वार्षिक प्रशासनिक रिपोर्ट

ANNUAL ADMINISTRATIVE REPORT

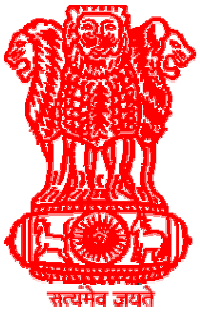
2008-09

केन्द्रीय विद्युत प्राधिकरण
उत्तर पूर्वीय क्षेत्रीय विद्युत समिति

CENTRAL ELECTRICITY AUTHORITY
NORTH EASTERN REGIONAL POWER COMMITTEE

शिलांग SHILLONG

MINISTRY OF POWER



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भारत सरकार GOVERNMENT OF INDIA

विद्युत मंत्रालय MINISTRY OF POWER

उत्तर पूर्वी क्षेत्रीय विद्युत समिति

NORTH EASTERN REGIONAL POWER COMMITTEE

शिलोंग SHILLONG

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CHAPTER 1

Introduction, Constitution, Functions, Organizational setup and Budget of North-Eastern Regional Power Committee

1.1 Introduction:

During the early sixties, a decision was taken by the Government of India to plan the Power System in the country on regional basis. The technological considerations strongly supported the decision to promote a coordinated operation of the entire generation and transmission system of the region through inter-connection of State Grids into Regional Grid for various benefits in terms of:

1. Improved stability of the system,
2. Improved reliability,
3. Improved availability
4. Improved operation both from technical and economical considerations,
5. Improved quality of supply,
6. Improved grid discipline,
7. Improved service to an electricity-deficit area from an electricity-surplus area,
8. Coordinated planning for both maintenance & future growth of the system and
9. Coming together of a large pool of experienced personnel requiring regular interaction amongst themselves thereby enabling experience sharing
10. Optimum utilization of energy resources.

Therefore, Government of India, with the concurrence of concerned State Governments, established five **Regional Electricity Boards (REBs)** viz., Eastern, North-Eastern, Northern, Southern and Western REBs with their Headquarters at Kolkata, Shillong, Delhi, Bangalore and Mumbai respectively, in the year 1964 through an executive resolution. These REBs with representatives of the States as members were responsible to promote the concept of regional operation. The North-Eastern Regional Electricity Board was constituted in pursuance to the **Govt. of India's Resolution No.EL.II-35 (10)/163 dated 12-3-1964**. The North-Eastern Region comprises seven States, namely Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland and Tripura.

Later on, with the advent of the Central Sector Generating Companies (PSUs) during the seventies alongside the State Sector Generating Companies, the representatives of these PSUs were also included as members in the REBs. The five REBs thus cover the entire Power Sector of the country. The Chairman of an SEB functions as Chairman of an REB by rotation for a period of one year, except for the North-Eastern Region where Power Ministers of the Constituent States are members of the Board and hence functions as Chairman of NEREB by rotation for a period of one year.

Thereafter, Government of India enacted the Electricity Act, 2003 through Gazette notification no. 23/24/99-R&R (vol XV), dated 10th June, 2003**. The Electricity Act 2003** envisages establishment of **Regional Power Committee(s) (RPCs)** by a resolution of the Central Government for a specified region for facilitating the integrated operation of the power system in that region. Further, the act provides that the Regional Power Committee may, from time to time, agree on matters concerning the smooth operation of the integrated grid and economy and efficiency in the operation of the power system of that

region. In pursuance of the aforesaid provision Government of India vide their resolution dated 25th May, 2005 established the North Eastern Regional Power Committee (NERPC). This Notification was amended vide resolutions dated 29th November, 2005. A power map showing the transmission systems of the region is given at **Exhibits-I (A)** & **I (B).**

1.2 Constitution of NERPC:

The various power sector agencies in the North-Eastern Region comprise the AEGCL, APGCL, 3 DISCOMs of Assam, TSECL of Tripura, State Electricity Board of Meghalaya, Power Departments of the other four State Governments and Central Sector power agencies, namely North Eastern Electric Power Corporation Ltd.(NEEPCO), National Hydro - electric Power Corporation(NHPC), Power Grid Corporation of India Ltd. (PGCIL), North Eastern Regional Load Dispatch Centre (NERLDC), North Eastern Council (NEC), Traders viz. PTC India Ltd, NVVNL.

The constitution of North-Eastern Regional Power Committee as on 31.3.2009 is as given below: -

1) Shri Pradyut Bordoloi, Hon'ble Minister of Power, Govt. of Assam, Dispur, Guwahati.
2) Shri Dorjee Khandu, Hon'ble Chief Minister & Minster of Power, Govt. of Arunachal Pradesh, Itanagar.
3) Shri Phungzathang Tonsing, Hon'ble Minister of Power, Govt. of Manipur, Imphal.
4) Shri Conrad Sangma, Hon'ble Minister of Power, Govt. of Meghalaya, Shillong.
5) Shri Zoramthanga, Hon'ble Chief Minister & Minister of Power, Govt. of Mizoram. Aizawl.
6) Shri D.Y.Sema, Hon'ble Minister of Power, Govt. of Nagaland, Kohima.
7) Shri Manik Dey, Hon'ble Minister of Power, Govt. of Tripura, Agartala.
8) Shri S.M. Dhiman, Member (GO&D), CEA, New Delhi.
9) Shri U.K. Sangma, Secretary, North Eastern Council, Shillong.
10) Shri W.M.S Pariat, IAS, Chairman, MeSEB, Shillong.
11) Shri A.K.Sachan, IAS, Chairman, ASEB, Guwahati.
12) Shri V. K. Abbey, Chairman &.Managing Director, NEEPCO Ltd., Shillong.
13) Shri R. K. Sharma, Director (Tech.), N.H.P.C., Faridabad (Haryana).
14) Shri J. Haque. Director (Opn. & Projects), POWERGRID, New Delhi.
15) Shri Shashi Shekhar, Director (Operation), PTC India Ltd. New Delhi.
16) Shri Manjit Singh, Member Secretary, NERPC, Shillong.

1.3 Functions of NERPC:

Different functions performed by NERPC can be broadly categorized as:

- Commercial
- Operational and
- Monitoring and Data Management

1.3.1 Commercial:

1) Energy accounting for the North-Eastern Region on global basis.
2) Works relating to the commercial issues of intra-regional and inter-regional power transfer.
3) Certification of backing downs during pre-ABT and capacity index during post-ABT regime.
4) Settling of the issues arising out of revision and fixation of tariff for the Central Sector power.

5) Coordinating the Task Forces and Committees on Techno-commercial problems of the Regional Power System.
6) To arrange Commercial sub-committee meeting - preparation of agenda notes, proceedings and taking follow up actions.
7) Preparation of agenda notes, proceedings and to take follow up actions on the decisions of NERPC meetings.

1.3.2 Operational:

1) Operational Planning.
2) Formulation of general policy for safe and economic operation of the Regional Grid by optimizing resource utilization.
3) Preparation of agenda notes, proceedings and arrangement for OCC meetings and taking follow up actions.
4) Coordination with RLDC regarding day-to-day Grid Operation.
5) Working as Regional Electric Power System Information Center to provide information to CEA.
6) Coordinating the task forces of operational issues raised in day-to-day operation of the grid.
7) Preparation of agenda notes, proceedings and to take follow-up action on the decisions of TCC meeting.
8) To carryout system analyses and analyse Grid disturbance.
9) To study and finalization of protective scheme for Transmission line, Elements, equipment at generation station, islanding scheme for the Region.

1.3.3 Monitoring and Data Management:

1) To prepare annual reports, load generation balance report etc.
2) To collect data, analysis thereof & documentation.
3) To monitor progress of construction of Generating units and Transmission lines in the region.
4) Monitoring the performance of Hydro & Thermal power stations of North-Eastern Region, daily, monthly and yearly basis based on their generation, PLF, auxiliary consumption and availability, etc.
5) Investigating the reasons for low performance of Thermal power stations and Performance analysis of thermal units in the region.
6) To associate with power survey works as and when necessary;
7) To prepare coordinated maintenance schedule for the region with the help of operation coordinating committee;
8) Load forecasting.

Further, as per **Para (6) of the MoP Resolution dated 25.05.2005**; NERPC shall discharge the following functions:

i. To undertake Regional Level operation analysis for improving grid performance
ii. To facilitate inter-state/inter-regional transfer of power.
iii. To facilitate all functions of planning relating to inter-state/intra-state transmission system with CTU/STU.
iv. To coordinate planning of maintenance of Generating Machines of various Generating Companies supplying electricity to the Region on annual basis and also to undertake review of maintenance programme on monthly basis.
v. To undertake operational planning studies including protection studies for stable operation of the grid.

vi. To undertake planning of outage of Transmission System on monthly basis.
vii. To undertake planning for maintaining proper voltages through review of Reactive Compensation requirement through System Study Committee and monitoring of installed capacitors
viii. To evolve consensus on all issues relating to economy and efficiency in the operation of power system in the region.

1.4 Organizational setup of NERPC

At present NERPC has following members: -

1. Hon'ble Minister of Power, Govt. of Arunachal Pradesh.
2. Hon'ble Minister of Power, Govt. of Assam.
3. Hon'ble Minister of Power, Govt. of Manipur.
4. Hon'ble Minister of Power, Govt. of Meghalaya.
5. Hon'ble Minister of Power, Govt. of Mizoram.
6. Hon'ble Minister of Power, Govt. of Nagaland.
7. Hon'ble Minister of Power, Govt. of Tripura.
8. Member (GO&D), Central Electricity Authority, New Delhi.
9. Secretary, North Eastern Council, Shillong.
10. Chairman, Assam State Electricity Board, Guwahati.
11. Chairman, Meghalaya State Electricity Board, Shillong.
12. Chairman & Managing Director, NEEPCO Ltd., Shillong.
13. Director (Technical), NHPC Ltd., Faridabad.
14. Director (Operation), PGCIL, New Delhi.
15. Director (Operation), Power Trading Corporation, New Delhi.
16. CEO, NTPC Vidyut Vyapar Nigam Ltd., New Delhi.
17. Member Secretary, North Eastern Regional Power Committee, Shillong.

Chairmanship of NERPC is held by Hon'ble Ministers of Power of the constituent States for a period of one year by rotation in alphabetical order of the name of the State of the Region. The Chairman of NERPC as on 31.03.2009 is Shri Pradyut Bordoloi, Hon'ble Minister of Power, Govt. of Assam, Dispur, Guwahati. Members of the NERPC as on **31.03.2009** are given at **Annexure-I.**

The Secretariat of NERPC is located at Shillong and is headed by Member Secretary, who is appointed by Central Electricity Authority, Ministry of Power, Govt. of India and he is an officer of Central Power Engineering Services (Group-A). Member Secretary is the administrative and technical head of NERPC Secretariat with the powers of the Head of Department. The other Personnel of the Secretariat as on **31.03.2009** are given in **Annexure-II** whereas **Annexure-III** shows posts sanctioned and filled as on 31.03.2009.

1.5 Budget of NERPC:

Presently, NERPC has two major Budget Heads, namely, Regional Co-ordination Centre (2801-Non-Plan) and Load Dispatching Station (2801-Non-Plan) under which all the expenditures are done. Total Sanctioned Budget/Expenditure during 2008-09 was Rs. 1, 28, 39,000/- against the actual expenditure of Rs. 1, 11, 08,950/-. The details of the expenditure are at **Annexure-IV.**

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CHAPTER – 2

Regional Grid Performance

2.1 Installed Capacity:

Total installed capacity of the power generating stations in North Eastern Region (NER) connected to the Regional Grid is 2033.12 MW as on 31st March, 2009 out of which 22.92, 1184.20 and 764 MW are contributed by thermal, hydel and gas turbine stations respectively. Apart from this, there is around 162.04 MW of isolated capacity in the region consisting of hydel 59.48 (MW) and GT/ Diesel 102.56 (MW). So, total installed capacity of the region as on 31st March, 2009 is 2195.16 MW.

Constituent-wise Installed Capacity of NER Grid (in MW) as on **31st March, 2009**:-

Constituents	Installed Capacity (GRID)			
	Thermal	Hydel	GT	Total
Central Sector				
1.NEEPCO				
a) KHANDONG		50		50
b) KOPILI		200		200
c) KOPILI Stage-II		25		25
d) AGBPP		-	291	291
e) AGTPP			84	84
f) DOYANG		75		75
g) RANGANADI		405		405
2. NHPC				
a) LOKTAK		105		105
Total Central Sector :		860	375	1235
State Sector				
1. ASSAM + DLF		100	323.50	423.50
2. MEGHALAYA		185.20		185.20
3. MIZORAM	22.92			22.92
4. TRIPURA		15	127.50	142.50
5. NAGALAND		24		24.00
Total State Sector :	22.92	324.20	451.00	798.12
Total NER Grid	22.92	1184.20	826.00	**2033.12**

The growth of installed capacity of the region during last five years is as given below(Refer: **Exhibit-III**):

Year	Installed Capacity (MW)		
	Grid	Isolated	Total
2008-09	2033.12	162.04	2195.16
2007-08	2033.12	162.04	2195.16
2006-07	2255.28	132.44	2387.72
2005-06	2180.62	132.44	2313.06
2004-05	2161.36	132.44	2293.80

Power Supply Position in North-Eastern Region

2.2 Generation:

Energy generation by the constituents of NER during last five years is given below:

States/ Utilities	Gross Energy Generation (MU)				
	2004-05	**2005-06**	**2006-07**	**2007-08**	**2008-09**
ASEB	876.66	932.05	953.28	1634.04	1759.98
MeSEB	629.53	509.50	394.51	665.42	555.28
Tripura	543.57	483.62	564.43	621.29	659.64
Nagaland	0.00	0.00	0.00	90.41	85.39
Mizoram	0.00	0.00	0.00	1.66	0.97
Total State Sector	2049.76	1925.17	1912.22	3012.82	3061.26
Kopili+Khand+Kopili-II	1126.72	1298.88	965.67	1280.54	1171.15
Doyang	254.30	183.11	182.01	268.14	238.38
AGBPP	1618.11	1723.12	1805.04	1726.51	1766.17
AGTPP	571.68	638.19	652.87	659.81	665.23
Ranganadi	1641.10	1411.86	957.72	1539.71	1569.20
Loktak	629.66	587.01	475.10	604.54	497.58
Total Central Sector	5841.57	5842.17	5038.39	6079.25	5907.72
Total NER	**7891.34**	**7767.34**	**6950.62**	**9092.07**	**8968.97**

Growth of energy generation in NER during last five years is depicted in **Exhibit-IV.**

2.3 Demand: During the FY 2006-07 & 2008-09, the Peak Demand & Demand met in NER is furnished below:

Peak Demand in MW

	Ar.Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura	NER
Apr'07	66	687	96	404	64	75	133	1435
Apr'08	102	826	110	456	97	86	159	1724
May'07	72	801	96	399	77	75	140	1589
May'08	102	808	108	452	95	84	156	1710
June'07	81	829	92	387	50	74	147	1566
June'08	102	818	111	457	96	80	157	1744
July'07	78	799	100	388	60	82	142	1589
July'08	114	879	115	414	82	87	153	1705
Aug'07	56	770	95	398	76	86	142	1554
Aug'08	102	849	116	422	99	93	150	1691
Sep'07	56	773	89	390	77	88	144	1560
Sep'08	92	830	105	413	100	95	155	1665
Oct'07	85	848	119	374	76	86	158	1657
Oct'08	130	958	128	397	88	91	167	1820
Nov'07	82	822	114	398	72	83	165	1652
Nov'08	70	800	110	241	70	88	141	1520
Dec'07	83	839	118	372	80	80	153	1655
Dec'08	70	776	110	239	70	90	134	1490
Jan'08	93	824	118	396	95	75	170	1684
Jan'09	69	774	110	240	65	91	137	1491
Feb'08	92	825	117	396	95	88	171	1682
Feb'09	75	760	100	240	64	90	131	1459
Mar'08	101	827	112	455	97	91	159	1742
Mar'09	75	795	100	240	65	90	130	1460

Demand met in MW

	Ar.Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura	NER
Apr'07	55	573	74	205	48	54	107	1064
Apr'08	71	690	86	194	53	84	130	1197
May'07	55	707	77	208	46	60	119	1174
May'08	79	786	84	293	53	83	132	1343
June'07	54	687	81	248	46	73	124	1206
June'08	56	768	88	268	51	78	134	1340
July'07	57	707	90	278	52	82	141	1343
July'08	79	787	93	258	52	82	136	1343
Aug'07	55	713	83	268	56	84	113	1282
Aug'08	59	740	95	250	52	86	137	1330
Sep'07	57	721	83	279	47	86	129	1347
Sep'08	58	770	90	270	51	86	148	1322
Oct'07	54	744	88	265	51	86	136	1332
Oct'08	59	757	93	223	51	77	156	1358
Nov'07	57	766	97	238	53	83	116	1330
Nov'08	68	750	93	217	56	81	122	1326
Dec'07	61	716	96	214	58	74	111	1271
Dec'08	62	739	90	234	58	86	132	1309
Jan'08	73	729	91	217	57	73	123	1285
Jan'09	62	762	90	206	59	85	136	1310
Feb'08	75	741	86	214	56	86	131	1301
Feb'09	68	734	73	206	59	74	124	1255
Mar'08	67	753	84	213	55	88	134	1279
Mar'09	67	797	78	231	64	73	128	1283

2.4 Energy Requirement vs. Availability: During the FY 2006-07 & 2008-09, the energy requirement Vs availability in NER are furnished below:

