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NORTHERN REGION GRID REPORT FOR THE MONTH OF JANUARY 2003

A) Summary Report

1. Grid Overview during the Month

During January 2003 the average system frequency was 49.55 Hz and frequency remained between 49.0 & 50.5 Hz for 79.65% of the time during the month. The intense cold wave conditions in the Northern India had resulted in spurt in power demand, particularly between 6th-23rd January, 2003 when demand in the region had shot up by nearly 25 MU/day (1000 MW average). The conditions were also aggravated due to outage of some of the generating units as well as reduced inter-regional imports coupled with inadequate load management by the states. Due to all this the frequency persisted in low range for sustained long period and therefore the overall frequency profile was on lower side.

The voltage profile in the grid during the month has been satisfactory on most of the 400 kV buses.

The HVDC Rihand-Dadri pole-II remained out of service from 04.01.2003 to 29.01.2003 for internal inspection of converter transformer at Rihand end by BHEL for investigating excessive gas formation in the transformer. This outage resulted in overloading of 400 kV AC lines in the east-west corridor and also restricted import of power from eastern region.

There was no major incident/disturbance in the region during the month. A disturbance was averted on 22nd January 2003, when the healthy pole-I of Rihand-Dadri HVDC bypole carrying 750 MW tripped. Prompt action by NRLDC averted a major grid disturbance as the 400 kV Kanpur-Ballabgarh line loading had crossed 700 MW after this tripping. The good antecedent voltage conditions and the series compensation on 400 kV Kanpur-Ballabgarh line contributed in averting cascade tripping. The details of minor incidences are given at Annexure-4.

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

NIL

3. Frequency Profile :

Maximum frequency	51.28	Hz	at	04.04	hours on	02.01.2003
Minimum frequency	48.16	Hz	at	18.11	hours on	20.01.2003
Average frequency	49.55	Hz				

Frequency distribution in %

Hz	< 48.5	<49.0	49.0-50.5	> 50.5
% of time	1.86	15.99	79.65	4.36

Frequency Variation Index

Monthly Average	5.02
Maximum	11.65
Minimum	1.70

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

State / U.T.	Demand met MU/Day	Requirement MU/Day	Shortage MU/Day	Shortage %
Punjab	63.89	68.00	4.11	6.04
Haryana	44.21	48.00	3.79	7.90
Rajasthan	68.38	69.79	1.41	2.02
U.P.	104.92	130.00	25.08	19.29
Uttanchal	10.79	11.00	0.21	1.91
Delhi	52.49	56.16	3.67	6.53
Chandigarh	2.85	2.85	0.00	0.00
H.P.	9.30	9.50	0.20	2.11
J & K	18.72	20.00	1.28	6.40
N.F.F./Rail	1.91	1.91	0.00	0.00
Total	375.52	417.21	41.69	9.99

b. Peak MW

State / U.T.	MAX. Demand met MW	MAX. Requirement MW	Shortage MW	Shortage %
	A	B	D	(D/B)*100
Punjab	3582	3582	0	0.00
Haryana	2647	2981	334	11.20
Rajasthan	3535	3535	0	0.00
U.P.	5018	6228	1210	19.43
Uttanchal	680	695	15	2.16
Delhi	3042	3367	325	9.65
H.P.	696	696	0	0.00
J & K	939	1200	261	21.75
Chandigarh	145	145	0	0.00
N.F.F./Rail	75	75	0	0.00
Region	20109	22040	1931	8.76

Diversity Factor = **1.07**

* Approximate and Estimated

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

(All figs in M.U)

State / U.T.	Schedule	Actual Drawal	OD/UD
Punjab	609.74	533.20	-76.54
Haryana	585.37	685.28	99.91
Rajasthan	840.23	818.70	-21.53
U.P.	1385.64	1320.60	-65.04
Uttaranchal	183.49	203.48	19.99
Delhi	823.16	857.84	34.68
H.P.	240.01	256.53	16.52
J & K	472.07	550.32	78.25
Chandigarh	82.25	101.81	19.56
N.F.F./Rail	60.77	59.07	-1.70

6. **Inter Regional Exchanges**Energy
M.U.Peak
MWImport

a)	From WR over HVDC Vindhyachal B/B	0	0
b)	From WR to over 220 kV Ujjain-Kota	0	0
c)	From ER over HVDC Sasaram B/B	34.07	455
d)	From ER over 220 kV Dehri-Sahupuri	0	0

Export

d)	To WR over HVDC Vindhyachal B/B	160.70	500
e)	To WR (MP) over 220 kV Auraiya-Malanpur	5.08	63
f)	To ER (Bihar) over 220 kV/132kV lines	4.69	15
g)	To Nepal over 132 kV Tanakpur-Mahendernagar	6.20	11

B). Detailed Report

I. Details of Installed/Effective Capacity at the end of January 2003

	<u>STATION</u>	<u>INSTALLED CAPACITY</u>	<u>EFFECTIVE CAPACITY</u>
		(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	3x180 540.00	3x180 540.00
(f)	URI	4x120 480.00	4x120 480.00
	Sub-Total	2010.00	1984.20
C.	NPC		
(a)	RAPS -A	2x220 440.00	1x100+1x200 300.00
(b)	RAPS -B	2x220 440.00	2x220 440.00
(c)	NAPS	2x235 470.00	2x220 440.00
	Sub-Total	1350.00	1180.00
Total Central Sector (A + B + C)		11544.04	11333.24
2	BBMB		
(a)	Bhakra Complex		
(i)	Bhakra (L)	5x108 540.00	5x108 540.00
(ii)	Bhakra (R)	5x157 785.00	5x157 785.00
(iii)	Ganguwal	1x29.25+1x27.63+1x26.7 83.58	1x29.25+1x27.63+1x26.7 83.58
(iv)	Kotla	1x29.25+1x24.2+1x28.12 81.57	1x29.25+1x24.2+1x28.12 81.57
	Sub-Total	1490.15	1490.15
(b)	Dehar	6x165 990.00	6x165 990.00
(c)	Pong	2x60 + 4x66 384.00	2x60 + 4x66 384.00
	Total BBMB	2864.15	2864.15

3	CHANDIGARH				
(a)	Diesel Gen Sets		2.00		1.40
4	DELHI				
	THERMAL				
(a)	Indra Prastha	3x62.5+1x60	247.50	3x62.5+1x60	247.50
(b)	Rajghat	1x15+2x67.5	150.00	1x14+2x67.5	149.00
(c)	Gas Turbines	6x30+3x34	282.00	6x30+3x34	282.00
(d)	Pragati Gas Turbines	2x108	216.00	2x108	216.00
	Total DELHI		895.50		894.50
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
	Total HP		412.20		412.20
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

J & K (Contd.)				
(h)	GAS TURBINES			
	Pampore GT St - I	3x25.0	75.00	3x25.0
	Pampore GT St - II	4x25.0	100.00	4x25.0
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
(b)	Upper Behari Doab Canal (UBDC)	3x15+3x15	90.00	3x15+3x15
(c)	Mukerian	6x15+6x19.5	207.00	6x15+6x19.5
(d)	Anandpur Sahib (APS)	4x33.5	134.00	4x33.5
(e)	Ranjit Sagar HPS	4x150	600.00	4x150
(f)	Small Hydel		4.10	4.10
	Total Hydro		1145.10	1145.10
(g)	THERMAL			
	Guru Nanak Dev TPS (Bhatinda)	4x110	440.00	4x110
(h)	Guru Gobind Singh TPS (Ropar)	6x210	1260.00	6x210
(i)	Lehra Mohabbat TPS	2x210	420.00	2x210
(j)	Jhalkeri Rice Straw Fired	1x10	10.00	1x10
	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
(b)	Rana Pratap Sagar (RPS)	4x43	172.00	4x43
(c)	Jawahar Sagar (JS)	3x33	99.00	3x33
(d)	Anoopgarh	6x1.5	9.00	6x1.5
(e)	Small Hydro		14.85	14.85
	Total Hydro		434.85	434.85
(f)	THERMAL			
	Kota TPS	2x110+3x210	850.00	2x110+3x210
(g)	Suratgarh TPS	4x250	1000.00	4x250
(g)	Ramgarh GT	1x3	3.00	1x3
(i)	Ramgarh GT EXT.	1x35.5	35.50	1x35.5
	Total Thermal		1888.50	1888.50
(J)	Wind farm		14.01	14.01
	Total Rajasthan		2337.36	2337.36

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)		28641.93		28129.77

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	29.04%
NHPC	1984.20	0.00	0.00	0.00	1984.20	7.05%
NPC	0.00	0.00	0.00	1180.00	1180.00	4.19%
BBMB	2864.15	0.00	0.00	0.00	2864.15	10.18%
CHANDIGARH	0.00	0.00	1.40	0.00	1.40	0.00%
DELHI	0.00	396.50	498.00	0.00	894.50	3.18%
HARYANA	48.00	1025.00	25.20	0.00	1098.20	3.90%
HIMACHAL	412.20	0.00	0.00	0.00	412.20	1.47%
J&K	311.69	0.00	182.18	0.00	493.87	1.76%
PUNJAB	1145.10	2130.00	0.00	0.00	3275.10	11.64%
RAJASTHAN	434.85	1850.00	52.51	0.00	2337.36	8.31%
UP	529.90	3909.00	0.00	0.00	4438.90	15.78%
UTTRANCHAL	980.85	0.00	0.00	0.00	980.85	3.49%
Total	8710.94	15135.50	3103.33	1180.00	28129.77	100.00%
% of TOTAL	30.97%	53.81%	11.03%	4.19%	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 DVB 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 drawls over designated transmission lines.
- (iii) HP has a fixed energy share 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 31.01.2003

