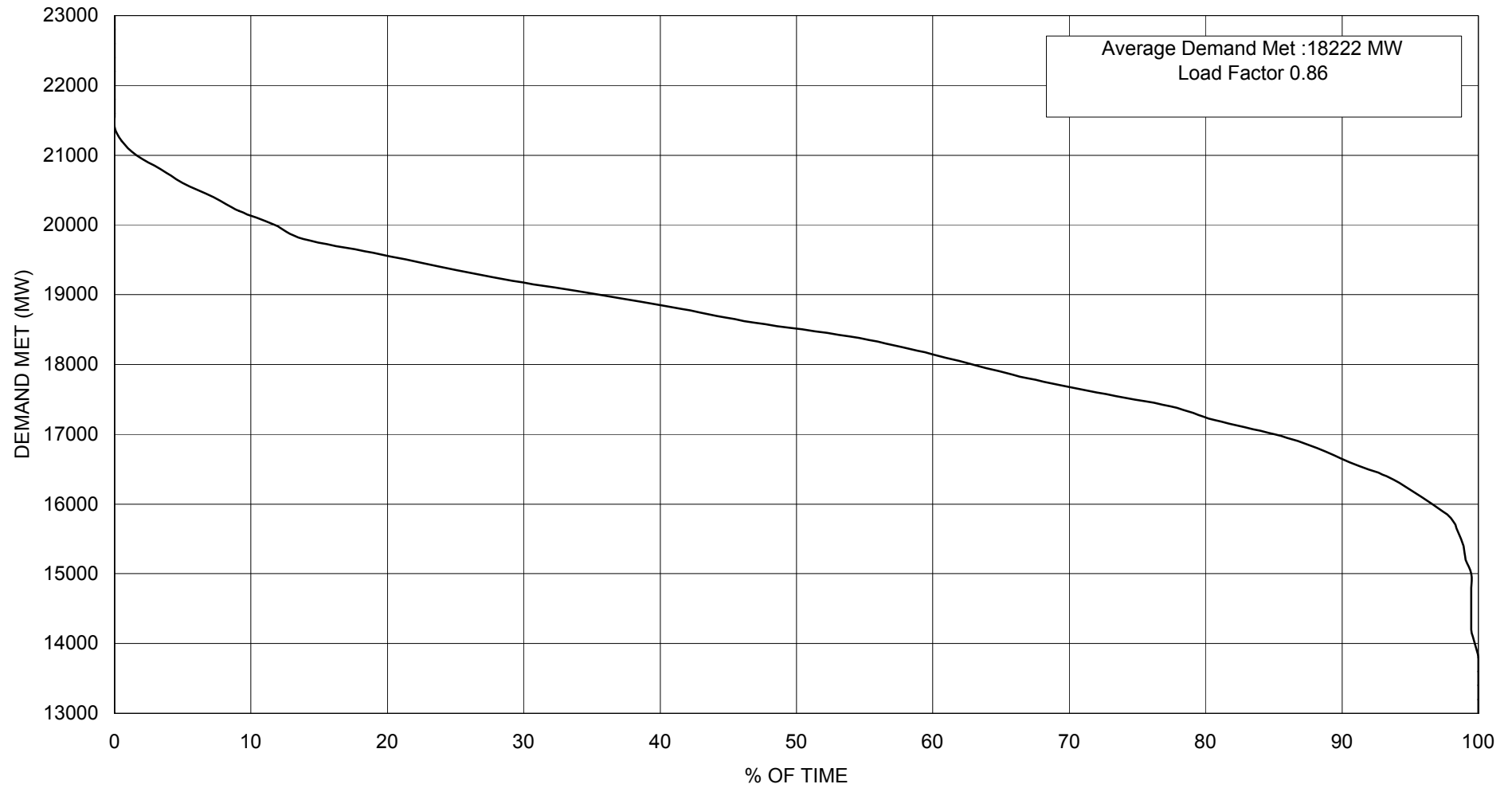
Energy content of Bhakra : Total Energy content at Bhakra, Ganguwal and Kotla power stations