Energy Requirement in MU

	Ar.Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura	NER
Apr'07	31.31	343.20	26.94	108.21	19.18	19.95	53.97	602.76
Apr'08	44.38	418.10	35.01	122.77	26.62	34.19	64.00	745.08
May'07	32.84	363.29	33.89	133.35	23.84	47.71	61.08	696.01
May'08	44.55	418.74	34.89	123.28	26.47	33.78	64.28	746.00
June'07	28.17	405.62	42.19	139.40	25.65	35.25	58.63	734.91
June'08	44.46	419.23	37.09	140.38	26.45	32.93	64.29	764.83
July'07	27.77	444.99	49.59	154.18	24.12	28.96	67.50	797.13
July'08	36.50	494.76	53.98	179.78	27.45	32.07	71.36	895.91
Aug'07	29.07	445.54	51.66	164.78	24.64	25.45	74.49	815.63
Aug'08	38.33	490.03	56.67	198.80	29.31	33.32	78.94	925.40
Sep'07	26.16	425.18	53.53	157.32	22.97	25.75	64.16	775.08
Sep'08	33.28	463.57	58.68	185.84	26.28	27.90	69.44	864.97
Oct'07	30.78	418.68	58.05	138.68	22.78	36.02	69.10	774.10
Oct'08	41.44	474.07	62.88	153.26	25.38	39.97	73.15	870.15
Nov'07	32.58	394.29	51.23	138.42	23.49	29.61	67.17	736.80
Nov'08	36.38	404.13	50.44	143.30	28.77	41.67	65.08	769.78
Dec'07	32.54	421.59	47.65	142.34	25.74	34.17	72.14	776.16
Dec'08	30.75	391.76	47.31	135.68	31.13	50.65	61.85	749.14
Jan'08	37.50	367.81	43.87	111.02	25.37	30.39	67.08	683.04
Jan'09	28.85	379.43	43.09	126.66	28.78	51.09	65.06	722.97
Feb'08	37.48	367.12	35.15	110.63	24.49	30.47	59.05	664.37
Feb'09	23.15	352.72	35.70	99.55	26.36	45.22	58.01	640.70
Mar'08	44.47	418.08	35.16	122.74	26.46	34.12	64.19	745.23
Mar'09	24.64	400.11	40.20	103.17	28.90	51.75	66.34	715.10

Energy Availability/Consumed in MU

	Ar.Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura	NER
Apr'07	25.09	309.76	24.34	69.25	17.60	18.01	49.06	513.12
Apr'08	22.20	332.55	34.28	81.57	21.76	33.48	55.84	581.68
May'07	25.94	332.76	29.23	82.53	17.43	42.92	56.36	587.16
May'08	25.87	363.41	34.17	107.28	21.89	33.08	60.24	645.94
June'07	25.46	378.79	39.29	92.92	17.97	27.79	56.23	638.44
June'08	21.59	386.54	36.31	137.45	21.13	32.24	60.53	695.79
July'07	25.54	419.62	47.40	124.72	19.25	25.62	62.11	724.27
July'08	24.61	429.59	48.14	136.46	22.26	31.43	66.48	758.97
Aug'07	26.78	420.01	49.53	132.55	19.59	24.51	68.81	741.78
Aug'08	24.42	446.66	49.90	133.40	22.62	32.88	69.71	779.60
Sep'07	25.12	400.94	51.76	126.33	17.40	24.98	58.85	705.40
Sep'08	20.97	412.39	50.17	136.05	20.48	27.53	68.51	736.09
Oct'07	27.25	396.89	52.77	132.22	21.38	27.02	63.09	720.62
Oct'08	25.62	413.19	51.64	132.05	22.45	39.29	67.39	751.63
Nov'07	25.85	368.73	50.10	108.17	21.80	26.61	52.24	653.51
Nov'08	24.01	365.81	42.84	119.60	24.27	37.14	54.25	667.93
Dec'07	25.16	356.30	46.14	110.19	24.53	33.22	54.18	649.72
Dec'08	24.76	362.24	39.22	118.92	26.52	46.20	55.36	673.22
Jan'08	24.00	357.20	42.95	93.72	24.64	26.82	60.95	630.28
Jan'09	22.04	361.32	35.89	110.69	23.67	44.78	58.25	656.64
Feb'08	24.06	335.57	34.41	77.09	22.69	23.08	49.49	566.40
Feb'09	16.95	328.25	26.48	86.97	19.88	37.64	50.82	566.99
Mar'08	22.30	332.54	34.43	81.53	21.60	33.41	56.03	581.83
Mar'09	16.99	365.08	28.85	85.96	22.04	41.40	59.69	620.01

2.5 Inter Regional Energy Exchange:

During the last five years inter regional energy exchanges in MU between NER and ER are as given below:

Year	Net Export from NER to ER
2008-09	693.14
2007-08	1163.05
2006-07	-92.33
2005-06	819.174
2004-05	1151.588

Month-wise inter regional energy exchange during 2008-09 is given in **Annex-VI.**

2.6 Frequency:

Frequency profile of NER grid during 2008-09 is depicted in **Exhibit-VII.** It has been observed that frequency profile has improved considerably during last couple of years in comparison with previous years.

Month	Grid Frequency in Hz			Frequency Range in %age of time					Freq Variation Index		
	Max	Min	Aver	<48.5	48.5 – 49.5	49.5 – 50.5	50.5 – 51.5	> 51.5	Max	Min	Aver
Apr-08	50.50	48.39	49.22	0	0.04	77.71	22.25	0	13.29	0.471	7.681
May-08	50.68	48.6	49.65	0	37.00	62.64	0	0	7.614	0.469	2.653
Jun-08	50.59	48.67	49.60	0	40.75	59.21	0	0	7.46	0.427	2.894
Jul-08	50.48	48.60	49.32	0	75.16	24.84	0	0	10.00	2.379	5.501
Aug-08	50.67	48.60	49.55	0	46.82	53.05	0	0	7.943	0.54	3.475
Sep-08	50.53	48.58	49.39	0	62.98	37.02	0	0	10.231	0.612	5.125
Oct-08	50.71	48.61	49.43	0	61.37	38.56	0	0	9.422	0.504	4.58
Nov-08	50.59	48.78	49.54	0	47.62	52.38	0	0	5.12	0.881	2.973
Dec-08	50.61	48.79	49.60	0	42.41	57.53	0	0	3.866	0.819	2.522
Jan-09	50.77	48.76	49.58	0	42.29	57.65	0	0	6.25	0.728	2.845
Feb-09	50.9	48.76	49.45	0	61.07	38.83	0	0	6.977	1.119	3.736
Mar-09	50.55	48.77	49.61	0	39.32	60.66	0	0	6.647	0.312	2.59

2.7 Voltage:

Voltage profile at major grid sub-stations of NER during **2008-09** are given below:

Figures in kV

SN	Sub-Station	Max. Voltage	Min. Voltage
1	Balipara 400 kV	444	381
2	Misa 400 kV	448	387
3	Misa 220 kV	241	205
4	Salakati 220 kV	239	208
5	Haflong 132 kV	228	120
6	Aizawl 132 kV	144	109
7	Kumarghat 132 kV	148	119

Voltage profiles at the above mentioned major grid sub-stations of NER during 2008-09 are given at **Annex-VII.**

IEGC Norms:

System Voltage	kV	PU
400 kV	360-420	0.9-1.05
220 kV	200-245	0.9-1.11
132 kV	120-145	0.9-1.09

2.8 Plant Load Factor:

Plant load factor of the thermal power stations of NER for three year is depicted in **Exhibit-IX** and the detail data of year 2008-09 is furnished in **Annex-VIII**.

2.9 System Load Factor:

The annual load factor of NER system is depicted in **Exhibit-X** and the detail data furnished in **Annexure-IX** for the current and previous year. NER being predominantly hydro based, the load curves are upward bow shaped.

2.10 Parallel Operation:

NER system is running in synchronism with Eastern Regional Grid, Western Regional and Northern Regional Grid through AC links of 400 kV Bongaigaon – New Siliguri D/C & 220 kV Salakati-Birpara D/C lines since August, 2006 which is known as "NEW" Grid. So, the integrated frequency of these regions remains same. Due to this parallel inter-connection between NER & ER the surplus power of NER during monsoon season is exported to ER which is predominantly thermal, and during winter when NER faces acute shortage of own generation from its hydel stations, power is imported from ER.

2.11 Reservoir Levels:

Water levels of major reservoirs of NER for the year 2008-09 along with energy content at the end of each month are furnished in **Annex-X**. The water levels of major reservoirs of NER for last three years are depicted in **Exhibit-XI** and energy content for the year 2008-09 is depicted in **Exhibit- XII**.

2.12 Power Cuts:

There are no notified power cuts. The constituent States of NER resorted to load shedding due to more demand than availability of power, during peak hours and lean season.

2.13 Units & Transmission Lines Commissioned:

The detail of system elements which were commissioned in NER during 2008-09 are given below:

S.N.	Power system element	Location	Date of commissioning
1.	220/132 kV, 1x50 MVA Auto-transformer	Balipara (Tezpur) S/S	04/2008
2.	132/33 kV, 2x31.5 MVA Transformer	Dibrugarh S/S	04/2008
3.	132/33 kV, 2x16 MVA Transformer	Gassaigaon S/S	15/05/2008
4.	132/33 kV, 2x16 MVA Transformer	Biswanath Chariyali S/S	13/09/2008
5.	132/33 kV, 1x25 MVA Transformer	Garmur S/S	29/09/2008
6.	132/33 kV, 1x50 MVA 2nd Transformer	Dhemaji S/S	11/12/2008
7.	132/33 kV, 2x16 MVA Transformer	Moran S/S	29/12/2008
8.	132 kV S/C Garmur (Jorhat)–Bokakhat (86 Ckm)		07/01/2009
9.	132/33 kV, 2x16 MVA Transformer	Bokahat S/S	08/01/2009
10.	132/33 kV, 31.5 MVA 3rd Transformer	Sarusajai S/S	09/01/2009
11.	220 kV D/C Namrup-Tinsukia line (79 Ckm)		01/2009
12.	132/33 kV, 2x16 MVA Transformer	Sariatali S/S	17/02/2009
13.	132/33 kV, 2x25 MVA Transformer	Srikona S/S	19/02/2009
14.	132/33 kV, 2x25 MVA Transformer	Narangi S/S	20/02/2009
15.	220/132 kV, 1x50 MVA and 132/33 kV, 2x10 MVA Transformers	Boko S/S	20/02/2009
16.	132 kV Nazira- Sibsagar line (13.335 Ckm))		03/2009
17.	132 kV S/C Lanka – Diphu (72 Ckm)		20/03/2009

2.14 Progress of Construction of Gen. Units & TR. Elements:

The status of progress of construction of Generating Stations and Transmission elements during 2008-09 is given below:

Progress of Generation Projects in NER

Name of the Generation Scheme	No. of Units	Capacity (MW)	Commissioning Schedule	REMARKS
A. NEEPCO				
1. Monarchak TGBPP		104	2010	Activities in progress
2. Tuirial HEP Mizoram	2	2 X 30	Works held-up	Being reviewed by PIB
3. Kameng HEP A. Pradesh	4	4X150	MAR' 2011	Activities in progress
4. Tuival H.E. Proj. Mizoram	3	3X70	2012	Status not available
5. Tipaimukh HEP		1500	2012	Activities in progress
6. Mawphu HEP	2	90	2014	UNDER CCEA
7. Pare HEP, Ar. Pradesh		110	2012	UNDER CCEA
B. NHPC				
1. Loktak Downstream HEP	3	66	2012	Activities in progress
2. Subansiri Lower HEP		2000	2012	Activities in progress
3. Siang Middle HEP		2000	2014	Activities in progress
4. Subansiri Upper HEP		2000	DPR Under prep	
5. Subansiri Middle HEP		1000	DPR Under prep	
6. Dibang Multipurpose Project		3000	Under TEC	Activities in progress
C. NTPC				
1. Bongaigaon TPS	3	3X250	Unit # I- Mar' 2011	Activities in progress
			Unit # II- Aug' 2011	
			Unit # III- Jan' 2012	
D. JV PROJECT				
1. Palatana CCPP	2	2X323.3	Unit # I- Dec'2011	Activities in progress
			Unit #II-Mar'2012	
F. ASEB				
1. Lakuwa Waste Heat Power Station		37.2	2009	Activities in progress
G. MIZORAM				
1. Tuivai HEP	2	51	2010-11	Activities in progress
2. Bairabi Dam Project	2	2x40	2010-11	Activities in progress
H. MeSEB				
1. Myntdu - Leishka HEP	2	2x42	2009-10	Activities in progress

Progress of Transmission Lines in the Region

Name of the line	Length (ckt kms)	Comm. Schedule		Total no. of loc.	Stubs com-pleted(nos)	Tower erected	Stringing complted-ckm	REMARKS
		Ann. Pl	Ant / revd					
A. Lines under ASEB :								
1.132 kV Nazira - Lakwa 2nd Ckt	21						Completed	Work in progress
2. 132 kV, S/C Rangia - Sipajhar - Rowta- Depota	147		Aug-09					Work in progress
3. 132 kV, S/C Sarusajai - Kahilipara	8		Aug-09					Work in progress
4. LILO of 132 kV Mariani - Dimapur S/C at Bokajan	6					Completed		Rly Clearance awaited
5. 132 kV Nazira- Garmur (Mariani) S/C	63							Tender is in progress
6. 220 kV Kathalguri - Tinsukia 2nd Ckt	50	2006-07						Work in progress
B. Lines under Meghalaya :								
1.220kv Misa- Byrinahat D/C			Mar'2010					Work in Progress
2. Myntdu Leshka-Khlieriat 132kV D/C			2009					Work in Progress
3.132kv Agia- Nangalbibra								Work in Progress
C. Lines under Mizoram :								
1.132kVKhawzawl-LungdarS/C	48			100	100	76	0	Work in progress
2.132 kVKhawzawl-Ngopa S/C	57			117	117	117	57	Work in progress
3.132 kV Kolasib-Turial S/C	41			114	114	114	41(only cond	Work in progress
4.Kolasib-Sairul B D/C	25							Work in progress
5. Kolasib-Melriat S/C	90			369	Nil	Nil	Nil	Work in progress
5.132kV Bairabi-Bawktiang S/C	30			93	91	85	14	Work in progress
6.132 kv Khawzawl-Champhal S/C	30			90	Nil	Nil	Nil	Work in progress
D. CTU Lines:								
1.LILO of 132KVDimapur-Kohima at Dimapur(PG)	2	09/2009	09/2009	3				ROW problem
2. 132 kv Kopili- Khandong	12	09/2009	09/2009	40	14			ROW problem
3.132kv Aizwal-Aizwal (Deposit work)			09/2009					
4. +/- 800kv HVDC Bipole Biswanath Chariyali - Agra	1971	08/2013	08/2013					Tender & Award is in progress
5. 400kv Balipara - Biswanath Chariyali D/C	130	08/2013	08/2013	167				Award placed
6. LILO of 400 kv Ranganadhi Balipara D/C at Biswanath	54	08/2013	08/2013	68				Award placed
7. 132 kV D/C Biswanath Chariyali-B. Chariyali (AEGCL)	32	08/2013	08/2013	55				Award placed
8. 400 KV Kameng-Balipara D/C	110	02/2013	02/2013	142				Award placed
9.400kv Balipara- Bongaigaon D/C line	596	02/2013	02/2013	838				Award placed
10.400kv Lower Subansari-Biswanath Charrali line-I	334	02/2013	02/2013	432				Award placed
11.400kv Lower Subansari-Biswanath Charrali Line-II	340	02/2013	02/2013	442				Award placed
12. 400 kv Palatana- Silchar	248							
13.400 kv Silchar- Bongaigaon	405							

2.15 Allocation of Central Sector Power:

Central Sector Generating Stations (CSGS) of NEEPCO and NHPC located in various parts of NER are the main source of power in the region. During 2008-09 States generated nearly 3061 MU (34.13%) and CS generation was nearly 5908 MU (65.87%). Scheduled Entitlements of the States from the CSGS are furnished below. Actual drawal by the States varies from the entitlement depending on the availability of CS generation and States own requirement or other commercial policies.

Figures in MU

Month	Ar.Pradesh	Assam	Manipur	Meghalaya	Mizoram	Nagaland	Tripura
Apr-08	29.486	164.042	31.142	39.817	18.347	19.401	29.762
May-08	39.866	202.205	36.767	49.495	22.597	23.520	35.421
Jun-08	60.811	283.199	51.969	73.806	31.710	36.216	47.710
Jul-08	80.279	361.048	74.637	97.526	41.169	49.820	62.338
Aug-08	79.691	353.847	74.360	95.053	40.728	49.927	62.070
Sep-08	58.340	310.274	65.083	84.694	34.438	43.493	53.494
Oct-08	49.264	281.493	60.511	77.273	30.997	38.583	49.372
Nov-08	34.216	215.043	45.333	57.717	23.331	26.719	38.030
Dec-08	29.226	196.840	41.608	49.732	21.369	23.793	35.089
Jan-09	25.871	176.681	37.992	44.101	19.297	21.290	31.881
Feb-09	20.435	141.327	29.287	33.913	15.580	16.695	26.267
Mar-09	19.121	120.260	24.342	29.220	13.588	14.501	23.799

Cumulative weighted Average Share allocation (in %) in CSGS in the NER, based on GoI order w.e.f. 17.01.2008 is given below. This CSGS share allocation changes from time to time as per GoI orders due to various reasons like addition of new Units in the grid, changes in requirements from the beneficiary States etc. The Cumulative wt. Average Share Allocation in CSGS as on **31.03.2009** is as follows:

States	Kopili (200MW)	Kopili-II (25 MW)	Khandong (50 MW)	RHEP (405 MW)	DHEP (75 MW)	AGBPP (291 MW)	AGTPP (84MW)	Loktak (105 MW)
Ar. Pradesh	5.193	6.193	4.192	18.462	6.882	5.693	6.180	4.942
Assam	53.455	46.615	56.277	43.328	43.742	56.465	45.178	29.415
Manipur	7.385	7.225	6.565	8.373	7.893	8.125	8.143	30.115
Meghalaya	17.150	18.650	16.650	11.250	11.230	11.550	11.340	12.140
Mizoram	4.618	6.278	3.940	5.710	5.240	5.428	6.190	5.068
Nagaland	6.155	5.655	6.653	5.335	17.935	5.805	5.607	6.427
Tripura	6.043	9.383	5.723	7.542	7.078	6.933	17.362	11.893
Total	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000

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CHAPTER 3

Grid Disturbances

The details of the occurrences of major grid disturbances occurred during the period from 1st April 2008 to 31st March 2009 in North Eastern Region are given below. The type of the disturbance(s) was of partial in nature only.