Agency / Source	Run-of -the -river	Reservoir	Total
NHPC	1444.20	540.00	1984.20
BBMB	1155.15	1709.00	2864.15
DELHI	0.00	0.00	0.00
HARYANA	48.00	0.00	48.00
HP	412.20	0.00	412.20
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	5191.94	3519.00	8710.94
PERCENTAGE	59.60%	40.40%	100%

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	1.08	16.08	86.29	46.30	12.63	2.78	0.00
02	0.00	0.00	2.18	20.86	77.06	44.51	20.75	1.45	0.00
03	0.00	0.41	4.52	27.01	92.24	32.79	3.24	0.52	0.00
04	0.00	0.35	5.32	34.18	90.13	27.53	4.55	0.00	0.00
05	0.00	0.47	1.41	23.90	96.37	33.40	2.21	0.00	0.00
06	0.00	0.87	10.44	38.25	88.78	24.79	0.78	0.00	0.00
07	0.00	0.86	16.65	56.24	82.90	16.84	0.44	0.00	0.00
08	0.00	0.60	17.33	58.16	82.67	14.58	0.00	0.00	0.00
09	0.00	2.41	27.30	60.25	71.93	13.26	0.77	0.00	0.00
10	0.00	8.28	40.56	73.92	59.44	4.28	0.00	0.00	0.00
11	0.00	2.82	26.12	63.52	73.55	11.82	0.33	0.00	0.00
12	0.00	0.68	16.25	50.95	82.06	11.77	1.68	0.00	0.00
13	0.00	3.32	22.91	67.08	77.09	9.56	0.00	0.00	0.00
14	0.00	1.51	17.96	47.50	81.54	13.61	0.50	0.00	0.00
15	0.00	1.40	20.35	58.25	79.28	8.30	0.38	0.00	0.00
16	0.00	0.58	14.41	58.66	85.29	8.69	0.31	0.00	0.00
17	0.00	1.66	23.79	64.31	74.73	7.62	1.48	0.00	0.00
18	0.00	1.26	21.54	67.86	78.46	2.93	0.00	0.00	0.00
19	0.00	1.21	33.61	72.64	66.39	3.60	0.00	0.00	0.00
20	0.00	2.78	29.95	52.05	70.05	20.21	0.00	0.00	0.00
21	0.00	11.83	52.96	80.40	46.98	5.27	0.06	0.00	0.00
22	0.00	5.77	36.62	81.74	63.31	1.52	0.26	0.00	0.00
23	0.00	6.16	34.03	77.14	65.29	4.55	0.68	0.00	0.00
24	0.00	1.08	13.57	45.48	86.12	17.25	0.31	0.00	0.00
25	0.00	0.00	5.20	42.58	92.02	19.12	2.78	0.62	0.00
26	0.00	0.00	4.62	25.38	88.69	33.65	6.69	0.74	0.00
27	0.00	0.00	2.52	28.67	90.87	37.15	6.61	1.96	0.00
28	0.00	0.12	1.77	10.79	76.28	58.00	21.95	4.80	0.00
29	0.00	0.00	0.96	13.24	90.27	51.27	8.78	0.07	0.00
30	0.00	0.13	3.54	21.78	87.44	40.83	9.02	0.97	0.00
31	0.00	0.00	0.49	04.95	74.29	67.91	25.22	1.26	0.00
Max	0.00	11.83	52.96	81.74	96.37	67.91	25.22	4.80	0.00
Min	0.00	0.00	0.49	10.79	46.98	1.52	0.00	0.00	0.00
Average	0.00	1.86	15.99	47.61	79.65	22.25	4.36	0.49	0.00

Frequency (Hz)				Average Frequency	Frequency Variation Index
Maximum		Minimum			
Freq	Time	Freq	Time		
51.20	01.44	48.84	18.57	49.96	2.12
51.28	04.04	48.56	21.02	49.97	2.18
51.12	03.19	48.40	21.11	49.76	2.42
50.92	04.05	48.36	19.32	49.70	3.00
50.92	08.04	48.38	22.51	49.78	1.96
50.68	17.34	48.56	21.07	49.61	3.67
50.64	18.03	48.32	19.15	49.45	5.22
50.44	01.57	48.28	06.31	49.43	5.30
50.76	18.04	48.28	10.48	49.35	6.67
50.36	17.08	48.20	11.06	49.15	9.67
50.60	04.07	48.24	17.01	49.32	6.99
50.92	18.01	48.24	11.27	49.47	4.87
50.40	04.10	48.24	12.01	49.32	6.81
50.64	17.52	48.28	22.04	49.48	4.90
50.60	16.15	48.24	22.41	49.38	5.69
50.72	18.06	48.32	11.35	49.41	5.06
50.88	18.05	48.24	05.32	49.30	6.93
50.44	18.02	48.32	16.59	49.30	6.30
50.48	17.31	48.24	21.06	49.23	7.41
50.40	03.17	48.16	18.11	49.41	6.52
50.48	18.01	48.20	07.05	49.05	11.65
50.76	06.05	48.24	05.23	49.13	9.13
50.72	18.03	48.24	05.15	49.17	8.99
50.60	18.02	48.36	23.06	49.52	4.35
51.28	17.05	48.60	05.53	49.61	3.39
51.24	18.02	48.56	06.55	49.79	2.71
51.16	23.56	48.76	07.42	49.81	2.65
51.20	18.01	48.48	18.39	50.11	2.73
51.00	12.03	48.80	08.14	49.96	1.70
51.24	23.51	48.24	17.42	49.85	2.35
51.08	03.08	48.84	08.12	50.18	2.09
51.28		48.84		50.18	11.65
50.36		48.16		49.05	1.70
50.81		48.39		49.55	5.02

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	420	01.23	390	18.22	417	02.29	386	18.56	216	00.58	201	18.55	406	23.11	383	18.20
02	420	03.59	388	18.45	417	04.05	382	18.43	216	00.59	198	18.27	408	00.31	382	17.57
03	422	03.21	386	06.46	413	03.28	384	11.42	215	03.28	197	15.31	418	04.03	382	06.41
04	416	02.59	388	06.58	413	03.29	386	09.15	215	02.58	198	10.46	408	21.24	386	07.00
05	418	02.59	388	18.14	411	02.59	382	18.14	215	02.58	202	10.00	409	22.59	382	18.13
06	416	01.59	386	18.22	415	03.20	386	18.41	218	01.59	201	18.22	404	02.05	372	18.22
07	416	01.12	388	18.59	411	01.59	386	16.46	219	01.59	201	17.56	416	23.13	377	17.44
08	412	22.53	386	11.10	411	01.58	382	16.48	216	22.51	202	10.26	405	08.03	378	18.18
09	416	22.39	388	09.52	413	03.29	384	16.45	216	04.15	204	10.49	416	22.34	383	18.14
10	416	04.07	386	18.16	411	03.29	384	11.11	218	13.33	202	18.19	409	22.39	382	05.46
11	414	02.57	384	10.28	405	01.00	384	12.00	217	01.02	197	11.05	412	22.35	384	18.10
12	414	5.29	390	09.29	411	23.59	391	10.51	216	23.58	204	10.55	413	05.27	386	11.12
13	414	02.59	386	16.29	411	00.59	393	21.00	216	00.56	203	16.29	403	23.59	381	16.17
14	414	23.45	384	10.21	411	01.33	386	10.29	216	23.57	201	10.29	404	23.01	379	16.49
15	416	01.52	388	15.12	411	02.30	388	11.29	216	01.30	203	15.12	408	02.09	387	10.20
16	414	23.21	386	10.39	410	00.47	384	11.36	215	00.35	202	10.40	417	02.17	382	15.09
17	412	06.64	386	15.07	410	01.00	384	15.07	216	04.06	202	18.27	408	21.59	377	14.52
18	412	04.13	386	10.50	411	02.00	388	12.14	216	04.12	201	12.3	406	21.56	379	17.44
19	412	06.04	386	15.07	410	01.00	384	15.07	216	04.06	202	18.27	408	21.59	377	14.52
20	412	21.59	392	18.09	410	02.11	392	18.09	216	01.58	204	18.27	410	08.52	382	17.45
21	410	23.00	386	15.27	406	01.00	382	15.27	215	22.58	201	12.23	411	08.03	381	15.05
22	418	10.56	388	06.25	410	10.59	380	09.38	214	00.59	200	19.00	408	20.59	385	18.07
23	410	23.00	386	15.27	406	01.00	382	15.27	215	22.58	201	12.23	411	08.03	381	15.05
24	410	18.01	386	15.35	408	18.02	389	15.38	214	22.50	203	15.37	406	20.59	383	15.34
25	412	00.33	386	18.30	411	00.37	389	11.20	215	00.47	203	18.59	408	08.04	387	10.47
26	414	13.28	388	15.26	411	18.04	389	15.29	218	13.24	208	18.27	407	13.21	376	15.25
27	412	00.33	386	18.30	411	00.37	389	11.20	215	00.47	203	18.51	408	08.04	387	10.47
28	416	01.23	391	18.23	419	03.44	391	18.23	220	04.25	202	12.16	410	02.51	381	18.39
29	415	01.59	388	18.40	416	01.07	408	09.25	216	01.16	203	06.59	406	01.59	377	17.37
30	420	23.53	390	11.49	415	02.22	393	08.55	218	02.26	204	18.28	410	23.58	378	17.42
31	422	01.22	390	10.02	420	01.22	395	08.41	221	03.08	203	17.47	410	04.03	384	10.02
Max	422		392		420		408		221		208		418		387	
Min	410		384		405		380		214		197		403		372	

V. Regional Power Supply Position

(All Figs In MUs)