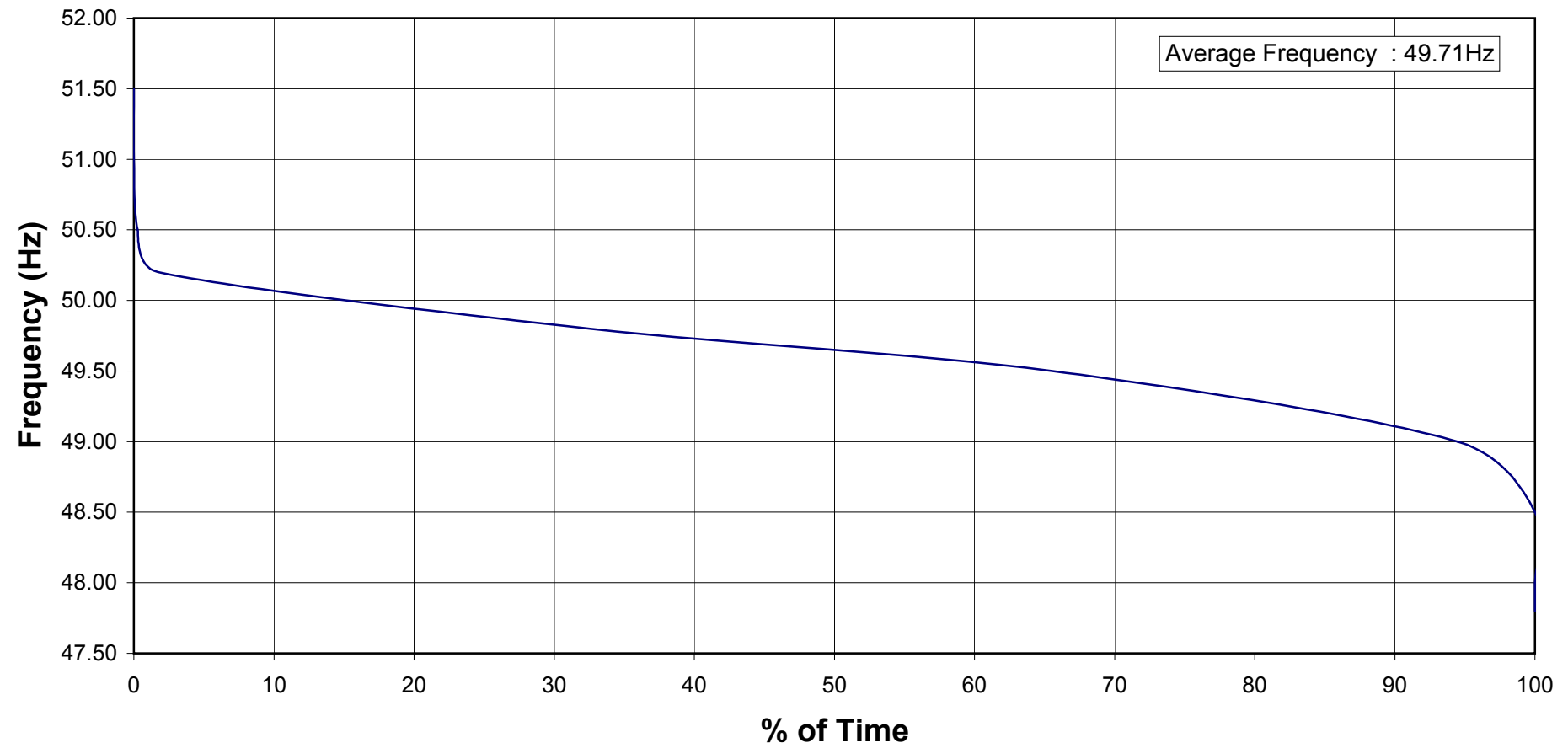
Energy content of Rihand : Total Energy content at Rihand & Obra power stations