Sl. No.	Date and Time (Hrs.) of Occurrence	Areas affected	Causes	Date and Time (Hrs.) of restoration
1.	07.04.08 10:07	Manipur, Nagaland, South Assam & Mizoram	100MVA,220/132kV ICT at Dimapur hand tripped due to fire. At the same time, 132 kV Dimapur-Mariani line tripped on distance protection from Dimapur end. This resulted in tripping of 132kV Kopili-Khandong & Khlierait-Khlierait lines on overloading.So, isolation took place from the main grid and the system collapsed due to load-generation mismatch	07.04.08 11:28
2.	28.04.08 19:48	Parts of Assam, Manipur Meghalaya, Nagaland, Mizoram	220kV Balipara-Samaguri tripped on Y-ph E/F from Balipara end, 100MVA ICT at Dimapur tripped on O/L, 220 kV Misa-Mariani, Misa-Kathalguri also tripped on E/F causing 200 MW generation loss at Kathalguri	28.04.08 20:45
3.	09.05.08 21:35	Parts of south Assam & Meghalaya, Tripura, Manipur	132 kV Kopilli-Khandong line tripped (Kopilli end Pole discrepancy). This resulted in tripping of Kopilli & Khandong running machines and subsequent tripping of 132kV Dimapur-Imphal line on overloading Isolation of 132kV pocket from Main grid took place and power interruption of Manipur, Mizoram, Part of Meghalaya and South Assam occurred. Tripura system survived with RC Nagar and finally got connected at Badarpur s/s at 21:48 Hrs.	09.05.08 22:04
4.	13.05.08 21:47	Parts of South Assam, Meghalaya, Mizoram	Kopilli Unit-III tripped. At the same time,132kV Dimapur-Imphal line tripped on overcurrent at Dimapur end, Loktak-Jiribam line-II tripped on D/P This resulted in isolation of South Assam, Meghalaya & Mizoram from the main grid and power interruption occurred due to load -generation mismatch. Tripura system survived with RC Nagar generation. Loktak generation was running with Manipur in isolation.	13.05.08 21:59
5.	17.05.08 11:36	Parts of South Assam & Meghalaya, Tripura, Mizoram	Due to storm 132 kV Agartala-Ddholabil (Khowai) line tripped on fault. Simultaneously, 132 kV RC Nagar-Agartala line-I & II tripped which resulted Tripura system isolated from main grid of NER.RC Nagar all the running units tripped causing overloading of 132kV Kopilli-Khandong line followed by 132kV Loktak - Jiribam line-II. Power interruption took place in Tripura, Mizoram, South Assam & parts of Meghalaya.	17.05.08 12:16
6.	22.05.08 19:27	Parts of Assam, Meghalaya, Manipur, Mizoram	One jumper of 220kV Samaguri-Sarusajai line-II snappedand fell on 220kV Samaguri bus resulted in bus fault. All lines from Samaguri s/s tripped causing further overloading of 220kV BTPS-Agia-Sarusajai and 132kV Dimapur-Imphal lines. Partial grid disturbance took place with power interruption in parts of Assam & Meghalaya,Manipur, Mizoram along with loss of generation in Kopilli, Khandong, Doyang, Loktak. Tripura system survived.	22.05.08 19:44

7.	25.05.08 20:17	Parts of south Assam & Meghalaya, Mizoram	132kV Sumer Stg. I- Mawlai & Sumer-NEHU lines tripped on Distance protection & O/C. 132 kV Loktak-Jiribam line-II also tripped on D/P instantly from Loktak end. This trippings resulted in isolation of South Assam, part of Meghalaya, Tripura & Mizoram from the main grid and power interruption occurred above states due to load -generation mismatch. Tripura system survived with RC Nagar generation.	25.05.08 20:52
8.	27.05.08 09:09	Parts of Assam & Meghalaya, Manipur, Tripura	132kV RC Nagar-Kumarghat line tipped on E/F and Kumarghat-Khowai line tripped also on E/F, thereby causing tripping of 132kV Dimapur-Imphal line on overloading at Dimapur end.	27.05.08 09:29
9.	05.06.08 12.09	Parts of South Assam & Meghalaya, Tripura, Manipur, Mizoram, Arunachal Pradesh	400kV Purnia-Binaguri line-I & III tripped along with some other lines in ER.This caused separation of NER with part of ER from Main (central) grid. Isolated ER-NER grid frequency rose up to 51.71 Hz. which caused tripping of units of Ranganadi, Kathalguri, Khandong, Loktak, RC Nagar on high frequency. 132kV Dimapur-Imphal line tripped on power swing.and 132kV Khandong-Kopilli & 132kV Stg.I - Mowlai of MeSEB tripped on overloading when Stg.I - NEHU line of MeSEB was under S/D. This resulted in isolation of 132 kV pocket from Main grid. Power interruption occurred in Manipur, Mizoram, part of Meghalaya and south Assam due to load -generation mismatch. Tripura system survived with RC Nagar generation. At the same time, 400kV Balipara-Ranganadi line-I also tripped on overvoltage resulting of power interruption in Arunachal Pradesh.	05.06.08 13:08
10.	06.06.08 07:25	Parts of South Assam & Meghalaya, Tripura, Manipur, Mizoram	132kV Kumarghat-RC Nagar line tripped on E/F. Subsequently, 132 kV Dimapur-Imphal line tripped on overloading which resulted in isolation of isolation of 132kV pocket from Main grid of NER and collapsed due to mismatch of load-generation. Tripura system survived with own generation. RC Nagar generation synchronized with Tripura system at 07:45 Hrs.and finally got interconnected with main grid at Badarpur s/s.	06.06.08 08:02
11.	10.06.08 19:21	Parts of South Assam & Meghalaya, Tripura, Manipur, Mizoram	132 kV Dimapur-Imphal line (power flow 45MW from Dimapur) tripped on overcurrent at Dimapur (no tripping from Imphal end) . This resulted in isolation of Manipur, South Assam, Tripura & Mizoram from the main grid and power interruption occurred due to load -generation mismatch.Tripura system survived with RC Nagar generation and Manipur system survived with Loktak generation.	10.06.08 19:51
12.	13.06.08 06:27	Parts of south Assam, Meghalaya, Manipur, Mizoram	132 kV Dimapur-Imphal line tripped on overcurrent at Dimapur. This resulted in isolation of Manipur, South Assam, Tripura & Mizoram from the main grid and power interruption occurred due to load -generation mismatch. Tripura system survived with RC Nagar generation.	13.06.08 22:46
13.	14.06.08 22:34	Parts of south Assam, Meghalaya, Tripura, Manipur, Mizoram	132 kV Dimapur-Imphal line tripped on overcurrent at Dimapur. This resulted in isolation of Manipur, South Assam, Tripura & Mizoram from the main grid and power interruption occurred due to load -generation mismatch. Tripura system survived with RC Nagar generation.	14.06.08 22:46

14.	07.07.08 23:54	Parts of Assam & Meghalaya, Nagaland, Manipur, Mizoram, Tripura	B-Ph CT of 220kV Misa-Samaguri line-I at Samaguri end burst. Due to this all outgoing feeders from Samaguri tripped along with 315 MVA ICT at Misa on overloading, followed by 220kV Misa-Kathalguri & Misa-Marianilines on overvoltage. This resulted in separation of 132kV pocket from main grid of NER and collapsed due to mismatch of load-generation. Tripura system with RC Nagar generation and Upper Assam with Kathalguri generation survived.	08.07.08 00:26
15.	13.07.08 18:52	Parts of South Assam, & Meghalaya, Tripura, Mizoram	132kV Umiam Stg.I - Stg.-III line-I tripped due to snapping of conductor. Immediately, other circuit (line-II) also tripped on overloading. Due to this, 132kV pocket got separated from main grid of NER and collapsed.	13.07.08 19:19
16.	14.07.08 18:17	Parts of South Assam & Meghalaya, Tripura, Mizoram,	132kV RC Nagar-Kumarghat line tripped on E/F. At the same time 132kV Agartala-Kowai line also tripped on fault.This resulted 132kV Loktak-Jiribam line-II tripped on O/C (overloading) and subsequently, 132kV pockets separated from the main grid of NER. This caused mismatch between load-generation in 132kV pocket and collapsed..However, RC Nagar generation survived with Tripura.	14.07.08 20:57
17.	23.08.08 21:32	Parts of Assam (Loss of 250 MW generation from AGBPP& LTPS)	LBB protection operated at 220kV Mariani s/s which resulted in opening of all elements at Mariani including all running units at Kathalguri and LTPS	24.08.09 03:15
18.	16.09.08 10:39	Nagaland, Manipur,	At 10:39 Hrs. 132kV Dimapur-Dimapur line tripped on E/F. Thereafter, 132kV Imphal (PG)-Imphal (S) & Loktak-Ningthoughkhong lines tripped on E/F. Loktak generation backed down to avoid overloading of Loktak -Jiribam line.Manipur system restored through Imphal.	16.09.08 11:00
19.	26.09.08 08:03	South Assam, Meghalaya, Mizoram, Arunachal Pradesh	400kV Balipara-Ranganadi HEP line-II tripped on E/F. 315 MVA ICT at Misa also tripped on E/F causing tripping of 220kV Samaguri-Balopara & Sarusajai-Agia lines on overloading. This caused isolation of 132 kV from main grid except Tripura with reduced generation of AGTPP.	26.09.08 08:48
20.	27.09.08 12:01	South Assam, Meghalaya, Manipur, Tripura & Nagaland,	315MVA ICT at Misa tripped on overloading because of tripping of 220kV Samaguri-Sarusajai line-II & Samaguri-Mariani lines on E/F. This caused isolation of 132 kV from main grid except Tripura with reduced generation of AGTPP.	27.09.08 12:47
21.	26.12.08 17:13	South Assam, Meghalaya, Mizoram, Tripura	Assam desired to avail 15MW radial load from Umtru (MeSEB) by arrangement of bus coupler CB at Khelipara(Assam) which was not operated properly, resulting in O/C tripping of 132kV Sarusajai-Khjeilipara line-II. This also resulted in tripping of 132kV Loktak-Jiribam line-II on O/C and isolation of 132 kV system.	26.08.08 17:37
22.	13.01.09 17:49	Assam, Meghalaya, Mizoram, Tripura	Due to pole discrepancy in bus coupler CB of Khandong PH all elements tripped. As a result, 132 kV Loktak-Jiribam line-II got overloaded and tripped. 132kV Umium stg.-I - Umium S/s and Mowlai lines overloaded & tripped. 132kV system isolated & collapsed except part of Tripura with reduced generation of AGTPP.	13.01.09 18:15
23.	17.01.09 22:08	Assam, Meghalaya, Mizoram, Tripura	One LA of 33kV Nehu-Mawlai (MeSEB) burst & the line tripped. Simultaneously, 132kV Umaniam Stg.-I - Nehu tripped on O/C. Thereafter, 132kV Umaniam Stg.-I - Mowlai & Loktak-Jiribam lines tripped on O/C. 132kV system isolated & collapsed except part of Tripura with reduced generation of AGTPP.	17.01.09 22:25

24.	01.03.09 10:48	South Assam, Meghalaya, Manipur, Mizoram, Tripura	132kV Kumarghat-RC Nagar got tripped on E/F. At the same time 132kV Dimapur-Imphal & Kopili-Khandong lines got tripped on O/C protection. This caused isolation of 132kV system from main grid and collapsed except Tripura system which survived with AGTPP.	01.03.09 11:23
25.	11.03.09 17:33	South Assam, Meghalaya, Mizoram, Tripura	132kV Dimapur-Imphal tripped on E/F. This caused isolation of 132kV system from main grid and collapsed because of load-generation mismatch. Generation of AGTPP, Loktak & Kopili were tripped on low frequency.	11.03.09 18:23
26.	12.03.09 10:45	Manipur	132kV Loktak-Jiribam line-II tripped on E/F & Distance protection resulting in Loktak U#1 tripped with only 7 MW generation. 132kV Imphal (PG)-Imphal (S) & Loktak-Ningthoughkhong line hand tripped to avoid fire at 20 MVA ICT at Imphal.	12.03.09 12:20
27.	31.03.09 16:19	South Assam, Part of Meghalaya, Mizoram, Tripura	132kV Kopili-Khandong tripped on directional E/F both ends. This caused isolation of 132 kV system from rest of the grid.	31.03.09 17:55

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CHAPTER 4

Commercial and Energy Accounting Activities

4.1 Regional Energy Accounts (REA):

The CERC regulations on ABT were implemented in NER w.e.f 01.11.2003. REAs were prepared by using the latest CERC regulations from time to time. The following are the major components of ABT:

1. Capacity Charge - Cumulative basis
2. Energy Charges
3. Incentives
4. Transmission Charges - Monthly basis
5. Unscheduled Interchange

REAs are prepared on monthly basis by compiling the Declared Capacity (DC), Capacity Index (CI), Plant Load Factor (PLF) of ISGS, Cumulative share allocation from the region and outside the region, actual generation of ISGS, and actual drawl of beneficiaries for a month. Scheduled Bilateral Exchanges are also reflected in the monthly REAs. The settlements of bills are made by ISGS, CTU etc with the beneficiaries on the basis of monthly REAs.

If there is any discrepancy, the constituents or Trader member of NERPC may intimate within two months from the date of issue of REAs for needful.

The Annual Capacity Charges and Energy Charges for thermal and hydro power stations of Central Sector Generators in the North Eastern Region as on **31.03.2009** are as follows:

	Installed Capacity (MW)	**Design Energy (GWh)**	**Annual Fixed Charge (Rs. Crore)**	**Primary Energy Rate (paisa/KWH)**
KOPILI HEP	200	969.88	57.6738	40.53
KOPILI -II	25	86.3	12.9511	40.53
KHANDONG HEP	50	277.61	19.6328	40.53
RHEP	405	1509.69	203.4081	40.53
DHEP	75	227.24	58.5	40.53
AGBPP	291	NA	233.59	48.19
AGTPP	84	NA	52.71	89.2
LOKTAK HEP	105	448.00	50.0353	40.53

4.2 Unscheduled Interchanges (UI)

Unscheduled Interchanges (UI) Charges is one of the important part of Availability Based Tariff (ABT) mechanism. It acts like a financial barometer, which is a measure of utilities' response towards ensuring secured grid operation. It also acts as a settlement mechanism for intra day power transfer between the surplus and deficit areas.

For a Generator, UI energy is the difference between actual generation (Ex-bus) and Schedule generation (Ex-bus), whereas for a beneficiary, it is equal to actual drawl (periphery) and schedule drawl (periphery). UI charge is obtained by multiplying the UI energy with UI rate. UI rate is a frequency dependent energy rate notified by Central Electricity Regulatory Commission (CERC). A constituent may receive / pay UI charge depending on whether it has assisted/ undermined the grid frequency.

The UI rates applicable during the year 2008-09 were as under:

(Vide CERC's order no. L-7/2515)/2003-CERC dated 28.12.07)

Average frequency of time block	UI rate (Paisa per kWH)
50.5 Hz and above	0
Below 50.5 Hz and up to 50.48 Hz	8
Below 49.82 Hz and up to 49.80 Hz	280
Between 50.5 Hz and 49.80 Hz	Linear in 0.02 Hz step (each 0.02 Hz step is equivalent to 8 paisa per kWH within this range)
Below 49.80 Hz and up to 49.78 Hz	298
Between 49.78 Hz and 49.76 Hz	316
Below 49.02 Hz	1000
Between 49.80 Hz and 49.02 Hz	Linear in 0.02 Hz step (each 0.02 Hz step is equivalent to 18 paisa per kWH within this range)

4.3 Unscheduled Interchanges (UI) Payable:

The Unscheduled Interchanges (UI) payable (in Rs. Lakhs) of North-Eastern Region for the financial year 2008-09 is given as below: -

(Figures in Rs. Lakhs)

Organisation	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
Ar. Pradesh	58.69	109.89	187.78	-235.70	214.37	343.88	302.91	198.04	124.18	121.81	53.98	225.04
ASEB	-497.94	-574.68	-2478.51	-3277.66	-1698.07	-3419.16	-3070.16	-1567.33	-1100.05	-1974.19	-2335.77	-1906.42
Manipur	-48.74	-210.15	-850.60	-2105.54	-1316.63	-1110.45	-655.52	-46.91	36.50	68.49	-10.29	261.21
MeSEB	814.26	333.61	-596.27	-1752.02	-1041.23	-877.45	-464.35	-53.90	36.54	-155.83	-147.32	40.43
Mizoram	19.70	-187.16	-721.50	-1506.10	-565.83	-322.94	-211.02	34.50	141.11	176.13	171.94	271.75
Nagaland	-40.77	-284.70	-119.05	-252.36	221.97	417.23	-251.38	160.29	-13.80	105.08	5.95	159.24
Tripura	-113.36	-76.48	-26.07	-163.07	-154.20	46.38	-759.64	-215.10	-104.98	-577.20	-323.21	47.69
Loktak	-23.85	9.82	-8.29	-7.18	-8.67	-21.73	2.98	-2.15	1.32	-12.63	-38.85	0.06
Khandong	1.49	0.37	-11.29	-12.98	-0.84	-0.82	6.71	-1.88	-1.35	-0.79	2.51	2.61
Kopili	33.98	-13.97	-2.10	-38.71	0.77	-29.69	-22.75	-3.00	-32.48	1.40	7.17	26.11
Kopili Stg II	0.00	-0.42	-1.11	-10.97	0.36	-1.90	-0.66	-0.29	0.28	-4.61	-1.38	0.92
DHEP	10.73	3.23	-23.85	-13.50	2.29	-13.40	-6.51	10.57	0.98	3.39	-4.23	-3.01
RHEP	-234.30	-0.16	-331.80	-62.98	-6.43	-201.96	71.37	-88.01	-97.53	-90.41	-52.81	19.20
AGTPP	-43.74	-24.75	-28.30	-42.68	-32.49	-39.25	-39.20	-29.21	-25.64	-23.24	-33.18	-24.12
AGBPP	99.00	82.54	53.58	47.34	121.81	74.13	29.86	0.92	26.81	-24.76	136.20	102.48
ER	108.69	989.04	5050.00	9602.16	4581.35	5298.99	5218.50	1650.72	1121.79	2546.07	2668.92	905.36

(-) indicates UI receivable (in Rs. Lakhs)

The detail data of UI energy is furnished in **Annexure-XI** for the financial year 2008-09.