Date	Availability (Gross) MW	Peak Hrs. Requirement MW	Shortage/ Restriction MW	Availability (Gross) MW	Off Peak Hrs. Requirement MW	Shortage/ Restriction* MW	Regional Availability MU
01	19209	20845	1636	13538	13591	53	361
02	19407	21024	1617	14498	14688	190	368
03	19116	21446	2330	15058	15058	0	379
04	19020	21785	2765	15202	15442	240	380
05	19049	20725	1676	15328	15688	360	377
06	19546	21486	1940	14774	15134	360	374
07	19747	22040	2293	15505	15865	360	378
08	20092	22311	2219	15848	16208	360	388
09	19686	21649	1963	15881	16521	640	394
10	19664	21504	1840	15910	16270	360	388
11	19435	22025	2590	16320	16680	360	382
12	19518	21735	2217	16630	16820	190	387
13	19462	21265	1803	16345	16752	407	391
14	19669	21563	1894	16783	17123	340	396
15	19658	21854	2196	16631	17181	550	395
16	19899	22203	2304	16850	17340	490	388
17	19256	21823	2567	16996	17306	310	387
18	19361	22203	2842	16285	17147	862	386
19	19328	21822	2494	16943	17503	560	421
20	18990	22052	3062	16913	17373	460	402
21	19663	21592	1929	17265	17675	410	420
22	19367	21655	2288	17002	17602	600	425
23	19539	21651	2112	16846	17286	440	432
24	19728	21901	2173	16858	17692	834	391
25	20109	21632	1523	17112	17722	610	400
26	19478	20556	1078	17024	17214	190	392
27	19541	20750	1209	16407	16597	190	414
28	19207	20592	1385	14824	15014	190	400
29	19209	20661	1452	15214	15259	45	392
30	19422	20874	1452	14814	14859	45	421
31	18924	19950	1026	14436	14626	190	363
Maximum	20109	22311	3062	17265	17722	862	432
Minimum	18924	19950	1026	13538	13591	0	361
Average	19461	21457	1996	16001	16362	361	393

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	3149	1993	2156	1144	3319	2630	2547	1324	4262	3365
02	3202	1883	2334	1318	3192	2813	2688	1265	4243	4240
03	3156	2018	2173	1369	3118	2807	2669	1449	4009	4238
04	3132	2742	2325	1409	3206	2835	2203	1449	4373	4351
05	3249	2340	2174	1674	2832	2803	2464	1484	4348	4625
06	3289	2265	2243	1783	3135	2839	2711	1452	4425	4142
07	3242	2257	2170	1767	3289	2883	2830	1500	4481	4340
08	3518	2313	2121	1775	3131	2844	2756	1536	4642	4479
09	3582	2384	2328	1876	3011	2876	2727	1504	4621	4298
10	3448	2385	2228	1697	3064	2858	2724	1517	4628	4566
11	3423	2443	2099	1944	3114	2899	2549	1669	4572	4406
12	3339	2378	2223	2032	3041	2921	2309	1632	4434	4675
13	3324	2583	2177	1825	3535	2902	2674	1589	4595	4642
14	3479	2401	2180	2041	3154	2952	2755	1652	4649	4798
15	3506	2436	2217	1962	3283	2931	2604	1575	4654	4838
16	3368	2438	1877	2087	3501	2947	2718	1614	4874	5041
17	3284	2463	2253	2124	3188	2938	2627	1669	4399	5005
18	3406	2558	2224	1649	3205	2970	2332	1592	4483	4631
19	3403	2631	1960	2020	3014	2545	2445	1681	4814	4914
20	3306	2645	2019	2162	3014	2545	2585	1628	4716	4962
21	3438	2681	2054	2053	3165	2980	2658	1593	4729	4970
22	3282	2782	1971	2013	3259	2966	2487	1643	4975	5050
23	3410	2958	2357	2211	3082	2877	2724	1552	5018	4738
24	3579	2972	2141	2041	3298	2833	2582	1497	4681	4868
25	3564	2999	2240	2094	3384	3101	2618	1462	4758	4864
26	3520	2871	2324	2249	3358	3085	2321	1439	4644	4893
27	3527	2619	2208	2176	3310	2922	2711	1280	4634	4815
28	3428	2313	2023	1911	3110	2787	2688	1327	4714	4283
29	3470	2296	2223	1944	3426	2992	2576	1299	4689	3882
30	3167	2325	1952	1960	3264	3012	2657	1261	4776	4412
31	3320	2166	2210	1530	2877	1159	2634	1258	4569	4433
Maximum	3582	2999	2357	2249	3535	3101	2830	1681	5018	5050
Minimum	3132	1883	1877	1144	2832	1159	2203	1258	4009	3365
Average	3371	2469	2167	1866	3190	2821	2599	1497	4594	4573

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	612	306	100	90	548	287	897	726
02	553	316	100	90	554	272	900	756
03	634	350	140	90	561	255	888	818
04	579	360	140	90	561	255	842	659
05	572	346	140	90	535	260	841	634
06	597	354	140	90	521	260	886	595
07	601	361	140	90	687	298	911	619
08	610	361	140	90	696	296	779	625
09	507	370	140	90	545	252	874	610
10	652	363	140	90	537	278	796	554
11	589	354	140	90	471	276	783	582
12	680	384	140	90	513	277	827	821
13	585	373	140	90	508	250	939	860
14	563	372	140	90	525	272	866	806
15	608	394	140	90	476	264	866	806
16	595	363	140	90	495	270	866	806
17	595	355	140	90	528	277	785	768
18	525	328	140	90	537	262	785	748
19	561	376	140	90	668	395	761	929
20	581	365	140	90	668	295	615	719
21	671	376	140	90	668	295	685	758
22	546	390	140	90	632	274	759	777
23	615	397	140	90	516	269	604	818
24	662	348	140	90	480	272	747	739
25	675	361	140	90	563	265	770	765
26	622	352	140	90	501	261	840	766
27	650	333	140	90	534	240	759	829
28	576	315	140	90	525	241	734	709
29	625	326	140	90	541	253	756	783
30	608	340	140	90	547	251	757	813
31	573	308	140	90	554	249	264	337
Maximum	680	397	140	90	696	395	939	929
Minimum	507	306	100	90	471	240	864	837
Average	601	355	137	90	555	272	787	727

VII Daily Energy Consumption By Constituents

(All Figs In MUs)

Date	Punjab	Haryana	Rajasthan	Delhi	UP	Uttaranchal	Chandigarh	HP	J & K	Total
01	57.436	40.731	64.687	49.761	92.795	9.863	2.290	10.011	19.872	347.446
02	56.998	38.258	65.713	52.246	97.261	10.296	2.290	9.425	19.740	352.226
03	58.751	37.508	68.294	54.471	101.817	10.255	2.865	9.358	18.234	361.553
04	60.673	41.177	66.809	51.084	106.422	10.677	2.865	9.772	16.949	366.427
05	58.894	44.517	67.956	51.773	106.905	10.524	2.865	9.012	17.817	370.263
06	57.709	45.112	69.765	52.449	101.765	10.637	2.865	9.495	15.955	365.752
07	60.987	45.674	66.247	54.707	109.170	10.898	2.865	11.028	22.843	384.420
08	62.948	46.466	67.404	54.593	109.146	11.097	2.865	10.927	19.818	385.265
09	64.867	45.617	66.560	53.920	107.750	10.852	2.865	9.111	19.798	381.341
10	64.517	46.301	64.968	54.592	111.391	10.976	2.865	9.413	21.219	386.244
11	63.730	43.970	66.873	54.082	106.473	10.976	2.865	8.841	18.715	376.526
12	62.853	42.767	68.555	55.338	106.247	11.630	2.865	8.896	19.695	378.845
13	64.013	44.320	70.774	54.438	105.770	11.503	2.865	8.899	20.645	383.227
14	65.451	46.201	70.326	56.174	107.553	11.309	2.865	9.166	19.964	389.009
15	65.148	45.468	71.199	54.416	109.359	11.103	2.865	8.978	19.645	388.181
16	65.119	45.853	72.092	53.649	108.234	11.246	2.865	9.487	19.625	388.171
17	65.977	43.403	72.472	53.469	105.677	11.208	2.865	10.593	19.324	384.988
18	68.401	41.599	71.264	52.723	102.435	10.383	2.865	10.166	19.066	378.903
19	64.009	44.944	64.232	54.013	106.944	10.908	2.865	9.722	17.812	375.449
20	65.809	43.973	64.457	55.194	108.343	10.864	2.865	9.722	17.803	379.031
21	66.014	42.773	67.404	54.501	108.185	11.415	2.865	9.722	17.889	380.769
22	64.131	42.302	66.186	54.094	98.929	11.547	2.865	9.132	18.166	367.352
23	69.538	44.045	70.621	52.383	107.300	11.668	2.865	8.709	17.866	384.995
24	70.939	44.970	72.906	52.240	103.511	11.420	2.865	7.866	17.866	384.584
25	71.599	47.048	70.626	52.240	107.342	11.259	2.865	8.266	18.995	390.240
26	68.794	49.676	70.962	45.529	106.979	8.607	2.865	8.272	20.252	381.936
27	67.038	46.535	67.897	49.497	104.715	9.001	2.865	8.596	19.222	375.366
28	62.536	43.511	71.320	49.256	104.830	10.565	2.865	8.402	17.835	371.119
29	63.372	46.228	69.500	42.182	99.856	10.568	2.865	8.535	19.149	362.255
30	63.474	46.161	69.397	51.227	100.119	10.491	2.865	9.223	19.113	372.071
31	58.790	43.361	62.288	50.826	99.230	10.747	2.865	9.513	9.507	347.127
Maximum	71.599	49.676	72.906	56.174	111.391	11.668	2.865	11.028	22.843	390.240
Minimum	56.998	37.508	62.288	42.182	92.795	8.607	2.290	7.866	9.507	347.127
Average	63.888	44.209	68.379	52.486	104.918	10.790	2.828	9.299	18.723	375.519
Month Total	1980.515	1370.470	2119.754	1627.067	3252.455	334.493	87.665	288.257	580.405	11641.079