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

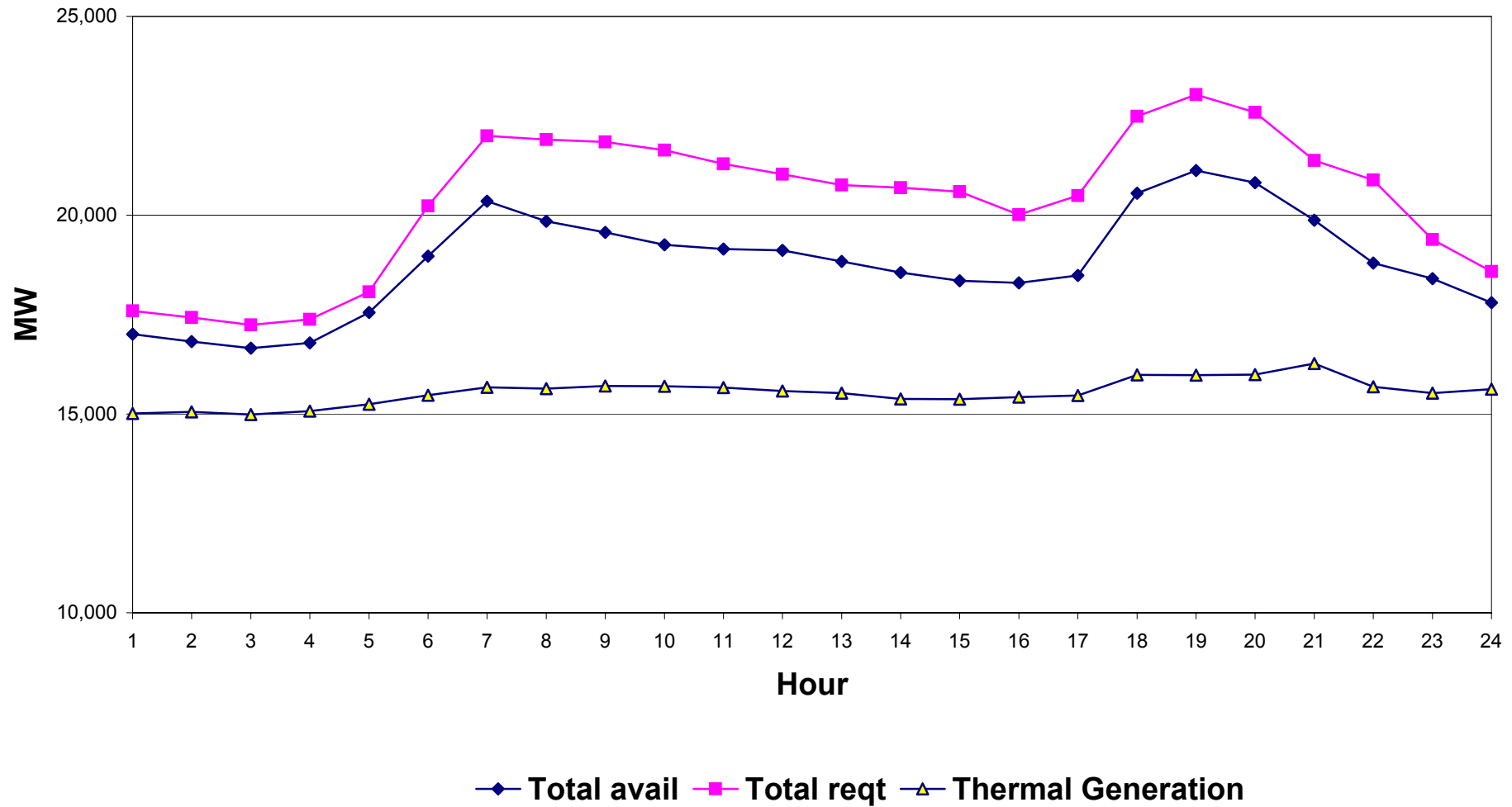
Energy Content of G. Sagar : Total Energy content at Gandhi Sagar, RP Sagar and Jawahar Sagar Power Stations.