4.4 Transmission Tariff:

In NER from 01.04.2007 onwards, UCPTT (Uniform Common Pool Transmission Tariff) has been replaced by the normal tariff by CERC. The revised sharing of UCPTT applicable for the period 01.02.2000 to 31.03.2007 as per CERC order dated 30th September, 2008 in Petition No. 38/2008 is given below:

Constituent	2/2000-12/2000	1/2001-9/2001	10//2001-12/2002	1/2003-3/2004	4/2004-5/2004	6/2004-12/2004	1/2005-3/2007
PGCIL	33.680532	33.704037	33.712086	33.841119	33.853696	33.690816	33.465764
ASEB	0.863309	0.847930	0.842664	0.758240	0.750010	0.891357	0.885403
Manipur	0.097708	0.095967	0.095371	0.085816	0.084885	0.084476	0.083912
MeSEB	0.130331	0.128009	0.127214	0.114469	0.113227	0.112682	0.111929
Nagaland	0.091441	0.089812	0.089255	0.080313	0.079441	0.079059	0.312328
Tripura	0.136679	0.134244	0.133410	0.120044	0.118741	0.141610	0.140664
Total	35.000000	35.000000	35.000000	35.000000	35.000000	35.000000	35.000000

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CHAPTER 5

Operation, Protection, Communication & System Studies

5.1 UFR Scheme:

In NER, Under Frequency Relay (UFR) scheme was proposed for Kathalguri islanding scheme which was not implemented after the introduction of ABT w.e.f November 2003. However, UFRs remained installed in four places. The details of feeders having UFRs and settings thereof are given below.

1. 132 kV Nirjuli-Gohpur line: 48.4 Hz
2. 132 kV Ranganadi-Nirjuli Line: 48.4 Hz
3. 132 kV Samaguri (Local load): 48.2 Hz
4. 132 kV R.C. Nagar- Kumarghat: 48.4 Hz

5.2 Islanding Schemes:

During the pre-ABT period, islanding scheme was designed to prevent the tripping of Kathalguri power Station due to disturbances in the grid & under frequency relays were purchased for these schemes. After the implementation of ABT in NER w.e.f Nov 2003, the islanding scheme was withdrawn and presently Islanding Scheme is not in place.

5.3 Inspection of UF relays:

Inspections of UF Relays are carried as and when required.

5.4 ULDC Scheme:

The unified load dispatch centre for North Eastern Region has been implemented since August, 2003 and full fledged ULDC is working in three States viz. Assam, Meghalaya and Tripura. Other four States are operating using Remote Console (RC).

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CHAPTER 6

Meetings of North-Eastern Regional Power Committee

NERPC's interactions with its constituents for strategic operational planning & commercial arrangements for exchange of power and settling of dues/disputes and other unresolved technical and commercial issues are discussed in the meetings of various Standing Committees viz. OCC, TCC and Power Committee meetings set up for the purpose. These meetings under the aegis of NERPC were held regularly and periodically with the convenience and consent of all the constituents and important decisions taken or arrived at these meetings are implemented, for optimum supply of power and to give maximum benefits to the constituents of the Region. The list of various meeting of different committees held during 2008-09 are at **Annexure-V**.

6.1 North-Eastern Regional Power Committee (NERPC) Meeting:

This is the meeting of the highest body and its members are Minister of Power of all the seven States of this Region, Chairmen of the SEBs, very high-level officers of the other related central sector organisation and Member Secretary, NERPC. The policy decisions on major issues are taken by this body in its meeting. Three NERPC meetings (5^{th} to 7^{th}) were held during 2008-09. In the Power Committee meeting following major issues were discussed:-

6.1.1 5th NERPC Meeting: The meeting was held on 26^{th} April' 2009 at Hotel Rendezvous, Gangtok, Sikkim. The following major issues were deliberated upon during the meeting:

1. Enhanced allocation to Meghalaya during lean hydro season
2. Status of ongoing projects in NER
3. Missing link project of POWERGRID in NER
4. System Operator Training utilizing Reactive Pool Amount
5. Strengthening of Tripura – ASEB inter-state lines.
6. Construction of 400 kV Transmission line from Palatana to Bongaigaon for evacuation of power from Palatana Gas Power Project of OTPC
7. Transmission charges as per CERC regulations for new transmission systems in NER.
8. Inter-state transmission lines.

6.1.2 6th NERPC Meeting: The meeting was held on 8^{th} August' 2008 at Hotel Bristol, Gurgoan, Haryana. The following major issues were deliberated upon during the meeting:

1. Signing of Power Purchase Agreement in respect of Subansiri Lower HE Project (2000 MW) of NHPC in Arunachal Pradesh with Beneficiary States of North East
2. Construction of a new 132kV Sub-Station (PG) upgradeable to 400kV at Imphal by PGCIL for terminating The Silchar-Imphal 400kV D/C line charged at 132kV
3. Construction of Imphal (New-PG) to New Kohima 400 kV D/C charged at 132 kV.
4. Renovation and Modernization of Unit # 1&2 of Kopili Power Station and 220/132 kV Kopili Switchyard & 132/33 kV Khandong Switchyard.

5. Finalization of transmission lines for evacuation of power from upcoming power projects in NER.
6. Cumulative Study jointly with CEA on the down stream impact of all the power projects being setup in the upstream of Brahmaputra and its tributaries.

6.1.3 7th NERPC Meeting: The meeting was held on 24th February' 2009 at Hotel Pinewood, Shillong, Meghalaya. The following major issues were deliberated upon during the meeting:

1. ATS of Monarchak GBPS (104 MW)
2. Status review of proposed Schemes for NER Transmission System Development in line with Passighat: Recommendations under NEC/DoNER funding
3. Proposal of Foreign training on Power Exchange (PX) & Power Market by utilizing the fund of Reactive Pool Account of NER.
4. Share of Monarchak Gas Based Power Project
5. Commissioning Schedule of Generation Projects in NER
6. Payment of Revised UCPTT.
7. Consent of Constituents for Implementation of Fiber Optic network in lieu of existing Microwave (MW) network operating in 2.3-2.4 GHz frequency band as this frequency band is being withdrawn by DoT.
8. Upgradation of existing SLDC to full fledged SLDC (equipment) at Dimapur

6.2 Technical Co-ordination Committee (TCC) Meeting:

The Technical Co-ordination Committee, which is the main technical committee of the Power Committee comprising of the Members & Principal Chief Engineers of SEBs/Power Departments/ Corporations of the respective constituents. During the year 2008-09, 5th to 7th TCC meetings were held under the Chairmanship of the TCC Chairman. The following major issues were discussed:

1. Exemption of free power of Manipur- from Loktak HEP evacuated through the state owned line from calculation of Transmission charges
2. Signing of Power Purchase Agreement in respect of Subansiri Lower HE Project (2000 MW) of NHPC in Arunachal Pradesh with Beneficiary States of North East.
3. Transmission charges as per CERC regulations for new transmission systems in NER.
4. Signing of NLDC scheme.
5. Back-up data communication links for ULDC System.
6. Procurement of Special Energy Meters, DCDs.
7. Vulnerability of 132 kV Grid pocket in NER
8. Inter-State understanding and Cooperation in dealing with the consumers.
9. Outstanding UI Payments.
10. System Operators' Training utilizing Reactive Pool Amount.
11. Renovation and Modernization of Unit # 1&2 of Kopili Power Station and 220/132 kV Kopili Switchyard & 132/33 kV Khandong Switchyard.
12. Finalization of transmission lines for evacuation of power from upcoming power projects in NER.
13. LILO of Dimapur (Nagaland)- Kohima(Nagaland) at Dimapur (PG)
14. Pile foundation at endangered locations.
15. Floating tender by POWERGRID for survey of intra-State lines

16. Status review of proposed Schemes for NER Transmission System Development in line with Passighat: Recommendations under NEC/DoNER funding
17. Status of 740 MW GBPP of OTPC at Pallatana and TGBPP 104 MW Monarchak, Tripura projects
18. Suggestion for inclusion in BPTA document
19. Signing of Power Purchase Agreement (PPA) with Assam and Arunachal Pradesh in respect of Subansiri Lower HE Project (2000 MW) of NHPC in Arunachal Pradesh
20. Pile foundation at location No. 43 & 44 of 400 kV D/C Balipara – Ranganadi line
21. Transformer at Nirjuli Sub-station
22. Representation of Electricity Traders in the region
23. Colony Consumption of Central Sector Generating Station
24. NTPC(ER) Power allocation to Nagaland

6.3 Commercial Committee (CC) Meeting:

Two Commercial Committee meetings (9^{th} to 10^{th}) were held under the Chairmanship of the Member Secretary, NERPC. The main issues discussed in these meetings were as below:

1. Refund of transmission charges on UI-NEEPCO.
2. Regulation of power supply to MeSEB – NEEPCO.
3. UI payment by MeSEB – NERLDC.
4. Outstanding UI payment.
5. Re-structuring of tower in critical locations.
6. Refund of excess rebate deduction on transmission bill by NEEPCO.
7. Payment of UCPTT arrears in installments
8. Restoration of 400 kV Balipara – Ranganadi D/C Line
9. Back-up energy meter at Kopili-II.
10. Tariff of Kopili HEP.
11. Changing of network configurations.
12. Training of NER system operators utilizing Reactive Pool Account Fund.
13. BPTA for new schemes in NER.
14. Outstanding and LC

6.4 Operation Co-ordination Committee (OCC) Meeting:

The Operation Coordination Committee (OCC) represented by nominees from the State Electricity Boards/Electricity Department and Central Sector Power Agencies, meet once in every month. During the year 2008-09, 25^{th} to 36^{th} OCC meetings were held under the Chairmanship of the Member Secretary, NERPC. In the OCC meetings the subjects like Generation Schedule, Power requirements including emergency requirements, Central Sector allocation, shortfalls and maintenance and shutdown schedule were discussed and finalized among all the constituents. Under Frequency Load Shedding Scheme, Capacitor Installation, Impact of ABT, Reactive Energy Accounting, minimum technical limit for AGBPP, deviation from schedule were discussed. Long outage of the generating and transmission elements were regularly discussed and pursued for early restoration. The overall performance of the Grid was reviewed and decisions were taken for necessary improvement. System disturbances during the month were discussed and necessary instructions were conveyed for the Grid discipline.

6.5 Protection Co-ordination Committee (PCC) Meeting:

The Protection Committee is represented by Protection Engineers of State Electricity Boards/Electricity Dept. and Central Sector Power Agencies. Objective of this Committee is to analyze different grid disturbances, frequently occurring faults, co-ordination of relay setting, etc. No Protection Co-ordination Committee meeting was held during this financial year.

6.6 Load Generation Balance Report Committee (LGBRC) Meeting:

Load Generation Balance Report Committee is represented by members of Load Despatch Stations of all the states of the region. Objective of this Committee is to prepare a coordinated generation outage programme for the regional grid considering all the available resources, auxiliary consumption, probable forced & partial outages, hydro availability etc. and also taking into account transmission constraints. No LGBR Committee meeting was held during this financial year.

6.7 Important Decisions Taken in the Regional Power Committee:

System Operator Training utilizing Reactive Pool Amount

After deliberation it was approved by RPC to incur the following expenditure: -

i. Payment of Rs. 1 Lakh each to seven NER states for organizing training / seminar at respective state capitals where training would be provided by NERLDC / NERPC on latest issues in Power Sector.

ii. Payment of Rs. 16 Lakhs for training on ULDC (EMS SCADA) for which a committee is in place and the convener is Shri T. S. Singh, DGM NERLDC. The committee is finalizing the modalities.

Strengthening of Tripura – ASEB inter-state lines

This line was originally used to draw power by Tripura from Assam. Considering the importance of this line for reliability and redundancy this line needs to be renovated. It was informed by ASEB that they will approach NEC or DoNER for funding of the project either by Assam or Tripura or jointly by both the states.

Construction of 400 kV Transmission line from Palatana to Bongaigaon for evacuation of power from Palatana Gas Power Project of OTPC

The Transmission lines should be constructed up to Bongaigaon for grid reliability and redundancy and there should be a tap-off point either at 220KV/400KV level to each capital of the NER states. Further the forum should take up the matter with MOP so that the construction of the transmission line should be granted like Road construction i.e. 100 % grants not 90:10 % grants: loan.

Procurement of Special Energy Meters, DCDs

RPC approved procurement of 62 SEMs and 8 DCDs having cost involvement of Rs. 19 Lakhs and Rs. 3.7 Lakhs respectively excluding taxes and duties.

Finalization of Transmission Lines for evacuation of power from upcoming Power Projects in NER.

Committee members agreed and resolved as follows:

i. Chairperson NERPC informed that he would take up the matter with the Power Ministers of NER States and jointly approach the Prime Minister of India for a Special Privilege with funding the schemes in the ratio of 90% grant & 10 % loan for the above projects. However, pending the decision of funding of the transmission schemes on the above basis, the transmission lines would be required for immediate evacuation of power to various States of NER from Bongaigoan TPS, Palatana GBP, Subansiri HEP, Kameng HEP and Monarchak GBPP may be taken up for construction immediately.

ii. The Constituents of NER would sign the BPTA with OTPC and PGCIL for the relevant portions so that the new generation capacity does not get stranded and the NER States deprived of this power when they are facing substantial demand and energy deficit without waiting for the 90% grant and 10 % loan from GOI.

iii. Chairperson also requested his counterparts of NER States to come forward to request GOI for funding APDRP of Phase – II in the same funding ratio of 90% grant and 10 % loan of Phase - I.

iv. Chairperson also requested his counter parts to take up with GOI allocation of power from UMPP to be located in Orissa to the NER States at least to the extent of 500 MW. The NER States should not be deprived of the cheap power from pit head stations to be located in other Regions.

v. NERPC Secretariat would take up the matter independently with MOP, GOI through CEA requesting funding for this inter-state transmission lines and Associated Transmission systems of generating stations similar to National Highway Projects funded by Ministry of Surface Transport.

ATS of Monarchak GBPS (104 MW)

The Committee requested NEEPCO to impress for reconsidering the allocation from this project to all the beneficiaries of NER and take up matter with the competent authority. Regarding ATS of Monarchak GBPS (104 MW), the Committee decided that as at present share is allocated only to Tripura State, the portion of 400 kV Monarchak-Suraj Mani Nagar-PK Bari D/C line may form part of the scheme as intra-state project. The inter-state portion of 400 kV PK Bari-Silchar D/C line which is to be pooled into Regional transmission has already been approved by the Committee in the 6th NERPC meeting.

Foreign training on Power Exchange (PX) & Power Market by utilizing the fund of Reactive Pool Account of NER

The Committee deliberated the issue and agreed that NERPC Secretariat after obtaining necessary details from the PTC may prepare program/ itinerary details accordingly for exposure/training with SWECO/Nord Pool for senior level study team comprising Minister level representation of Chairperson, members of North Eastern Regional Power Committee and for the suitably nominated mid-level officers from NER States, NERLDC and NERPC. The expenditure for the above exposure/training programme for both senior level team and mid-level officers covering training cost, to & fro airfare, lodging and boarding expenses etc. may be met out of the Reactive Pool account.

Share of Monarchak Gas Based Power Project

The Committee requested NEEPCO to impress upon for reconsidering the allocation of this project to all the beneficiaries of NER and take up matter with MOP for the share allocation.

Implementation of Fiber Optic network in lieu of existing Microwave (MW) network operating in 2.3-2.4 GHz frequency band as this frequency band is being withdrawn by DoT

Regarding implementation of above Fiber Optic Network, after detailed deliberations, it was agreed by all the constituents that POWERGRID may take up the Fiber Optic Communication Scheme on priority. The Central Sector (CS) portion was agreed to be shared by all the constituents. Assam agreed to bear the cost for their portion. Assam would intimate details for part of the portion of 832 km proposed to be taken up by them under ADB funding, while for their remaining portion, Assam agreed to share the cost of their portion. As requested by Assam, the tentative cost of the scheme shall be sent by POWERGRID to AEGCL enabling them to get necessary approval from SERC.