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-Jan-2003	18833	20510	19996	21553	26975	29232	24048	27747	42017	39122	5014	4681
2-Jan-2003	18107	16850	19624	23928	28919	26276	23149	27979	40920	37277	5655	5989
3-Jan-2003	18197	18114	18675	25126	28118	28928	26169	29876	40738	36932	5495	6514
4-Jan-2003	18606	18145	19130	23062	26806	26660	24911	30458	40798	35865	5660	6948
5-Jan-2003	18066	16487	17672	20392	23098	25266	24932	29071	38878	33750	5693	6609
6-Jan-2003	17080	15231	17809	19716	23466	24394	24963	30296	40894	37915	5804	6726
7-Jan-2003	18221	16354	19118	22242	27105	24829	25847	33348	42330	37394	6058	6787
8-Jan-2003	19374	17296	19155	21465	28124	24915	26577	30641	45193	42905	5989	7051
9-Jan-2003	20820	19163	19302	21196	27890	25423	26036	27398	47685	45359	6011	6826
10-Jan-2003	20245	17295	19251	20864	27584	25005	25949	29090	46488	44655	6154	6811
11-Jan-2003	19890	18160	19047	22147	27505	25117	26096	26676	45768	45618	5777	6564
12-Jan-2003	21299	17784	18780	22743	27211	26258	28222	27406	46323	46276	6306	6954
13-Jan-2003	21287	16847	18839	22666	27528	25907	28327	28497	47195	47897	6059	6983
14-Jan-2003	19276	15391	18723	22069	26752	25648	28107	28999	47250	46744	6095	7202
15-Jan-2003	18929	15594	18776	20965	26650	25425	28151	27983	47231	47240	6229	6830
16-Jan-2003	19431	15513	18976	22060	27438	27127	28437	27580	47714	47441	6161	6442
17-Jan-2003	20482	18935	19080	23092	27769	27481	28338	26339	47365	45724	5786	6271
18-Jan-2003	19943	17962	18630	21637	26793	26638	27512	26493	45913	44692	6000	5614
19-Jan-2003	19324	16468	18255	19802	26916	28394	27429	28329	46249	42555	5907	6694
20-Jan-2003	18774	15624	18077	19266	26858	27556	27380	29112	44136	43154	5858	6759
21-Jan-2003	19082	15637	18230	21707	27126	26561	27487	28689	44677	41681	6108	7168
22-Jan-2003	18959	16634	17693	19485	26483	25933	27288	28403	44521	42134	6178	7618
23-Jan-2003	19171	14931	17622	20584	26835	25483	27225	26700	44542	43429	6048	6946
24-Jan-2003	20247	16361	17980	20440	27556	27268	28491	26278	46347	47579	6254	6802
25-Jan-2003	21213	17739	19399	24583	28319	28703	27835	24327	47678	46409	6329	6549
26-Jan-2003	20553	17416	20156	28302	27828	27881	25587	19541	47270	45454	6174	6711
27-Jan-2003	20854	16085	20591	26616	27930	25778	25187	23698	46738	44763	5928	6633
28-Jan-2003	21048	17454	19897	21951	26968	27154	24101	24730	45662	41190	5875	6179
29-Jan-2003	20028	18567	18283	23447	27081	27129	26140	25467	42689	38548	5883	5761
30-Jan-2003	20998	18317	18361	21851	27691	27860	25492	26811	42969	39879	5454	5859
31-Jan-2003	21404	20341	20245	20325	26906	22474	27751	29880	41460	41024	5544	6000
Total MU	609.741	533.205	585.372	685.282	840.228	818.703	823.164	857.842	1385.638	1320.605	183.486	203.481
Max. MWH	21404	20510	20591	28302	28919	29232	28491	33348	47714	47897	6329	7618
Min MWH	17080	14931	17622	19266	23098	22474	23149	19541	38878	33750	5014	4681
Avg. MWH	19669	17200	18883	22106	27104	26410	26554	27672	44698	42600	5919	6564

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-Jan-2003	8534	9226	18146	18765	2736	3084	480	595	1489	1401
2-Jan-2003	8602	9091	18033	18842	2873	3172	480	597	1456	1286
3-Jan-2003	8665	9143	18042	17247	2898	3094	480	595	1462	1203
4-Jan-2003	8416	8592	17504	16114	2631	3180	480	584	1456	1215
5-Jan-2003	8019	8500	16955	16574	2433	2862	480	581	1456	1338
6-Jan-2003	8026	8881	16869	14920	2441	3171	480	587	1457	1309
7-Jan-2003	8037	8965	17297	18551	2311	3379	480	590	1457	1226
8-Jan-2003	8253	8873	16656	18778	2673	3591	480	600	1488	1398
9-Jan-2003	7134	8437	15328	18709	2592	3437	480	601	1488	1297
10-Jan-2003	7136	8734	15171	18342	2603	3695	480	603	1401	1202
11-Jan-2003	7228	8098	14849	17634	2566	3665	480	603	1515	1313
12-Jan-2003	6798	8148	14419	18468	2599	3271	480	607	1471	1194
13-Jan-2003	6938	8146	14450	19003	2606	3611	480	604	1491	1144
14-Jan-2003	7969	8630	14855	18516	2590	3671	480	609	1488	1243
15-Jan-2003	8063	8481	14781	18588	2587	3727	480	604	1464	1165
16-Jan-2003	8160	8731	15028	18542	2616	3504	480	597	1508	1168
17-Jan-2003	7426	8351	14963	17911	2659	3537	480	515	1488	1150
18-Jan-2003	7080	7968	14480	17887	2611	3235	480	603	1476	1304
19-Jan-2003	7327	7724	14527	16723	3029	3106	480	593	1667	1321
20-Jan-2003	7132	7706	13892	15621	2525	3539	480	601	1573	1201
21-Jan-2003	6822	7740	13959	17326	2517	3609	480	603	1670	1304
22-Jan-2003	6819	7252	13932	17602	2523	3513	480	600	1659	1328
23-Jan-2003	7246	7308	13248	17059	2754	3366	480	594	1495	1558
24-Jan-2003	7473	7271	13632	17151	2819	3212	480	607	1595	1083
25-Jan-2003	7534	7510	13929	18081	2726	2960	480	604	2001	1490
26-Jan-2003	8139	7627	13857	18924	2710	2641	480	605	1416	1442
27-Jan-2003	7891	7986	13699	18047	2563	2966	480	574	1341	1487
28-Jan-2003	7852	7936	13789	17053	2553	2703	480	598	1277	1472
29-Jan-2003	8248	8002	14679	17750	2616	2810	480	591	1400	1470
30-Jan-2003	8717	8561	15293	17909	2874	3150	480	593	1105	1365
31-Jan-2003	8328	8908	15804	17684	3019	3348	480	598	1177	1560
							480			
Total MU	240.012	256.526	472.066	550.321	82.253	101.809	14.880	18.436	45.887	40.637
Max. MWH	8717	9226	18146	19003	3029	3727	480	609	2001	1560
Min MWH	6798	7252	13248	14920	2311	2641	480	515	1105	1083
Avg. MWH	7742	8275	15228	17752	2653	3284	480	595	1480	1311

IX Schedule vs Actual Injection of ISGS (Sheet 1 of 3)

Date	Singrauli		Rihand		Dadri(T)		Unchahar-I		Unchahar-II		Dadri GPS	
	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual
1-Jan-2003	43131	43418	21186	21327	14611	15172	7094	7710	6408	7817	15676	16589
2-Jan-2003	43406	43558	21445	21103	12122	12080	7573	7836	6997	7496	15384	16016
3-Jan-2003	43448	44059	21486	21812	15161	15507	7195	8289	6768	7603	14363	15897
4-Jan-2003	43624	43963	21516	21631	15478	16428	7879	8159	6730	7687	14648	16485
5-Jan-2003	43509	43557	21624	21833	15763	16286	6613	7328	7102	8112	14645	16489
6-Jan-2003	39834	39883	21583	21830	15975	16611	8927	9133	7450	8586	15214	16149
7-Jan-2003	43696	44069	21583	21869	16145	16949	7860	8632	7865	8441	15452	16576
8-Jan-2003	43765	44080	21660	21922	16432	16465	8483	8919	8472	8756	16471	16746
9-Jan-2003	43738	44041	21624	21978	17137	17381	9075	9267	8789	9039	17529	17379
10-Jan-2003	43855	44109	21710	21892	17014	17258	9120	9320	8884	9217	17114	17581
11-Jan-2003	44040	44302	21840	21969	17038	17831	9144	9298	8908	9135	15476	15827
12-Jan-2003	44040	44251	21840	21947	18134	18273	9120	9279	8884	9151	17296	18511
13-Jan-2003	44040	44262	21840	21939	18264	18302	9120	9252	8884	9016	17754	18151
14-Jan-2003	44040	44284	21840	21934	18264	18291	9050	9211	8735	9174	17422	18357
15-Jan-2003	44040	44277	21840	21948	18264	18281	9120	9314	8827	8828	17309	17827
16-Jan-2003	44040	44290	21840	21939	18264	18301	9120	9312	8866	8776	17566	17860
17-Jan-2003	44040	44301	21840	21945	18264	18288	9120	9280	9120	9238	17634	17672
18-Jan-2003	44040	44227	21840	21958	18264	18299	9120	9296	9120	9135	16826	17054
19-Jan-2003	44040	44281	21840	21940	18264	18294	9120	9297	9120	9249	15357	15401
20-Jan-2003	44040	44247	21840	21909	18264	18290	8688	8339	9123	9188	13553	13419
21-Jan-2003	44040	44236	21840	21944	18264	18293	9120	9232	9120	9214	14608	14600
22-Jan-2003	44040	43997	21840	21773	18264	18326	9120	9238	8884	9163	15033	15707
23-Jan-2003	44040	44251	21840	21948	17897	17845	9120	9232	9120	9200	12977	13420
24-Jan-2003	44040	44200	21840	21905	18264	18345	9120	9238	9120	9149	13193	13452
25-Jan-2003	44040	44179	21840	21925	18264	18337	9120	9224	9120	9111	17073	17442
26-Jan-2003	44040	44164	21840	21829	17188	17311	9120	9219	8905	8957	17026	17474
27-Jan-2003	44040	44135	21840	21824	17339	17562	9120	9228	8905	9023	17111	17499
28-Jan-2003	44040	44040	21840	21532	16407	16462	9012	8977	8389	8557	15756	15900
29-Jan-2003	44040	44107	21295	21511	15591	15723	7912	8240	8118	8317	14732	15296
30-Jan-2003	44040	44101	20470	20477	14772	15274	8369	8628	8248	8518	14396	14610
31-Jan-2003	43648	43310	21331	20653	14726	14647	7674	7882	7760	8081	12667	13103
Total MU	1356.454	1362.179	671.633	673.946	524.098	530.712	267.348	274.809	260.741	270.934	487.261	504.489
Max. MWH	44040	44302	21840	21978	18264	18345	9144	9320	9123	9249	17754	18511
Min MWH	39834	39883	20470	20477	12122	12080	6613	7328	6408	7496	12667	13103
Avg. MWH	43757	43941	21666	21740	16906	17120	8624	8865	8411	8740	15718	16274