Load Duration Curve For Northern Region For December 2003

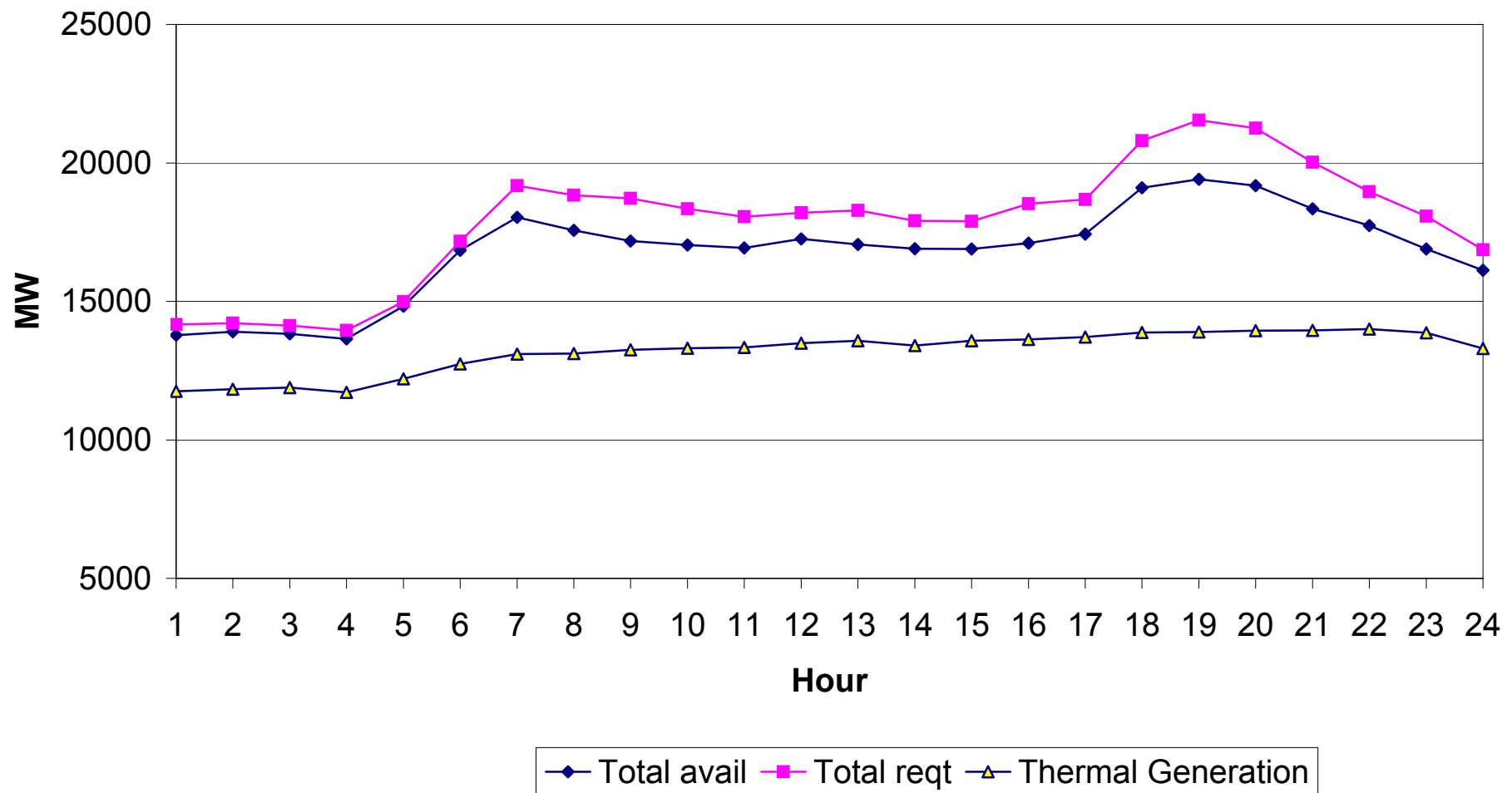


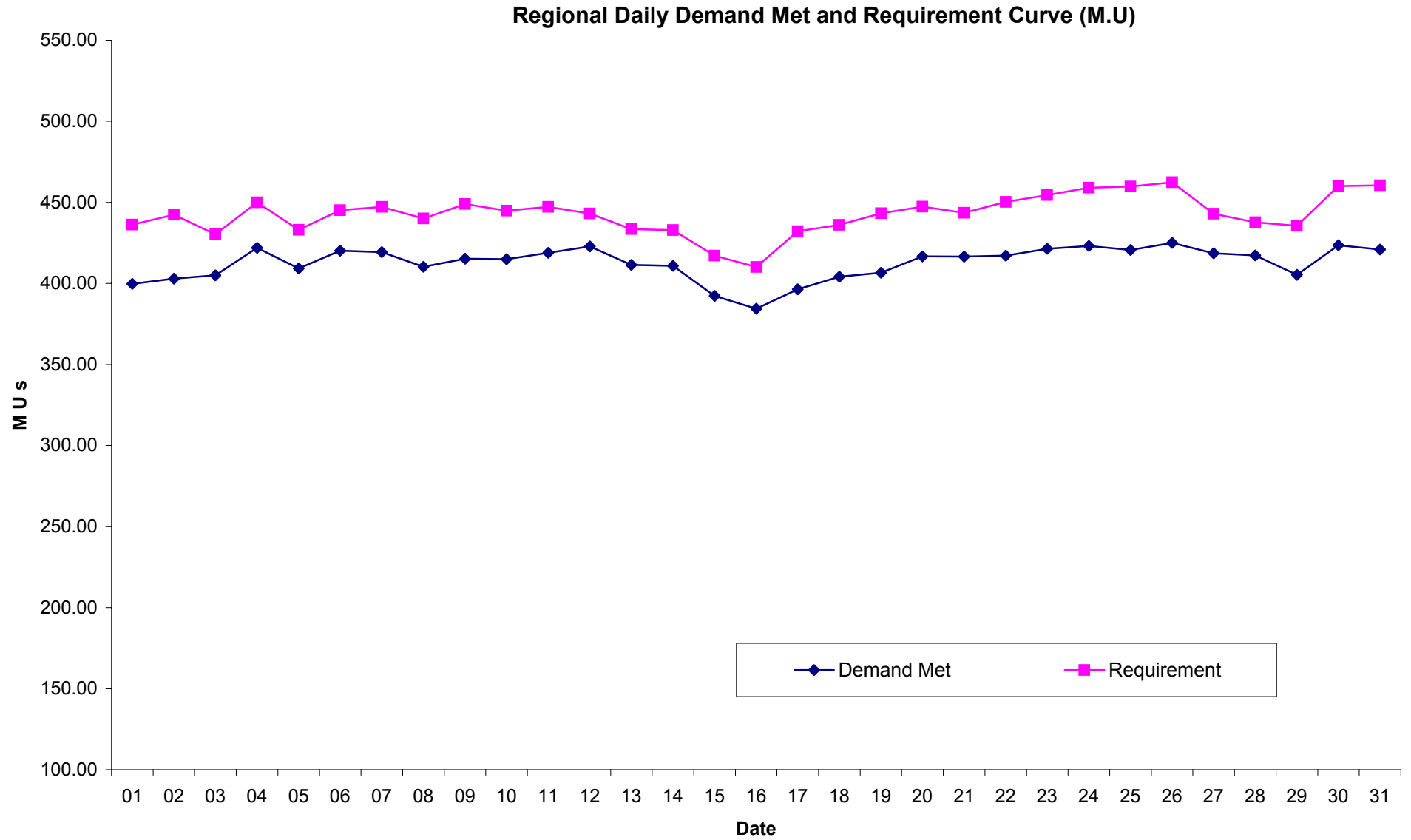
Frequency Duration Curve For Northern Region For December 2003

Load Curve Of Northern Region For Maximum Demand Met Day (26th December 2003)



Load Curve Of Northern Region For Minimum Demand Met Day (16th December 2003)





Grid Incident during December 2003

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