Regarding setting up/up-gradation of SLDCs and setting up of backup SLDCs for the existing SLDCs in the North Eastern States as above, after detailed deliberations by the Committee, Chairperson, NERPC stated that Powergrid may obtain necessary inputs for requirements in respect of each State SLDC and prepare a detailed plan for the above mentioned work for discussion in a special meeting to be convened by NERPC with NER constituents and PGCIL so as to finalize and recommend solution including funding etc. for the combined proposal for this SLDCs' project for the NE Region for approval by the TCC/NER Power Committee for implementation.

Representation of Electricity Traders in the region

Chairperson, NERPC expressed that permitting more competitors for this region would be beneficial for NER in view of surplus power conditions that are likely to prevail in NER in the near future. However till details of membership is available, the status quo may be maintained on above.

New lines Under System Strengthening Scheme of NER and Funding thereof

The Committee noted as above. Chairperson, NERPC informed that the Memorandum to be submitted to the Hon'ble Prime Minister of India regarding the above funding pattern and other important issues pertaining to this region and requested NERPC Secretariat that the Memorandum may be sent to all the Hon'ble Power Ministers of Power for approval and signing the same. After obtaining the necessary approval/signatures from all the Hon'ble Power Ministers of NER the Chairperson, NERPC will seek appointment with the Hon'ble Prime Minister of India for getting approval.

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CHAPTER 7

Reports & Certification

7.1 Reports Issued:

NERPC has been issuing various reports regarding system operational data, load generation balance data, system studies data etc. The details of various reports issued by NERPC are given below: -

a) Monthly Power Supply Position;
b) Monthly Progress Reports;
c) Load Generation Balance Report;
d) Annual Administrative Report.

7.2 Certification of Transmission Availability:

As per CERC order, Provisional Availability Certificate of Power grid elements in NER during 2008-09 was certified by NERPC Secretariat on 30th April, 2009 vide NERPC letter no. NERPC/AS/TAC/2009/380. Total system availability was 99.2826 % for North Eastern Region and 99.7689 % for the Inter –Regional Lines. The detail of Availability is given below: -

Year	Availability (%) Bus Reactor			Total system Availability for North Eastern Region (%)	Total System Availability of Inter-Regional Lines (%)
	A.C.Lines	ICT	Bus Reactor		
2005-2006	99.611	99.251	99.929	99.5895	99.6049
2006-2007	99.350	99.528	99.996	99.4429	99.5155
2007-2008	99.392	99.626	99.771	99.4660	99.4248
2008-2009	99.218	99.132	99.981	99.2826	99.7689

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अध्याय 8

राजभाषा नीति का कार्यान्वयन

8.1 हिन्दी प्रशिक्षण : -
सभी अधिकारियो एव कर्मचारियो को हिन्दी का कार्यसाधक ज्ञान है । इस दौरान दो अधिकारियो ने प्राज्ञ स्तर की शिक्षा हिन्दी शिक्षण योजना, शिलांग द्वारा प्राप्त किया ।

8.2 पत्राचार एव अनुवाद : -
राजभाषा समिति के आवश्यकताओ को पूरा करने के लिए समुचित प्रयास किया गया जैसे पत्राचार एव अग्रेषण पत्र, द्विभाषिक लेटरहेड इत्यादि ।

8.3 राजभाषा कार्यान्वयन समिति की वैठक : -
राजभाषा कार्यान्वयन समिति की प्रगति की मानिटरिगं के लिए प्रत्येक तिमाही में एक वार राजभाषा कार्यान्वयन समिति की वैठक आयोजित की जाती है ।

8.4 प्रोत्साहन योजनाएं : -

राजभाषा शील्ड एंव ट्राफी पुरस्कार हेतु प्रोत्साहन योजना :-
प्रोत्साहन योजना के वावजूद राजभाषा शील्ड एंव ट्राफी पुरस्कार के लिए शिलांग में असम राइफल, ग्रह मंत्रालय भारत सरकार, समन्वय अभिकरण के रूप में स्थापित है । राजभाषा कार्यान्वयन से संवंधित सभी डेटा / प्रगति इत्यादि असम राइफल के कार्यालय को भेजा जाता है ।

कार्यालयी कार्यो में प्रयोग की जाने वाली मौलिक हिन्दी टिप्पण / प्रारुप के लिए प्रोत्साहन योजना : -
कार्यालय में राजभाषा हिन्दी के प्रगति को गतिशील वनाने के लिए हिन्दी टिप्पण / प्रारुप इत्यादि का अनुपालन जारी है ।

आंशुलिपिक एंव टाइपिस्टो को उनके अंग्रेजी कार्यो के अतिरिक्त राजभाषा हिन्दी के कार्यो के लिए "प्रोत्साहन भत्ता" की मंजूरी : -
पूर्वोत्तर क्षेत्र होने के कारण, आंशुलिपिक एंव टाइपिस्टो को प्रशिक्षित किया गया है । उनके पास राजभाषा हिन्दी का न्यूनतम ज्ञान है । इस लिए इसका अनुपालन नही किया जा सका ।

8.5 हिन्दी पखवाडा एंव हिन्दी दिवस का आयोजन : -
उत्तर पूर्वीय क्षेत्रीय विद्युत समिति में हिन्दी सप्ताह मनाया गया जिसके दौरान हिन्दी भाषी एंव गैर हिन्दी भाषी लोगो के मध्य निवंध प्रतियोगिता, डिवेट, जोक्स, टिप्पण आलेखन इत्यादि आयोजित किया गया । उपर्युक्त प्रतियोगिता, पुरस्कार, पुरस्कार वितरण के परख के लिए एक समिति की नियुक्ति की गई ।

8.6 हिन्दी कार्यशाला : -
इस अवधि के दौरान एक दिवसीय हिन्दी कार्यशाला आयोजित की गई ।

8.7 निरीक्षण : -
राजभाषा संसदीय समिति द्वारा कोई निरीक्षण नही किया गया ।

8.8 विशिष्ट कार्य : -
उत्तर पूर्वीय क्षेत्रीय विद्युत बोर्ड में आयोजित हिन्दी सप्ताह के दौरान सभी अधिकारियो एव कर्मचारियो ने सक्रिय रूप से भाग लिया ।

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ANNEXURES

&

EXHIBITS

Annex-I

CONSTITUTION OF NORTH EASTERN REGIONAL POWER COMMITTEE SHILLONG (MEGHALAYA)

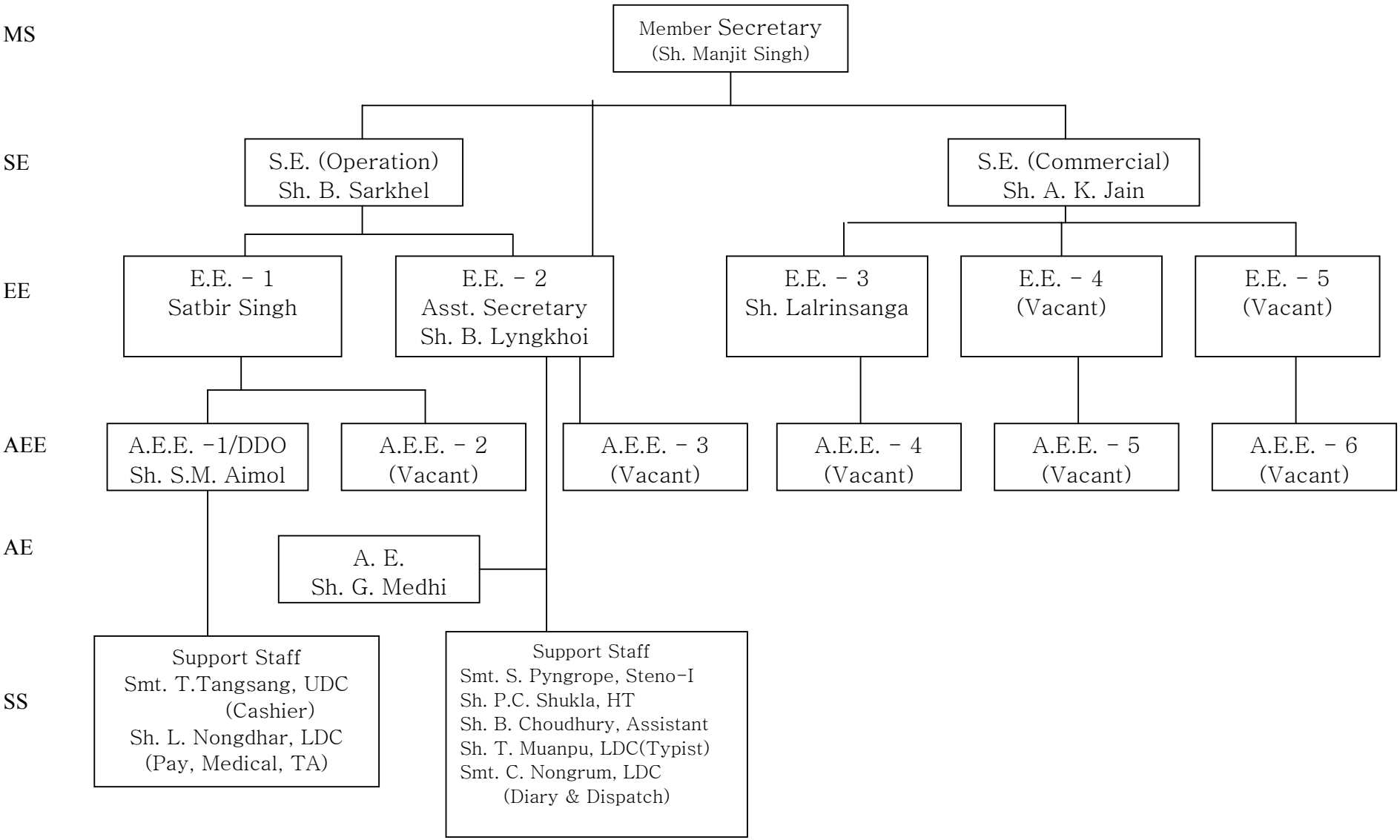
Chairman, NERPC
Shri Pradyut Bordoloi,
Hon'ble Minister of Power,
Govt. of Assam,
Dispur, Guwahati.

Members of the North Eastern Regional Power Committee (As on 31.03. 2009)

1	Shri Dorjee Khandu, Hon'ble Chief Minister & Minister of Power, Govt. of Arunachal Pradesh, Itanagar.	2	Shri Phungzathang Tonsing, Hon'ble Minister of Power, Govt. of Manipur, Imphal.
3	Shri Conrad Sangma, Hon'ble Minister of Power, Govt. of Meghalaya, Shillong.	4	Shri Zoramthanga, Hon'ble Chief Minister, Govt. of Mizoram, Aizawl.
5	Shri D.Y. Sema, Hon'ble Minister of Power, Govt. of Nagaland, Kohima	6	Shri Manik Dey Hon'ble Minister of Power, Govt. of Tripura, Agartala.
7	Shri S.M. Dhiman Member (GO&D), CEA, New Delhi.	8	Shri U.K. Sangma, Secretary, North Eastern Council, Shillong.
9	Shri W.M.S. Pariat, IAS, Chairman , MeSEB, Shillong.	10	Shri A.K. Sachan, IAS, Chairman, ASEB, Guwahati.
11	Shri V. K. Abbey, Chairman &.Managing Director NEEPCO Ltd., Shillong.	12	Shri J. Haque. Director (Opn. & Projects), POWERGRID, New Delhi.
13	Shri R. K. Sharma Director (Tech.), N.H.P.C., Faridabad (Haryana).	14	Shri Shashi Shekhar Director(Operation), Power Trading Corporation of India Ltd., New Delhi.
15	C.E.O. NVVNL, New Delhi.	16	Shri Manjit Singh, Member Secretary, N.E.R.P.C., Shillong.

Annex-II

Organisation Chart of NERPC Secretariat as on 31.03.2009



Annex –III

POSTS SANCTIONED AND FILLED IN NERPC AS ON 31.03.09

Sl. No.	Name of the Post	Sanctioned	Filled	Vacant	Remarks
1	Member Secretary	1	1	0	
2	Superintending Engineer	2	2	0	
3	Executive Engineer	5	3	2	
4	Assistant Director-I	6	1	5	
5	Assistant Director-II	1	1	0	
6	Technical Officer	1	0	1	
7	Stenographer Gr. I	1	1	0	
8	Hindi Translator	1	1	0	
9	Hindi Translator Gr. II	1	0	1	
10	Assistant	1	1	0	
11	U.D.C.	1	1	0	
12	L.D.C.	3	3	0	
13	Driver	1	0	1	
14	Daftary	1	1	0	
15	Attendant	3	2	1	
16	Chowkidar	3	3	0	
	Total:	32	21	11	

Annex-IV

FINANCIAL BUDGET OF NERPC DURING THE YEAR 2008-09

The Sanctioned Budget and Actual Expenditure incurred by the NERPC during the year 2008-09 was as follows:

(Rs. in Thousand)

Particulars	Sanctioned Budget 2008-09	Actual Expenditure 2008-09
Regional Co-ordination Centre (2801-NON-PLAN)		
Medical	217.000	178.352
Salary	5,374.000	4,265.780
Overtime Allowances	4.000	4.000
Travelling Expenditure	495.000	489.490
Tech.Improvement Scheme in GM	0.000	0.000
Office Expenditure	495.000	493.758
Total	**6,585.000**	**5,431.380**
Load Despatching Station (2801-NON-PLAN)		
Medical	95.000	28.387
Salary	3,975.000	3,474.968
Overtime Allowances	4.000	4.000
Travelling Expenditure	405.000	404.877
Office Expenditure	1,433.000	1,431.748
Advertisement/Publicity	9.000	0.950
Other Charges	333.000	332.640
Total	**6,254.000**	**5,677.570**
Aggregate Total	**12,839.000**	**11,108.950**

Annex-V

LIST OF MEETINGS DURING THE YEAR 2008-09

Meetings	Date	Venue
North Eastern Regional Power Committee:		
1. 5th NERPC Meeting	26.04.08	Hotel Rendezvous, Gangtok, Sikkim
2. 6th NERPC Meeting	08.08.08	Hotel Bristol, Gurgoan, Haryana
3. 7th NERPC Meeting	24.02.09	Hotel Pinewood, Shillong, Meghalaya
Technical Co-ordination Committee:		
1. 5th TCC Meeting	25.04.08	Hotel Rendezvous, Gangtok, Sikkim
2. 6th TCC Meeting	07.08.08	Hotel Bristol, Gurgoan, Haryana
3. 7th TCC Meeting	23.02.09	Hotel Pinewood, Shillong, Meghalaya
Operation Co-ordination Committee:		
1. 25th OCC Meeting	09.04.08	NERPC, Shillong
2. 26th OCC Meeting	14.05.08	NERPC, Shillong
3. 27th OCC Meeting	11.06.08	NERPC, Shillong
4. 28th OCC Meeting	09.07.08	NERPC, Shillong
5. 29th OCC Meeting	05.08.08	NERPC, Shillong
6. 30th OCC Meeting	09.09.08	NERPC, Shillong
7. 31st OCC Meeting	16.10.08	NERPC, Shillong
8. 32nd OCC Meeting	11.11.08	NERPC, Shillong
9. 33rd OCC Meeting	10.12.08	NERPC, Shillong
10. 34th OCC Meeting	12.01.09	NERPC, Shillong
11. 35th OCC Meeting	06.02.09	NERPC, Shillong
12. 36th OCC Meeting	06.03.09	NERPC, Shillong
Commercial Committee:		
1. 9th CC Meeting	11.06.08	NERPC, Shillong
2. 10th CC Meeting	24.10.08	NERPC, Shillong
Protection Committee:		
Nil		
Load Generation Balance Report Committee:		
Nil		

Annex-VI

INTER REGIONAL ENERGY EXCHANGE DURING 2008-09

Figures in MU

Month	NER-->ER	ER-->NER	Net Export
Apr-08	13.75	54.74	-40.99
May-08	31.55	52.00	-20.45
Jun-08	167.89	29.95	137.94
Jul-08	318.86	30.46	288.40
Aug-08	284.61	28.54	256.07
Sep-08	231.15	33.13	198.02
Oct-08	160.84	27.07	133.77
Nov-08	55.21	15.11	40.10
Dec-08	4.38	23.43	-19.05
Jan-09	0.02	57.67	-57.65
Feb-09	0.00	74.61	-74.61
Mar-09	0.00	148.41	-148.41
Total FY 08-09	1268.26	575.12	**693.14**

Annex-VII

VOLTAGE PROFILE OF NER GRID DURING 2008-09

	Balipara 400kV		Misa 400kV		Misa 220kV		Salakati 220kV		Haflong 132 kV		Aizawl 132 kV		Kumarghat 132kV	
	Max (kV)	Min(kV)	Max (kV)	Min(kV)	Max (kV)	Min(kV)	Max (kV)	Min(kV)	Max (kV)	Min(kV)	Max (kV)	Min(kV)	Max (kV)	Min(kV)
Apr-08	429	381	435	388	241	208	238	216	140	132	140	117	139	124
May-08	431	392	432	392	238	206	236	210	140	132	143	122	138	124
Jun-08	433	391	430	387	231	210	234	216	138	132	144	120	141	123
Jul-08	432	401	428	401	229	211	233	217	139	120	139	120	140	124
Aug-08	432	397	448	396	234	211	233	215	228	121	140	119	146	125
Sep-08	433	401	428	399	238	213	236	216	136	125	141	114	138	119
Oct-08	429	400	426	398	229	217	236	217	137	127	137	120	135	123
Nov-08	430	401	427	401	231	216	237	220	139	125	138	112	136	125
Dec-08	435	401	432	400	232	213	239	214	140	125	136	113	138	126
Jan-09	434	390	432	391	232	211	238	217	141	128	141	116	137	124
Feb-09	428	396	428	393	232	213	235	220	142	127	137	111	137	122
Mar-09	444	390	440	389	239	205	239	208	149	126	140	109	148	125
Maximum	**444**		**448**		**241**		**239**		**228**		**144**		**148**	
Minimum	**381**		**387**		**205**		**208**		**120**		**109**		**119**	
Average	413.79		413.38		222.50		225.83		137.04		127.88		131.56	