IX. Schedule vs Actual Injection of ISGS (Sheet 2 of 3)

Date	Anta GPS		Auraiya GPS		NAPS		RAPS-B		Bairasiul	
	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual
1-Jan-2003	8575	8730	12829	12756	10368	10222	9600	10102	357	416
2-Jan-2003	8256	8133	12939	12916	10320	10126	9600	10082	357	409
3-Jan-2003	8783	8996	12668	12661	10296	10088	9600	10027	387	426
4-Jan-2003	9134	9225	12761	12821	10028	9853	8250	8560	297	334
5-Jan-2003	8787	8830	12007	12082	8478	8283	4800	4813	268	302
6-Jan-2003	7533	7622	12946	13029	10152	9967	5800	5751	297	338
7-Jan-2003	9518	9612	12926	13085	10224	9902	9480	9755	238	248
8-Jan-2003	9664	9684	13371	13495	10080	9939	9600	9953	60	147
9-Jan-2003	9365	9567	13935	13724	9960	9956	9600	9889	238	236
10-Jan-2003	9666	9709	11807	11802	9960	10004	9600	9945	238	279
11-Jan-2003	9728	9725	11767	11757	10032	10010	9600	9947	253	278
12-Jan-2003	9523	9584	12062	12076	10032	9991	9600	9910	253	279
13-Jan-2003	9635	9608	12405	12340	10032	10000	9600	9954	255	278
14-Jan-2003	7742	7754	13639	13379	10032	10000	9600	9957	255	272
15-Jan-2003	6848	6806	13262	13246	10104	10022	9600	9897	255	277
16-Jan-2003	9659	9628	12902	12889	10080	9955	9600	9974	255	277
17-Jan-2003	9711	9679	13220	13238	7682	7514	9600	9952	255	278
18-Jan-2003	9530	9524	12204	12199	4992	4863	9600	9924	255	265
19-Jan-2003	9710	9672	11532	11521	5040	4897	9600	9928	135	176
20-Jan-2003	9731	9668	12069	12033	5040	4789	9600	9874	240	259
21-Jan-2003	9696	9614	11865	11826	5040	4829	9600	9851	240	255
22-Jan-2003	9486	9509	10388	10317	5040	4818	9600	9843	240	256
23-Jan-2003	9645	9615	10006	9903	5040	4797	9600	9471	240	252
24-Jan-2003	9446	9434	11522	11445	9440	9246	9600	9862	240	247
25-Jan-2003	9555	9555	12852	12803	9840	10045	9600	9888	255	261
26-Jan-2003	9283	9340	10568	10525	10104	10066	9600	9854	270	267
27-Jan-2003	9529	9493	10172	10109	10104	9975	9600	9817	345	367
28-Jan-2003	9098	9129	10335	10191	10104	9958	9600	9878	465	479
29-Jan-2003	9403	9426	10085	10022	10080	9980	9600	9911	450	461
30-Jan-2003	9194	9143	11620	11629	10056	9987	9600	9853	300	349
31-Jan-2003	9107	8951	11296	11255	10080	10047	9600	9803	585	594
Total MU	284.540	284.965	373.960	373.074	277.860	274.129	287.530	296.225	8.778	9.562
Max. MWH	9731	9725	13935	13724	10368	10222	9600	10102	585	594
Min MWH	6848	6806	10006	9903	4992	4789	4800	4813	60	147
Avg. MWH	9179	9192	12063	12035	8963	8843	9275	9556	283	308

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

Date	Salal		Tanakpur		Chamera		Uri		Bhakra Complex		Dehar	
	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual	Schedule	Actual
1-Jan-2003	2320	2398	822	889	1530	1589	1965	2056	14718	15028	3004	2955
2-Jan-2003	2360	2440	725	772	1463	1512	1908	2048	15329	15547	3004	2921
3-Jan-2003	2238	2337	743	772	1575	1669	1851	2006	15329	15349	3004	3059
4-Jan-2003	2238	2329	713	754	1602	1717	1880	2031	15628	15068	3004	3018
5-Jan-2003	2238	2325	709	732	1335	1510	1851	2022	15460	15273	3079	2711
6-Jan-2003	2238	2310	707	721	1602	1693	1867	1895	15135	15305	2888	2811
7-Jan-2003	2238	2323	683	711	1602	1705	1752	1883	15239	15139	2888	2961
8-Jan-2003	2112	2229	656	687	4027	4226	1631	1816	15239	15241	2888	2946
9-Jan-2003	2093	2198	648	686	2381	2514	1578	1733	15252	15256	2888	2919
10-Jan-2003	1892	1979	685	702	2533	2644	1703	1906	15121	15176	2726	2719
11-Jan-2003	1651	1820	637	669	2132	2175	1532	1756	15186	15509	2726	2725
12-Jan-2003	1738	1850	630	647	1780	1864	1688	1813	15810	15912	2468	2361
13-Jan-2003	1811	1934	648	674	2537	2406	1638	1802	15719	15690	2355	2563
14-Jan-2003	2052	2145	648	675	2492	2371	1638	1785	15044	14966	2344	2393
15-Jan-2003	1926	2008	619	652	1884	1957	1613	1745	15044	15228	2344	2477
16-Jan-2003	1980	2087	600	626	1884	1940	1581	1733	15044	15011	2344	2337
17-Jan-2003	2166	2248	465	512	2525	2604	1656	1782	15044	15247	2344	2292
18-Jan-2003	2042	2138	624	661	2262	2340	1612	1728	15031	15327	2344	2385
19-Jan-2003	2042	2138	630	654	1791	1836	1604	1695	15031	14924	2344	2429
20-Jan-2003	2046	2136	573	605	2191	2283	1579	1691	15031	14992	2344	2390
21-Jan-2003	1922	2028	600	629	2192	2293	1607	1705	15135	15210	2344	2412
22-Jan-2003	1956	2042	624	643	2114	2266	1618	1737	15135	14820	2344	2420
23-Jan-2003	1962	2013	624	633	2003	2068	1540	1620	15135	15455	2344	2451
24-Jan-2003	2031	2075	576	586	1736	1813	1627	1698	15356	15211	2344	2092
25-Jan-2003	1933	1981	548	565	1691	1750	1560	1621	15343	15318	2344	2247
26-Jan-2003	1978	2026	582	601	1780	1827	1617	1680	15343	15390	2344	2159
27-Jan-2003	1999	2042	560	572	1024	1050	1592	1622	15343	14895	2344	2331
28-Jan-2003	1939	1984	529	538	467	500	1742	1783	15330	15112	2513	2175
29-Jan-2003	2188	2228	670	673	1736	1816	1770	1776	15330	14899	2513	2884
30-Jan-2003	2330	2368	660	643	1780	1846	1798	1821	15330	15215	3008	2802
31-Jan-2003	2719	2751	510	511	957	986	1954	1955	15343	14816	3011	3409
Total MU	64.378	66.910	19.648	20.395	58.608	60.770	52.552	55.944	472.557	471.529	80.783	80.754
Max. MWH	2719	2751	822	889	4027	4226	1965	2056	15810	15912	3079	3409
Min MWH	1651	1820	465	511	467	500	1532	1620	14718	14816	2344	2092
Avg. MWH	2077	2158	634	658	1891	1960	1695	1805	15244	15211	2606	2605

X. Daily Generation Details of State Sector Stations

(All Figs In MU's)