Annex-VIII

PLANT LOAD FACTOR OF THERMAL POWER STATIONS IN NER

Sl. No.	Thermal Plant	Installed Capacity	Apr-08		May-08		Jun-08		Jul-08		Aug-08		Sep-08	
			Gen (MU)	PLF	Gen (MU)	PLF	Gen (MU)	PLF	Gen (MU)	PLF	Gen (MU)	PLF	Gen (MU)	PLF
1	LTPS Aseb	120	53.49	61.91	55.25	63.95	52.01	60.19	51.70	59.83	47.51	54.99	51.03	59.06
2	NTPS Aseb	117	44.38	52.68	47.43	56.30	45.44	53.94	52.64	62.49	48.31	57.35	37.50	44.52
3	DLF Private	24.5	7.57	42.91	10.02	56.80	7.86	44.56	7.68	43.51	7.04	39.91	7.81	44.27
4	Baramura Tripura	37.5	14.12	52.29	14.905	55.20	14.32	53.04	14.42	53.39	14.75	54.62	13.40	49.64
5	Rokhia Tripura	90	37.92	58.51	31.87	49.18	35.09	54.14	39.90	61.58	40.33	62.24	36.78	56.76
7	AGBPP Neepco	291	147.45	70.38	164.12	78.33	151.02	72.08	147.53	70.41	144.34	68.89	142.37	67.95
8	AGTPP Neepco	84	54.81	90.63	56.82	93.95	54.17	89.56	54.81	90.62	56.41	93.27	54.47	90.06
			Oct-08		Nov-08		Dec-08		Jan-09		Feb-09		Mar-09	
1	LTPS Aseb	120	50.64	58.61	53.64	62.08	62.26	72.06	66.95	77.49	63.40	73.38	74.37	86.08
2	NTPS Aseb	117	46.80	55.56	48.23	57.25	49.31	58.54	45.95	54.55	46.61	55.33	52.15	61.91
3	DLF Private	24.5	8.16	46.26	8.23	46.66	8.32	47.17	8.13	46.09	7.32	41.50	8.42	47.73
4	Baramura Tripura	37.5	14.92	55.24	12.40	45.93	14.99	55.51	13.43	49.74	4.23	15.67	14.85	55.01
5	Rokhia Tripura	90	39.04	60.25	36.80	56.79	38.62	59.60	37.24	57.48	36.27	55.96	38.51	59.43
7	AGBPP Neepco	291	133.24	63.59	133.84	63.88	175.25	83.64	169.35	80.83	150.79	71.97	106.87	51.01
8	AGTPP Neepco	84	58.90	97.38	56.07	92.70	55.32	91.46	55.32	91.46	51.33	84.87	56.81	93.93

Annual PLF for 2008-09

1	LTPS Aseb	120	682.24	64.90
2	NTPS Aseb	117	564.75	55.10
3	DLF Private	24.5	96.56	44.99
4	Baramura Tripura	37.5	160.73	48.93
5	Rokhia Tripura	90	448.36	56.87
7	AGBPP Neepco	291	1766.17	69.28
8	AGTPP Neepco	84	665.23	90.40

Annex-IX

Load factor for 2006-07

Month	Energy available (MU)	Peak Deamnd (MW)	Load Factor
Apr-06	469.26	1365.58	47.73
May-06	549.44	1336.73	55.25
Jun-06	627.47	1368.90	63.66
Jul-06	674.76	1406.73	64.47
Aug-06	658.20	1402.16	63.09
Sep-06	638.91	1369.92	64.78
Oct-06	616.72	1406.37	58.94
Nov-06	556.95	1365.16	56.66
Dec-06	587.67	1359.79	58.09
Jan-07	556.37	1376.47	54.33
Feb-07	492.71	1476.55	49.66
Mar-07	545.21	1429.31	51.27

Load factor for 2007-08

Month	Energy available (MU)	Peak Deamnd (MW)	Load Factor
Apr-07	513.12	1435	49.66
May-07	587.16	1589	49.67
Jun-07	638.44	1566	56.62
Jul-07	724.27	1589	61.26
Aug-07	741.78	1554	64.16
Sep-07	705.40	1560	62.80
Oct-07	720.62	1657	58.45
Nov-07	653.51	1652	54.94
Dec-07	649.72	1655	52.77
Jan-08	630.28	1684	50.31
Feb-08	566.40	1682	48.38
Mar-08	581.83	1742	44.89

Load factor for 2008-09

Month	Energy available (MU)	Peak Deamnd (MW)	Load Factor
Apr-08	581.68	1724.00	46.86
May-08	645.94	1710.00	50.77
Jun-08	695.79	1744.00	55.41
Jul-08	758.97	1705.00	59.83
Aug-08	779.60	1691.00	61.97
Sep-08	736.09	1665.00	61.40
Oct-08	751.63	1820.00	55.51
Nov-08	667.93	1520.00	61.03
Dec-08	673.22	1490.00	60.73
Jan-09	656.64	1491.00	59.19
Feb-09	566.99	1459.33	55.82
Mar-09	620.01	1459.94	57.08

Load Factor for Three years

Month	2006-07	2007-08	2008-09
Apr	47.73	49.66	46.86
May	55.25	49.67	50.77
Jun	63.66	56.62	55.41
Jul	64.47	61.26	59.83
Aug	63.09	64.16	61.97
Sep	64.78	62.80	61.40
Oct	58.94	58.45	55.51
Nov	56.66	54.94	61.03
Dec	58.09	52.77	60.73
Jan	54.33	50.31	59.19
Feb	49.66	48.38	55.82
Mar	51.27	44.89	57.08

Annex-X

Water Level and Energy Content of major Reservoirs during 2008-09

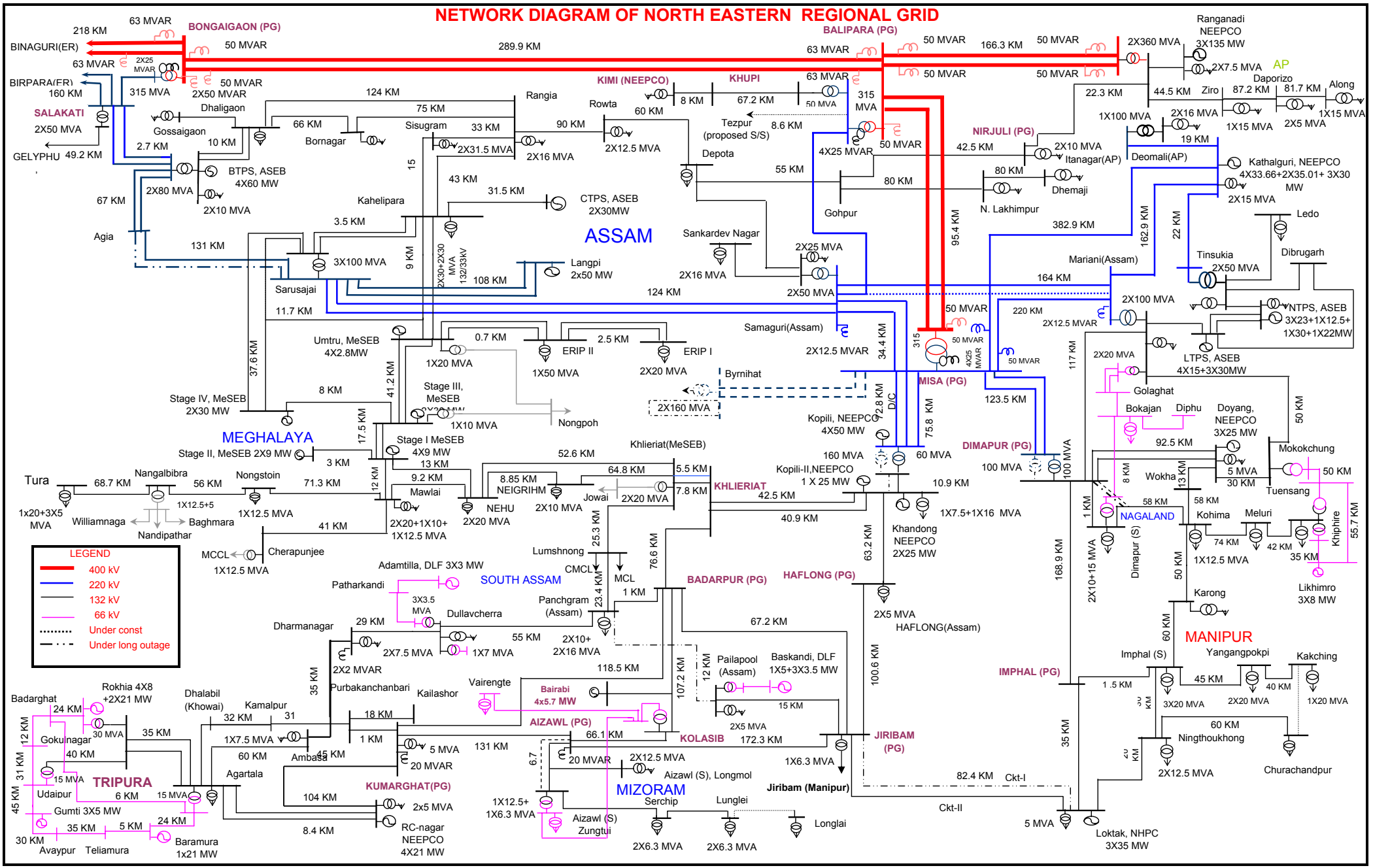
Months	Khandong				Kopili				Loktak				Barapani				Gumti				Doyang			
	FRL	MDDL	Level	Energy	FRL	MDDL	Level	Energy	FRL	MDDL	Level	Energy	FRL	MDDL	Level	Energy	FRL	MDDL	Level	Energy	FRL	MDDL	Level	Energy
	(m)	(m)	(m)	MU	(m)	(m)	(m)	MU	(m)	(m)	(m)	MU	(ft)	(ft)	(ft)	MU	(m)	(m)	(m)	MU	(m)	(m)	(m)	MU
Apr-08	719.30	704.00	712.50	8.00	609.50	592.83	595.28	16.00	770.00	766.20	767.89	69.33	3220.00	3150.00	3168.84	6.20	93.55	83.60	91.07	14.40	333.00	306.00	308.27	0.10
May-08	719.30	704.00	711.10	8.80	609.50	592.83	597.35	18.50	770.00	766.20	767.34	49.25	3220.00	3150.00	3165.52	6.68	93.55	83.60	89.04	12.10	333.00	306.00	307.50	2.00
Jun-08	719.30	704.00	720.30	27.50	609.50	592.83	599.53	28.50	770.00	766.20	767.60	68.00	3220.00	3150.00	3171.68	9.20	93.55	83.60	88.81	11.40	333.00	306.00	314.60	13.00
Jul-08	719.30	704.00	719.50	25.00	609.50	592.83	602.76	48.00	770.00	766.20	768.23	179.00	3220.00	3150.00	3196.31	26.60	93.55	83.60	89.00	12.00	333.00	306.00	327.00	45.60
Aug-08	719.30	704.00	720.90	28.80	609.50	592.83	608.03	89.00	770.00	766.20	768.84	250.00	3220.00	3150.00	3210.21	39.20	93.55	83.60	89.40	13.40	333.00	306.00	323.05	33.00
Sep-08	719.30	704.00	719.45	24.50	609.50	592.83	609.39	98.20	770.00	766.20	768.71	250.00	3220.00	3150.00	3214.89	44.20	93.55	83.60	88.77	11.40	333.00	306.00	319.10	21.50
Oct-08	719.30	704.00	719.60	27.70	609.50	592.83	607.42	83.70	770.00	766.20	768.76	250.00	3220.00	3150.00	3218.76	48.80	93.55	83.60	88.17	6.60	333.00	306.00	317.20	17.40
Nov-08	719.30	704.00	717.15	20.00	609.50	592.83	604.00	57.50	770.00	766.20	768.63	250.00	3220.00	3150.00	3214.36	43.70	93.55	83.60	87.12	6.40	333.00	306.00	316.10	15.20
Dec-08	719.30	704.00	714.85	15.00	609.50	592.83	602.03	43.60	770.00	766.20	768.32	250.00	3220.00	3150.00	3207.11	36.00	93.55	83.60	86.00	4.08	333.00	306.00	315.02	13.50
Jan-09	719.30	704.00	706.41	2.00	609.50	592.83	603.48	53.00	770.00	766.20	767.95	110.00	3220.00	3150.00	3196.40	26.70	93.55	83.60	84.80	2.43	333.00	306.00	313.37	10.50
Feb-09	719.30	704.00	702.87	0.00	609.50	592.83	601.33	39.50	770.00	766.20	767.61	69.00	3220.00	3150.00	3186.08	18.20	93.55	83.60	84.17	1.80	333.00	306.00	311.77	8.50
Mar-09	719.30	704.00	704.70	0.40	609.50	592.83	598.82	21.20	770.00	766.20	767.24	42.00	3220.00	3150.00	3177.40	12.10	93.55	83.60	82.95	0.50	333.00	306.00	309.80	4.50

Annex-XI

UI Energy (in MU)

Organisation	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
Ar. Pradesh	1.293	5.414	5.772	-3.010	6.415	7.732	2.984	4.036	4.832	4.929	1.540	5.112
ASEB	-4.517	-12.689	-51.455	-49.796	-34.536	-47.741	-58.806	-30.437	-27.398	-44.094	-40.289	-44.992
Manipur	-0.416	-3.903	-15.266	-29.153	-25.341	-15.970	-10.095	-1.192	-1.349	-0.066	-0.722	5.102
MeSEB	13.181	11.762	-6.007	-23.460	-17.227	-10.896	-9.716	0.926	5.182	0.753	-2.586	1.881
Mizoram	0.336	-3.890	-12.936	-20.802	-13.484	-4.680	-3.648	0.624	2.593	3.946	3.309	5.737
Nagaland	-0.696	-6.119	-2.814	-3.453	5.917	8.821	-4.153	3.368	-0.320	3.288	0.472	3.640
Tripura	-3.713	-1.415	0.430	-2.067	-2.409	1.599	-13.133	-3.950	-3.501	-13.499	-6.075	1.154
Loktak	0.406	-0.453	-0.004	-0.081	-0.061	0.162	-0.132	0.001	-0.100	0.104	0.284	-0.483
Khandong	0.002	-0.066	0.135	-0.027	0.001	-0.031	-0.133	-0.038	0.004	-0.003	-0.060	-0.072
Kopili	-0.348	0.252	0.053	0.202	-0.115	0.108	0.236	0.072	0.617	-0.059	-0.193	-0.488
Kopili Stage II	0.005	0.006	0.010	-0.007	0.001	0.008	-0.007	0.000	-0.018	0.061	0.035	-0.022
DHEP	-0.113	-0.092	0.300	-0.082	-0.094	0.100	0.103	-0.207	-0.013	-0.084	0.089	0.063
RHEP	2.281	-3.413	4.350	-0.998	-2.371	1.323	-3.597	0.010	0.405	0.764	0.536	-0.713
AGTPP	1.305	0.692	0.776	1.074	0.874	1.014	0.992	0.751	0.671	0.691	0.865	0.657
AGBPP	0.265	-1.024	-0.539	0.347	-1.572	-0.027	0.082	0.422	-0.015	1.139	-1.218	-1.737
ER	-4.975	8.020	91.102	137.552	84.334	70.278	95.235	28.975	24.285	50.467	46.588	22.410

(-) indicates underdrawl


NETWORK DIAGRAM OF NORTH EASTERN REGIONAL GRID
BONGAIGAON (PG)
BINAGURI(ER)
BIRPARA(ER)
SALAKATI
GELYPHU
BTPS, ASEB 4X60 MW
Gossaigaon
Dhaligaon
Bornagar
Rangia
Sisugram
Rowta
KIMI (NEEPCO)
KHUPI
Tezpur (proposed S/S)
Depota
Kaheliparа
CTPS, ASEB 2X30MW
Agia
Sarusajai
3X100 MVA
Langpi 2x50 MW
Sankardev Nagar
Gohpur
BALIPARA (PG)
NIRJULI (PG)
Itanagar(AP)
Deomali(AP)
Dhemaji
N. Lakhimpur
Ranganadi NEEPCO 3X135 MW
Daporizo
Ziro
Along
Kathalguri, NEEPCO 4X33.66+2X35.01+ 3X30 MW
Ledo
Dibrugarh
Tinsukia
Mariani(Assam)
NTPS, ASEB 3X23+1X12.5+ 1X30+1X22MW
LTPS, ASEB 4X15+3X30MW
ASSAM
MEGHALAYA
Umtru, MeSEB 4X2.8MW
Stage IV, MeSEB 2X30 MW
Stage II, MeSEB 2X9 MW
Stage III, MeSEB
Stage I MeSEB 4X9 MW
ERIP II
ERIP I
Byrnihat
Nongpoh
Samaguri(Assam)
MISA (PG)
Kopili, NEEPCO 4X50 MW
Kopili-II,NEEPCO 1 X 25 MW
Khlieriat(MeSEB)
KHLIERIAT
NEHU
NEIGRIHM
Jowai
Mawlai
Tura
Nangalbibra
Nongstoin
Williamnaga
Baghmara
Nandipathar
Cherapunjee
MCCL
Lumshnong
CMCL
MCL
Adamtilla, DLF 3X3 MW
Patharkandi
SOUTH ASSAM
Panchgram (Assam)
Dullavcherra
Dharmanagar
BADARPUR (PG)
HAFLONG (PG)
Khandong NEEPCO 2X25 MW
HAFLONG(Assam)
DIMAPUR (PG)
Golaghat
Bokajan
Diphu
Doyang, NEEPCO 3X25 MW
Mokokchung
Tuensang
Wokha
Kohima
Meluri
Khiphire
Likhimro 3X8 MW
Dimapur (S)
NAGALAND
Karong
MANIPUR
Imphal (S)
Yangangpokpi
Kakching
Ningthoukhong
Churachandpur
IMPHAL (PG)
Loktak, NHPC 3X35 MW
Rokhia 4X8 +2X21 MW
Badarghat
Gokulnagar
Udaipur
Gumti 3X5 MW
Avaypur
Teliamura
Baramura 1x21 MW
TRIPURA
Dhalabil (Khowai)
Kamalpur
Ambassa
Agartala
Purbakanchanbari
Kailashor
Vairengte
Bairabi 4x5.7 MW
AIZAWL (PG)
KUMARGHAT(PG)
RC-nagar NEEPCO 4X21 MW
KOLASIB
Pailapool (Assam)
Baskandi, DLF 1X5+3X3.5 MW
JIRIBAM (PG)
Jiribam (Manipur)
Aizawl (S), Longmol
MIZORAM
Serchip
Lunglei
Aizawl (S) Zungtui
Longlai
Ckt-I
Ckt-II
LEGEND
400 kV
220 kV
132 kV
66 kV
Under const
Under long outage