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	29.67	7.40	14.49	0.36	31.38	0.00	48.45	2.07	5.76	11.45	1.44	1.66	154.33
02	32.92	7.59	13.89	0.43	34.48	0.15	52.24	2.69	4.97	10.12	1.43	1.66	162.75
03	34.11	6.73	14.45	0.45	35.58	0.15	54.33	2.25	4.64	10.02	1.43	1.66	165.99
04	34.58	6.96	16.41	0.44	35.29	0.15	57.95	2.73	4.77	10.83	1.62	1.66	173.60
05	35.49	6.78	17.09	0.41	38.67	0.53	58.76	2.34	4.77	11.97	1.39	1.66	180.06
06	36.71	4.95	17.94	0.40	40.75	0.24	54.32	3.56	5.00	11.41	1.39	1.66	178.52
07	37.94	6.32	16.28	0.43	37.04	0.32	54.23	3.17	5.26	11.15	1.39	1.66	175.40
08	36.76	8.47	17.78	0.41	37.39	0.32	55.16	3.40	5.12	12.32	1.39	1.66	180.37
09	37.38	7.99	16.96	0.45	37.23	0.34	56.46	1.62	4.94	12.51	1.38	1.66	179.12
10	38.17	8.44	17.52	0.36	37.34	0.34	55.65	1.60	5.18	11.02	1.37	1.66	178.84
11	37.79	7.74	14.39	0.35	37.46	0.55	55.10	2.47	5.18	13.27	1.36	1.66	177.50
12	39.73	5.36	12.94	0.42	37.44	0.53	54.14	2.15	5.52	13.18	1.36	1.66	174.62
13	39.43	6.92	15.82	0.41	41.01	0.49	52.14	2.85	5.37	11.12	1.32	1.66	178.73
14	42.54	6.70	17.35	0.36	40.46	0.35	55.16	2.91	5.03	12.08	1.29	1.66	186.08
15	42.32	6.73	17.29	0.40	40.85	0.50	56.27	2.56	5.37	11.31	1.29	1.66	186.73
16	42.54	6.53	16.48	0.39	40.79	0.48	54.36	3.12	5.74	10.79	1.29	1.66	184.34
17	39.01	7.01	13.43	0.42	40.30	0.33	51.98	3.53	5.48	12.12	1.29	1.66	176.74
18	40.18	7.37	12.94	0.38	40.63	0.33	52.10	3.10	5.44	11.76	1.29	1.66	177.36
19	40.71	6.63	17.32	0.39	33.10	0.53	56.32	6.39	5.26	10.52	1.29	1.66	180.29
20	43.04	6.27	17.72	0.39	32.80	0.53	57.40	3.79	5.21	10.61	1.29	1.66	180.89
21	43.93	6.40	15.16	0.47	36.23	0.30	59.71	2.99	5.10	11.12	1.29	1.66	184.54
22	40.78	6.45	16.41	0.39	37.08	0.30	50.48	3.16	5.14	10.52	1.12	1.66	173.68
23	44.50	6.43	16.97	0.36	40.92	0.30	58.42	3.21	5.86	10.45	1.95	1.66	191.19
24	43.67	6.70	18.08	0.37	40.82	0.29	53.70	2.70	5.79	10.80	1.17	1.66	185.92
25	43.47	6.21	16.39	0.38	37.40	0.27	55.79	3.05	5.97	12.01	1.16	1.66	183.93
26	42.04	6.00	15.33	0.39	38.26	0.32	56.54	2.51	3.20	11.66	1.21	1.66	179.29
27	41.22	5.97	14.28	0.38	37.13	0.46	55.65	2.16	3.17	11.06	1.21	1.66	174.53
28	35.51	5.56	17.26	0.42	39.36	0.36	55.81	1.95	5.60	10.31	1.21	1.66	175.18
29	34.80	5.91	17.93	0.42	37.11	0.27	56.83	1.66	5.50	10.10	1.32	1.66	173.69
30	38.10	5.97	17.92	0.42	37.11	0.28	57.15	1.66	5.50	10.66	1.58	1.66	173.66
31	31.67	5.92	17.25	0.47	35.11	0.00	52.80	2.12	5.65	9.49	1.28	1.66	163.60
Maximum	44.50	8.47	18.08	0.47	41.01	0.55	59.71	6.39	5.97	13.27	1.95	1.66	191.19
Minimum	29.67	4.95	12.94	0.35	31.38	0.00	48.45	1.60	3.17	9.49	1.12	1.66	154.33
Average	38.73	6.66	16.18	0.40	37.63	0.33	55.01	2.76	5.18	11.22	1.35	1.66	177.14
Month Total	1200.72	206.42	501.47	12.50	1166.52	10.31	1705.42	85.49	160.47	347.74	41.79	51.55	5491.46



XI. Performance Of Generating Stations

S.No.	Power Station	Effective Capacity MW	Energy Generated during	Cummulative from 01.04.2002
			Jan, 2003 (Ex Bus MU)	(Ex-bus MU)
1	CENTRAL SECTOR			
A	NTPC (Thermal)			
(a)	Badarpur TPS	705.00	438.95	4119.89
(b)	Singrauli STPS	2000.00	1362.18	12588.91
(c)	Rihand STPS	1000.00	673.95	5866.16
(d)	Dadri NCTPS	840.00	530.71	4764.37
(e)	Unchahar-I TPS	420.00	274.81	2327.19
(f)	Unchahar-II TPS	420.00	270.93	2341.20
(g)	Tanda TPS	440.00	125.58	1654.64
(h)	Anta GPS	419.33	284.96	2218.51
(i)	Auraiya GPS	663.36	373.04	3555.99
(j)	Dadri GPS	829.78	504.49	4271.30
(k)	Faridabad GPS	431.57	156.68	2163.32
	Total NTPC	8169.04	4996.28	45871.48
B	NHPC			
(a)	Bairasiul	180.00	9.56	535.98
(b)	Salal	690.00	66.91	2804.68
(c)	Tanakpur HPS	94.20	20.39	370.64
(d)	Chamera HPS	540.00	60.77	1969.40
(e)	Uri HPS	480.00	55.94	2017.20
	Total NHPC	1984.20	213.57	7697.89
C	NPC			
(a)	RAPS -A	300.00	129.40	1139.04
(b)	RAPS -B	440.00	296.22	2559.59
(c)	NAPS	440.00	274.13	2665.51
	Total NPC	1180.00	699.75	6364.14
2	JOINTLY OWNED (BBMB)			
(a)	Bhakra Complex	1490.15	471.53	5767.19
(b)	Dehar	990.00	80.75	2989.62
(c)	Pong	384.00	36.63	671.77
	Total BBMB	2864.15	588.91	9428.58
3	DELHI			
(a)	Indra Prastha	247.50	54.28	441.57
(b)	Rajghat	149.00	54.13	618.73
(c)	Gas Turbines	282.00	110.79	995.39
(d)	Pragati Gas	216.00	128.48	600.10
	Total DELHI	894.50	347.68	2655.78
4	HARYANA			
(a)	WYC	48.00	12.68	211.72
(b)	Faridabad (New)	165.00	86.61	719.53
(c)	Panipat	860.00	474.17	3682.05
(d)	Magnum Diesel(IPP)	25.20	9.79	68.83
	Total Haryana	1098.20	583.25	4682.13

contd/-

5	HP			
(a)	Giri	60.00	7.59	146.06
(b)	Bassi	60.00	6.15	253.86
(c)	Binwa	6.00	0.79	19.17
(d)	Rongtong (+Nogli+Micro+Thirot+Sal-2)	15.25	1.95	20.83
(e)	Andhra	16.95	1.68	64.93
(f)	Bhabha (H)	120.00	17.50	507.93
(g)	Baner (H)	12.00	0.70	27.06
(h)	Gaj (H)	10.50	0.76	32.28
(i)	Gumma	3.00	0.27	
(j)	Ghanvi	22.50	2.13	75.00
(k)	Malana (IPP)	86.00	5.59	315.62
	Total HP	412.20	45.11	1462.73
6	J & K			
(a)	Lower Jhelum	105.00	0.00	3.33
(b)	Upper Sindh	127.60	10.92	276.56
(c)	Ganderbal	15.00	1.19	19.60
(d)	Mohra	9.00	0.00	0.00
(e)	Chenani	32.80	3.39	57.71
(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	4.42	13.38
(k)	Pampore GT St - II	100.00	10.46	33.55
	Total J & K	493.87	30.37	404.14
7	PUNJAB			
(a)	Jogindernagar/ Shanan	110.00	10.60	437.52
(b)	UBDC	90.00	29.66	349.10
(c)	Mukerian	207.00	37.96	715.74
(d)	Anandpur Sahib (APS)	134.00	43.06	703.60
(e)	Ranjit Sagar HPS	600.00	86.15	1005.89
(f)	Small Hydel	4.10	0.53	7.86
(g)	GNDTPS (Bhatinda)	440.00	198.43	1928.41
(h)	GGSTPS (Ropar)	1260.00	728.28	6603.37
(i)	Jhalkei Rice Straw Fired	10.00	0.00	0.00
(j)	Lehra Mohabbat TPS	420.00	270.58	2287.10
	Total Punjab	3275.10	1405.25	14038.59
8	RAJASTHAN			
(a)	Mahi Bajaj Sagar	140.00	7.85	21.87
(b)	Rana Pratap Sagar (RPS)	172.00	0.15	8.21
(c)	Jawahar Sagar (JS)	99.00	0.12	14.96
(d)	Anoopgarh	9.00	0.62	4.51
(e)	Small Hydro	14.85	1.55	5.60
(f)	Kota TPS	850.00	557.66	4881.52
(g)	RAMGARH GT	3.00	0.00	
(h)	RAMGARH GT EXT	35.50	19.03	174.37
(i)	Suratgarh TPS	1000.00	670.83	5447.48
(j)	Wind Farm	14.01	1.87	37.37
	Total Rajasthan	2337.36	1259.68	10595.89

contd/-

9	U.P.			
	<u>HYDRO</u>			
(a)	Rihand	300.00	41.62	499.29
(b)	Obra	99.00	17.17	206.44
(c)	Matatilla	30.00	7.45	91.13
(d)	Ganga Canal	10.70		
(e)	Small hydro	18.20		
(f)	Khara	72.00	15.31	365.76
	Total U.P. (Hydro)	529.90	81.55	1162.62
	<u>THERMAL</u>			
(e)	Obra	1442.00	509.54	4756.57
(f)	Panki	242.00	98.17	709.72
(g)	Harduaganj	375.00	34.85	593.47
(h)	Paricha	220.00	81.17	659.39
(i)	Anpara	1630.00	989.14	8651.33
	Total U.P. (Thermal)	3909.00	1712.87	15370.47
	Total U.P.	4438.90	1794.41	16533.09
10	UTTRANCHAL			
(a)	Khatima	41.40	9.56	139.65
(b)	Ramganga	198.00	30.34	130.21
(c)	Ganga Canal	32.70	10.16	116.75
(d)	Yamuna (I & IV)	114.75	20.16	532.03
(e)	Chibro	240.00	25.85	786.08
(f)	Khodri	120.00	13.08	365.80
(g)	Chilla	144.00	28.43	562.80
(h)	Maneri Bhali	90.00	27.70	397.01
	Total Uttranchal	980.85	165.28	3030.33
11	CHANDIGARH			
	Diesel gen set	1.40		
	Total Region	28129.77	12129.54	122764.77