POWER MAP OF NORTH EASTERN REGION AND SIKKIM

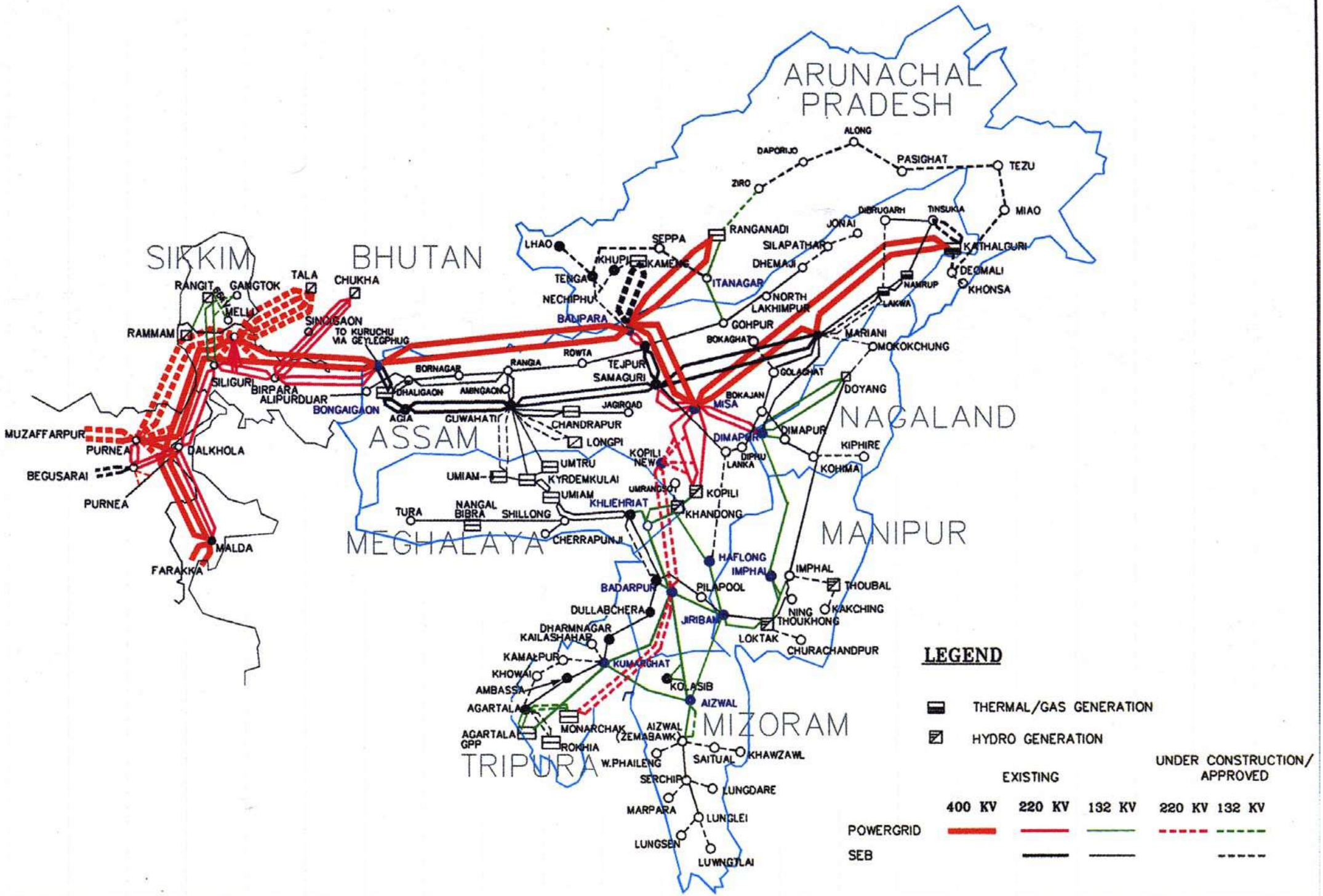


Exhibit-II

Installed Capacity (MW) of NER as on 31.03.09

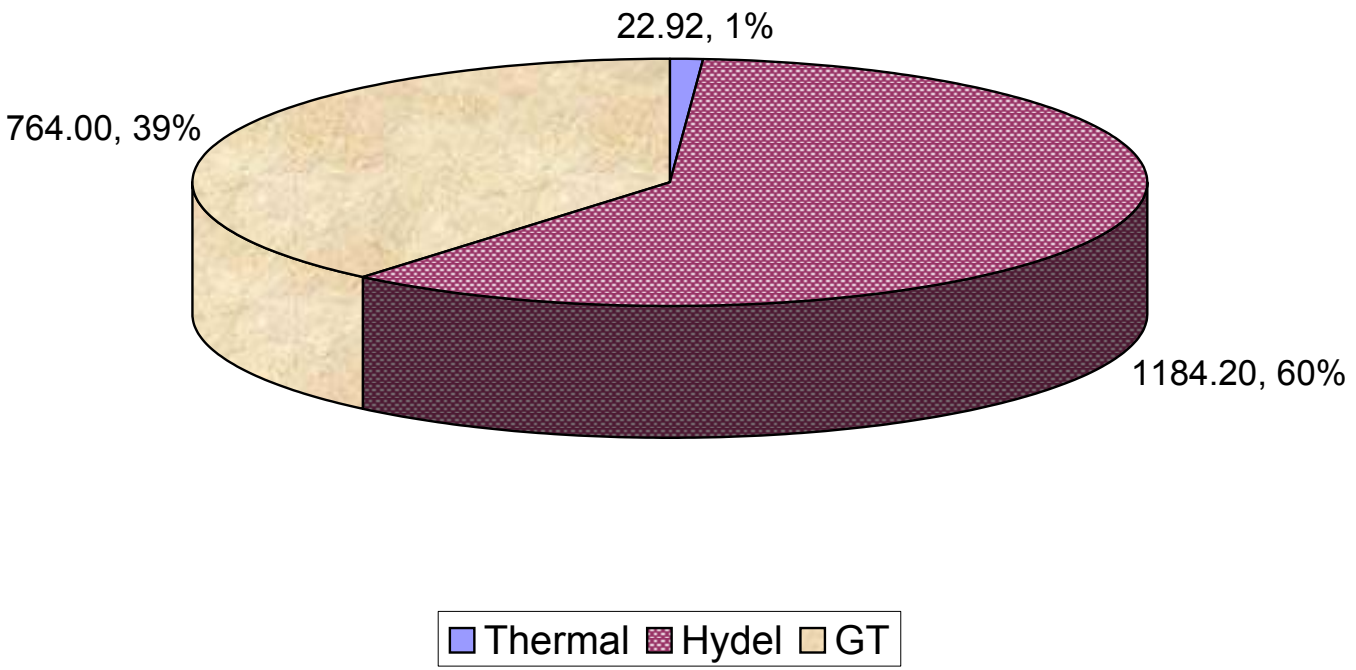


Exhibit-III

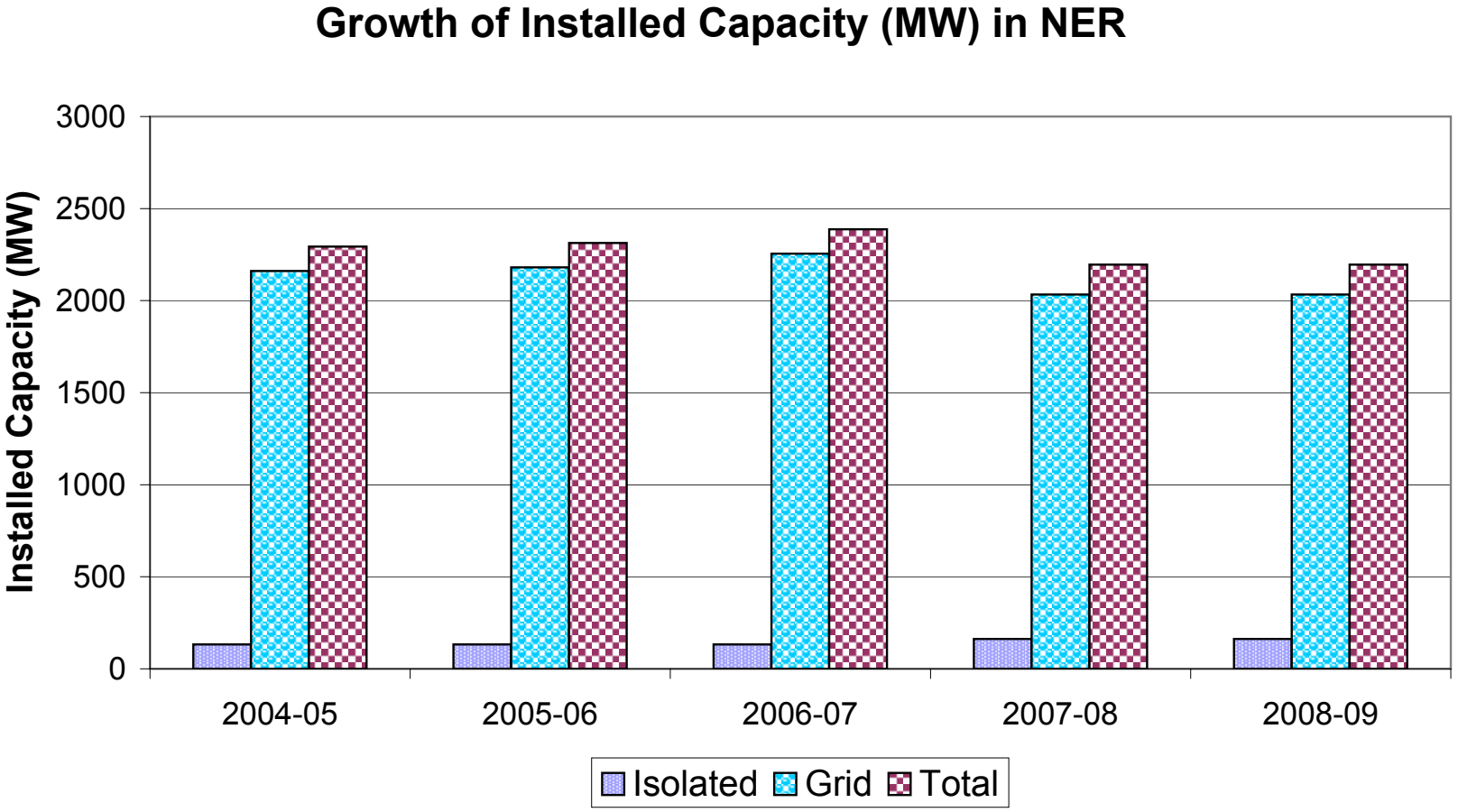

Growth of Installed Capacity (MW) in NER
Installed Capacity (MW)
3000
2500
2000
1500
1000
500
0
2004-05
2005-06
2006-07
2007-08
2008-09
Isolated
Grid
Total

Exhibit-IV

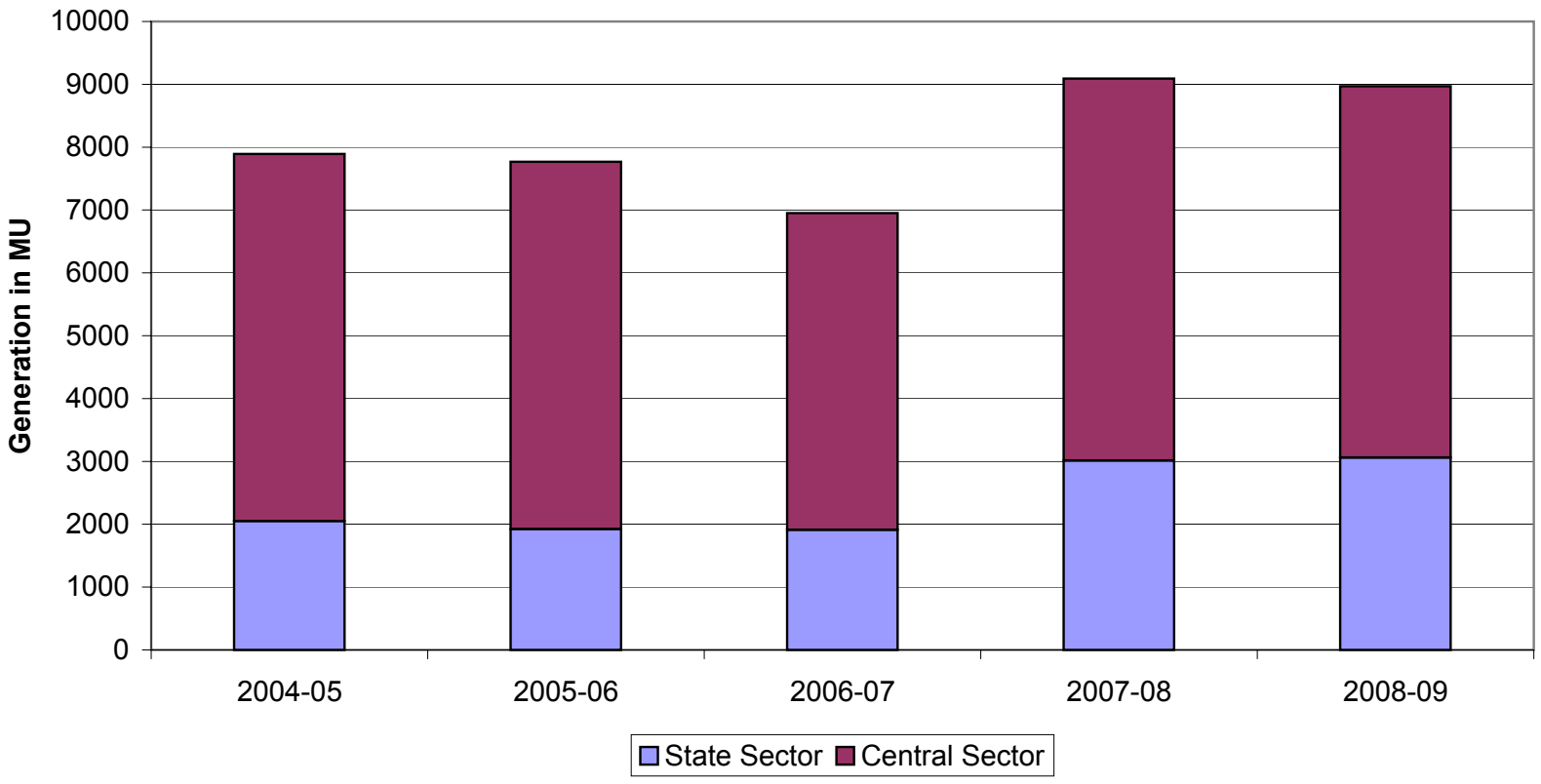
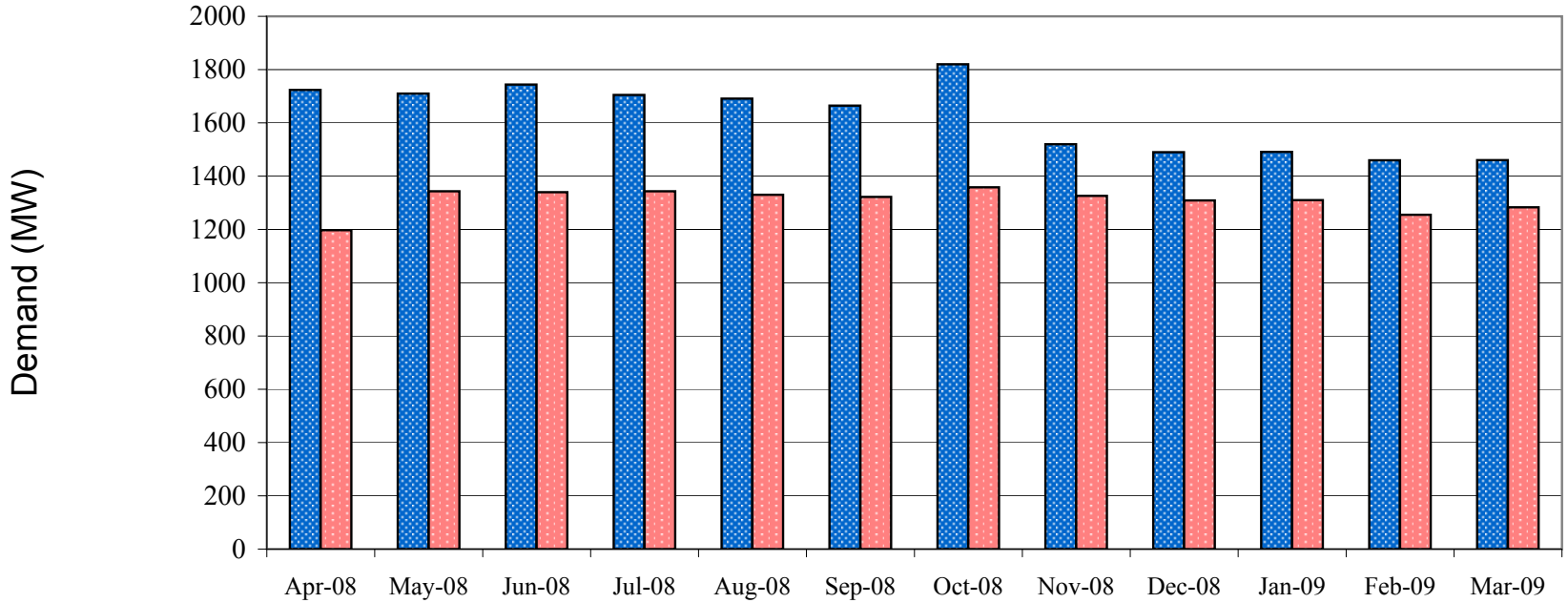