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. Inter Regional Exchanges During January 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	Peak MW	Off Peak MW	Max Import	Max Export	Energy Import	Energy Export	Net
01	-178	-450	0	450	0	7.42	-7.42	-50	-50	0	50	0	1.168	-1.168
02	-93	-450	0	450	0.00	6.02	-6.02	-50	-50	0	50	0.00	1.17	-1.17
03	-93	-450	0	450	0.00	6.44	-6.44	-63	-60	0	64	0.00	1.06	-1.06
04	-300	-450	0	450	0.00	8.61	-8.61	0	-60	0	60	0.00	0.41	-0.41
05	0	-450	0	450	0.00	5.02	-5.02	0	0	0	0	0.00	0.00	0.00
06	0	-450	0	450	0.00	4.66	-4.66	0	0	0	0	0.00	0.00	0.00
07	0	-450	0	450	0.00	4.67	-4.67	0	0	0	0	0.00	0.00	0.00
08	0	-450	0	450	0.00	3.60	-3.60	0	0	0	0	0.00	0.00	0.00
09	0	-450	0	450	0.00	3.71	-3.71	0	0	0	0	0.00	0.00	0.00
10	0	-450	0	450	0.00	3.58	-3.58	0	0	0	0	0.00	0.00	0.00
11	0	-450	0	450	0.00	4.84	-4.84	0	0	0	0	0.00	0.00	0.00
12	0	-450	0	450	0.00	4.59	-4.59	0	0	0	0	0.00	0.00	0.00
13	0	-450	0	450	0.00	4.95	-4.95	0	0	0	0	0.00	0.00	0.00
14	0	-450	0	450	0.00	5.22	-5.22	0	0	0	0	0.00	0.00	0.00
15	0	-450	0	450	0.00	4.34	-4.34	0	0	0	0	0.00	0.00	0.00
16	0	-450	0	450	0.00	4.29	-4.29	0	0	0	0	0.00	0.00	0.00
17	0	-450	0	450	0.00	4.66	-4.66	0	0	0	0	0.00	0.00	0.00
18	0	-450	0	450	0.00	4.61	-4.61	0	0	0	0	0.00	0.00	0.00
19	0	-450	0	450	0.00	4.93	-4.93	0	0	0	0	0.00	0.00	0.00
20	0	-450	0	450	0.00	4.34	-4.34	0	0	0	0	0.00	0.00	0.00
21	0	-450	0	450	0.00	4.54	-4.54	0	0	0	0	0.00	0.00	0.00
22	-185	-450	0	450	0.00	6.21	-6.21	0	0	0	0	0.00	0.00	0.00
23	-93	-450	0	450	0.00	5.50	-5.50	0	0	0	0	0.00	0.00	0.00
24	-93	-450	0	450	0.00	5.14	-5.14	0	0	0	0	0.00	0.00	0.00
25	-93	-450	0	450	0.00	5.11	-5.11	0	0	0	0	0.00	0.00	0.00
26	-93	-450	0	450	0.00	5.31	-5.31	0	0	0	0	0.00	0.00	0.00
27	-93	-450	0	500	0.00	5.50	-5.50	0	0	0	0	0.00	0.00	0.00
28	-93	-500	0	500	0.00	6.52	-6.52	0	0	0	0	0.00	0.00	0.00
29	0	450	0	450	0.00	5.17	-5.17	0	0	0	0	0.00	0.00	0.00
30	0	-450	0	450	0.00	6.02	-6.02	-29	0	0	0	0.00	0.36	-0.36
31	0	-450	0	450	0.00	5.22	-5.22	-29	-48	0	0	0.00	0.91	-0.91
Maximum	0	-450	0	500	0.00	8.61	-3.58	0	0	0	64	0.00	1.17	0.00
Minimum	-300	-500	0	450	0.00	3.58	-8.61	-63	-60	0	0	0.00	0.00	-1.17
Average	-41	-452	0	453	0.00	5.11	-5.11	-6	-7	0	6	0.00	0.13	-0.13
Total					0.00	160.70	-160.70					0.00	5.08	-5.08

XII. Inter Regional Exchanges During January 2003 (Sheet 2 of 2)

2 of 2

Date	With WR Over Ujjain - Kota {Export(-)/Import(+)}							With ER {Export(-)/Import(+)}						
	Peak MW MW	Off Peak MW MW	Max Import MW	Max Export MW	Energy Import MU	Energy Export MU	Net MU	Peak MW MW	Off Peak MW MW	Max Import MW	Max Export MW	Energy Import MU	Energy Export MU	Net MU
01	0	0	0	0	0.00	0.00	0.00	355	413	413	0	10.08	0.00	10.08
02	0	0	0	0	0.00	0.00	0.00	355	255	455	0	9.05	0.00	9.05
03	0	0	0	0	0.00	0.00	0.00	263	255	455	0	9.05	0.00	9.05
04	0	0	0	0	0.00	0.00	0.00	100	263	455	0	5.88	0.00	5.88
05	0	0	0	0	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00
06	0	0	0	0	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00
07	0	0	0	0	0.00	0.00	0.00	-20	0	0	30	0.00	0.21	-0.21
08	0	0	0	0	0.00	0.00	0.00	-26	0	0	48	0.00	0.55	-0.55
09	0	0	0	0	0.00	0.00	0.00	-150	-80	0	150	0.00	0.34	-0.34
10	0	0	0	0	0.00	0.00	0.00	-140	-110	0	140	0.00	3.44	-3.44
11	0	0	0	0	0.00	0.00	0.00	0	0	0	140	0.00	5.45	-5.45
12	0	0	0	0	0.00	0.00	0.00	0	0	0	0	0.00	0.00	0.00
13	0	0	0	0	0.00	0.00	0.00	0	0	0	0	0.00	1.89	-1.89
14	0	0	0	0	0.00	0.00	0.00	0	0	0	0	0.00	1.95	-1.95
15	0	0	0	0	0.00	0.00	0.00	0	0	0	0	0.00	1.77	-1.77
16	0	0	0	0	0.00	0.00	0.00	0	-450	0	450	0.00	4.29	-4.29
17	0	0	0	0	0.00	0.00	0.00	0	-450	0	450	0.00	4.66	-4.66
18	0	0	0	0	0.00	0.00	0.00	0	-450	0	450	0.00	4.61	-4.61
19	0	0	0	0	0.00	0.00	0.00	0	-450	0	450	0.00	4.93	-4.93
20	0	0	0	0	0.00	0.00	0.00	0	-450	0	450	0.00	4.34	-4.34
21	0	0	0	0	0.00	0.00	0.00	0	-450	0	450	0.00	4.54	-4.54
22	0	0	0	0	0.00	0.00	0.00	-185	-450	0	450	0.00	6.21	-6.21
23	0	0	0	0	0.00	0.00	0.00	-93	-450	0	450	0.00	5.50	-5.50
24	0	0	0	0	0.00	0.00	0.00	-93	-450	0	450	0.00	5.14	-5.14
25	0	0	0	0	0.00	0.00	0.00	-93	-450	0	450	0.00	5.11	-5.11
26	0	0	0	0	0.00	0.00	0.00	-93	-450	0	450	0.00	5.31	-5.31
27	0	0	0	0	0.00	0.00	0.00	-93	-450	0	500	0.00	5.50	-5.50
28	0	0	0	0	0.00	0.00	0.00	-93	-500	0	500	0.00	6.52	-6.52
29	0	0	0	0	0.00	0.00	0.00	0	0	0	450	0.00	5.17	-5.17
30	0	0	0	0	0.00	0.00	0.00	0	-257	0	450	0.00	4.18	-4.18
31	0	0	0	0	0.00	0.00	0.00	-29	-498	0	450	0.00	6.13	-6.13
Maximum	0	0	0	0	0.00	0.00	0.00	355	413	455	500	10.08	6.52	10.08
Minimum	0	0	0	0	0.00	0.00	0.00	-185	-500	0	0	0.00	0.00	-6.52
Average	0	0	0	0	0.00	0.00	0.00	-1	-183	57	252	1.10	3.15	-2.05
Total					0.00	0.00	0.00					34.07	97.71	-63.65

XIII. Progress Of Installation Of Shunt Capacitors As On 31.01.2003

(ALL FIGS IN MVar)

CONSTITUENT	REQUIREMENT AT THE END OF 2002-03	CAPACITORS AS ON 31.01.2003	CAPACITORS ADDITION DURING		ADDITIONAL REQUIRED DURING 2002-03
		INSTALLED	2001-02	2002 - 03	
Chandigarh	116	92	7	0	24
Delhi	2932	2731	397	98	201
Haryana	2797	2489	416	137	308
H.P.	319	277	57	54	42
J & K	924	147	12	0	777
Punjab	5107	4684	199	72	423
Rajasthan	2695	2671	59	194	24
U.P.	5225	4951	485	260	274
Uttranchal	286				286
BBMB	360	381	0	0	0
TOTAL	20761	18423	1632	815	2359

SOURCE: Minutes of 337th OCC meeting of NREB held on 07th February, 2003.

XIV. Hydraulic Data For Reservoirs During January 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 January 2003 (m)	476.92 1564.70	400.26 1313.19	260.82 855.70	347.09 1138.74	379.63 1245.52
Level on last day of January 2002 (m)	478.33 1569.32	403.36 1323.36	262.31 860.60	345.45 1133.35	381.26 1250.84
Live Capacity as on (mhmt) last day of January 2003 (maft)	0.25 2.02	0.18 1.42	0.23 1.85	0.06 0.48	0.00 0.00
Live Capacity as on (mhmt) last day of January 2002(maft)	0.26 2.07	0.24 1.96	0.41 3.35	0.04 0.32	0.00 0.00
Energy content as on last day of January 2003 (MU)	870.00	240.00	475.00	47.00	0.00
Energy content as on last day of January 2002 (MU)	880.00	325.00	575.00	60.00	0.00
Maximum level (m) (ft) (date)	485.65 1593.34 01.01.2003	401.37 1316.82 01.01.2003	178.40 585.30 01.01.2003	347.20 1139.12 01.01.2003	379.94 1246.52 01.01.2003
Minimum level (m) (ft) (date)	476.92 1564.70 31.01.2003	400.26 1313.19 31.01.2003	260.82 855.70 31.01.2003	347.09 1138.74 31.01.2003	379.63 1245.52 31.01.2003

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

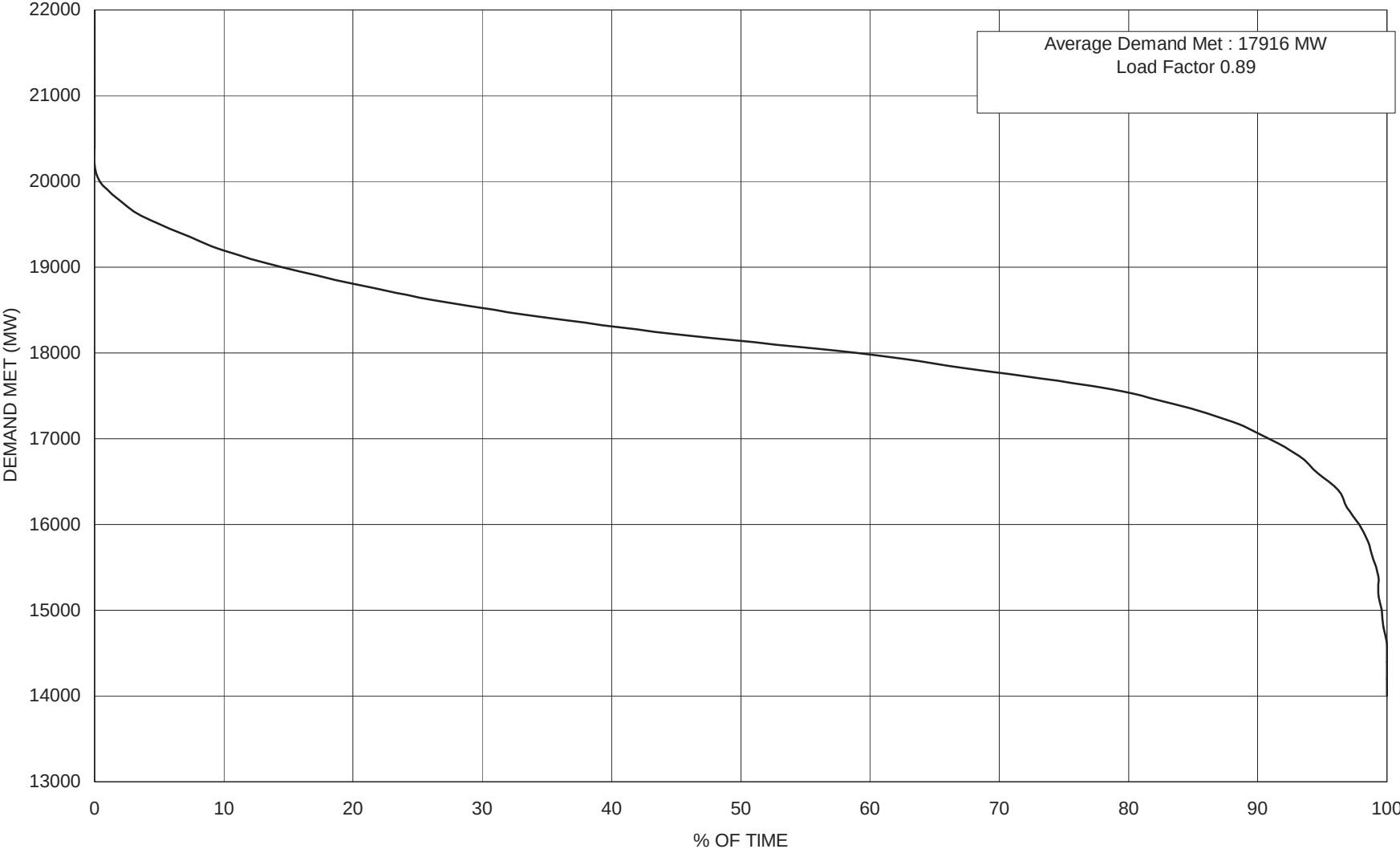
Energy content of Rihand : Total Energy content at Rihand & Obra power stations

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

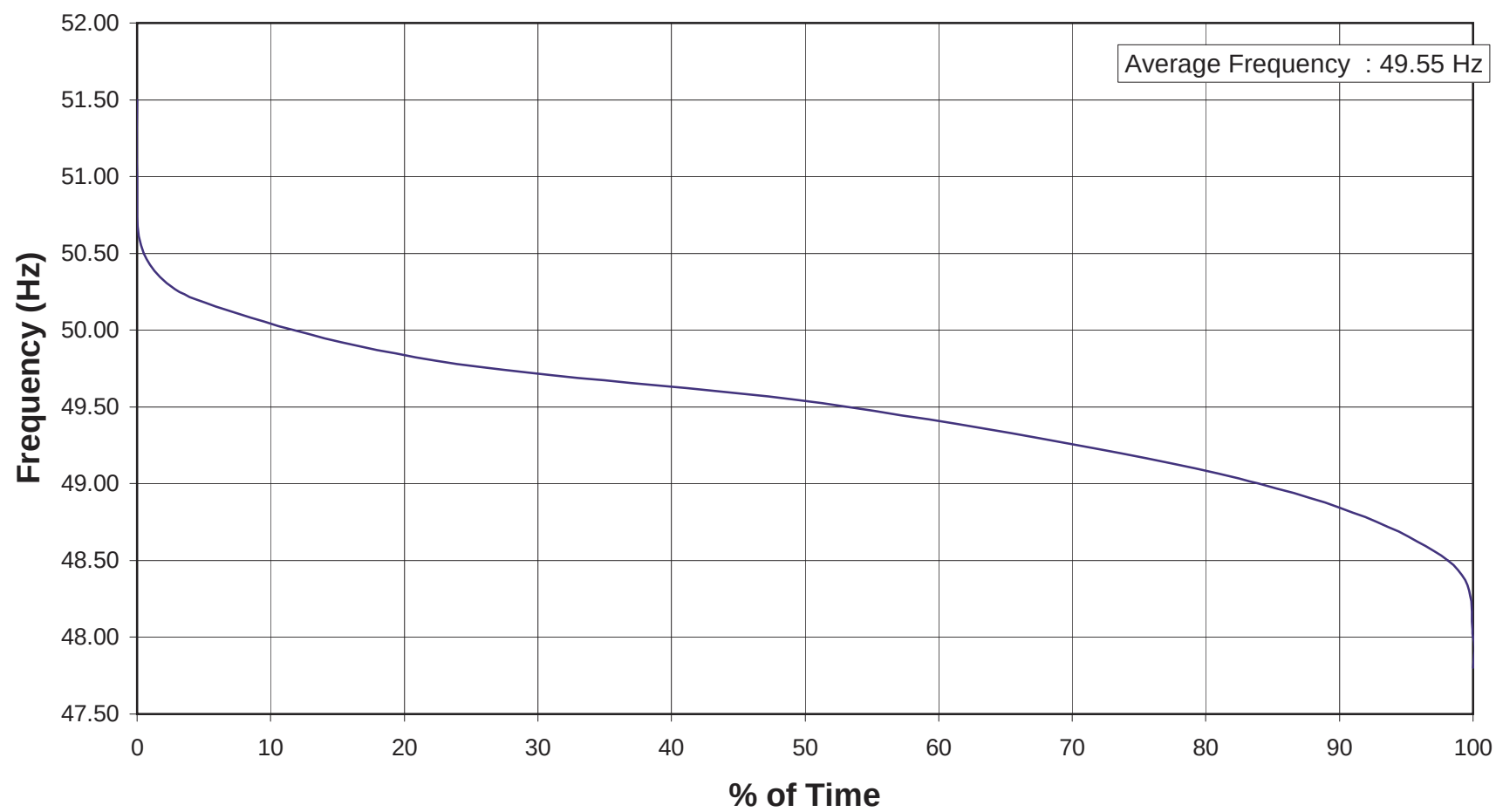
Energy Content of G. Sagar : Total Energy content at Gandhi Sagar, RP Sagar

and Jawahar Sagar Power Stations.

Load Duration Curve For Northern Region For January 2003



Frequency Duration Curve For Northern Region For January 2003



1. On 02.01.2003 at 03.45 hrs total supply at 400/220 kV failed due to operation of check zone relay. Both the ICTs and lines tripped. This resulted in loss of total generation around 600 MW at panipat (TH). Lines were normalised within one hour and all the generating units at Panipat (TH) were synchronised by 1130 hrs.
2. On 17.01.2003 at 05.29 hrs all the lines and running units at Panipat (TH) tripped due to bus fault on 220kV Panipat S/S. This resulted in loss of total generation around 650 MW at Panipat (TH). All the running units at Panipat (TH) were synchronised by 1200 hrs.
3. On 18.01.2003 at 02.26 hrs bus fault occurred on 220 side of Panipat S/S which resulted in tripping of all the 220 kV lines emanating from Panipat and generating units #1 and #6 at Panipat (TH). System was normalised by 04.30 hrs.