Growth of Energy Generation (MU) in NER
Generation in MU
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
2004-05
2005-06
2006-07
2007-08
2008-09
State Sector
Central Sector

Exhibit-V

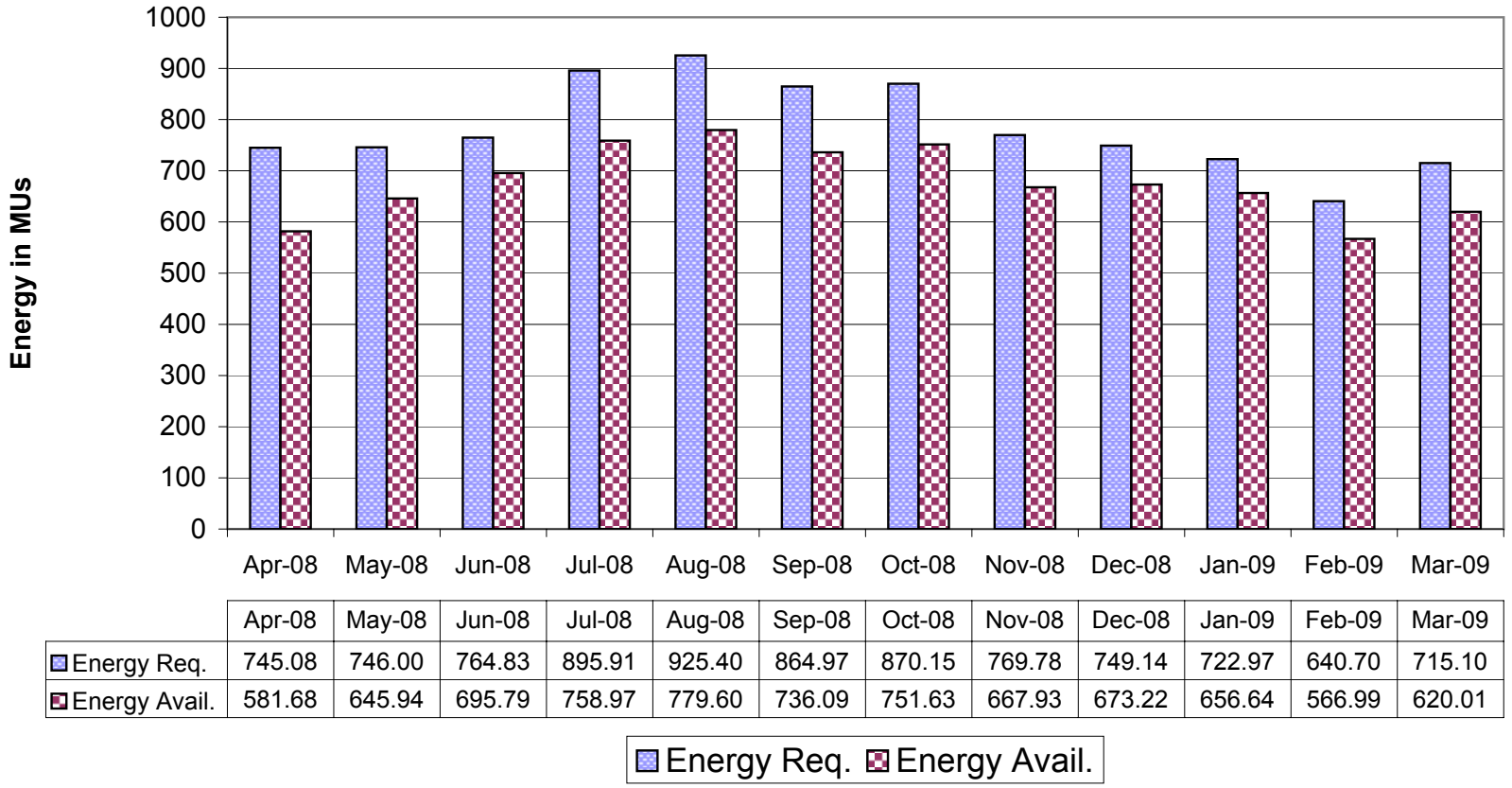
Peak Demand (MW) Vs Demand met (MW) during 2008-09



	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
Peak Demand(MW)	1724	1710	1744	1705	1691	1665	1820	1520	1490	1491	1459	1460
Demand met(MW)	1197	1343	1340	1343	1330	1322	1358	1326	1309	1310	1255	1283

Exhibit-VI

Monthwise Energy Requirement Vs Availability during 2008-09



	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09
Energy Req.	745.08	746.00	764.83	895.91	925.40	864.97	870.15	769.78	749.14	722.97	640.70	715.10
Energy Avail.	581.68	645.94	695.79	758.97	779.60	736.09	751.63	667.93	673.22	656.64	566.99	620.01

Exhibit-VII

Frequency profile of NER Grid during 2008-09

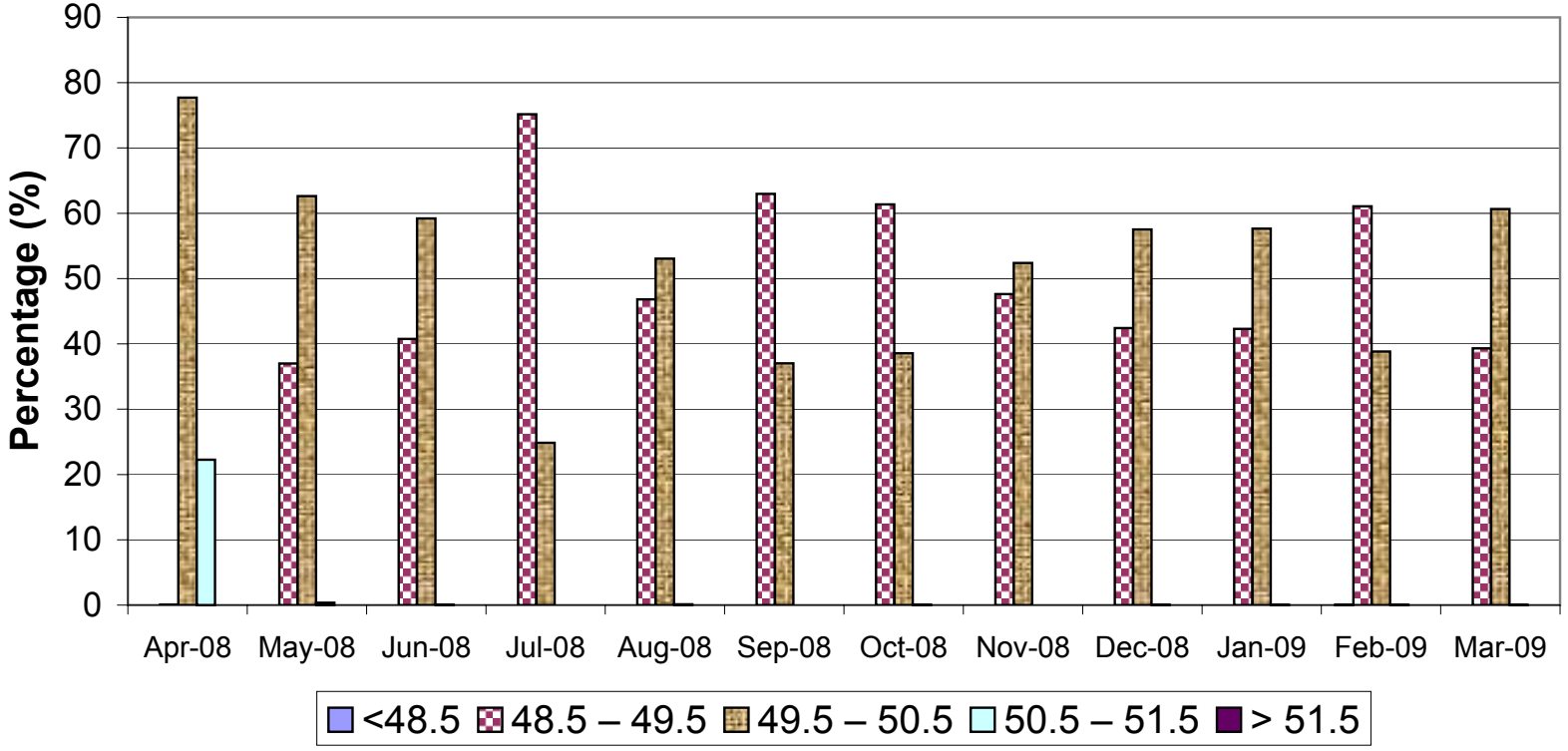


Exhibit-VIII

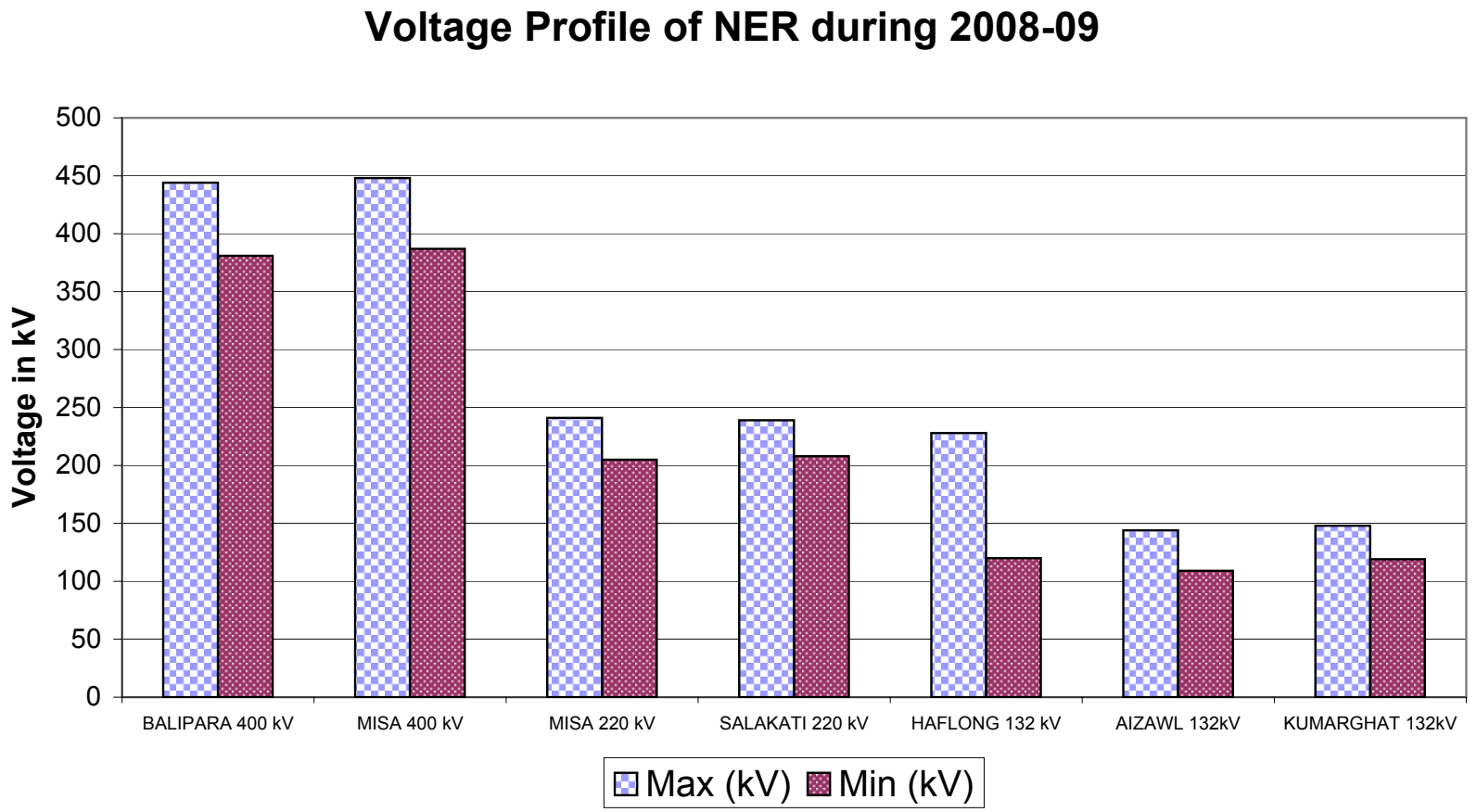


Exhibit-IX

Plant Load Factor of NER Thermal Power Stations

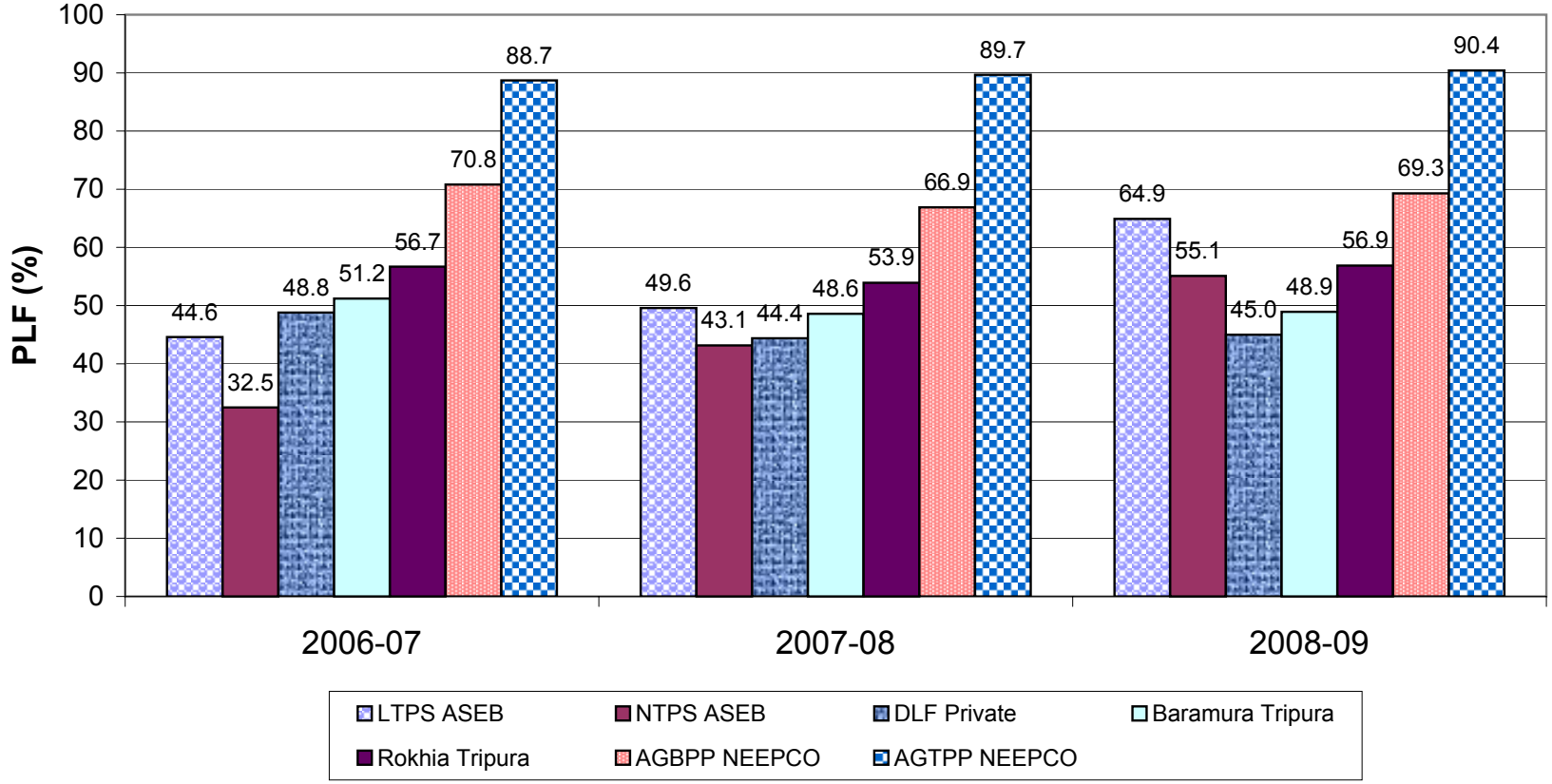


Exhibit-X

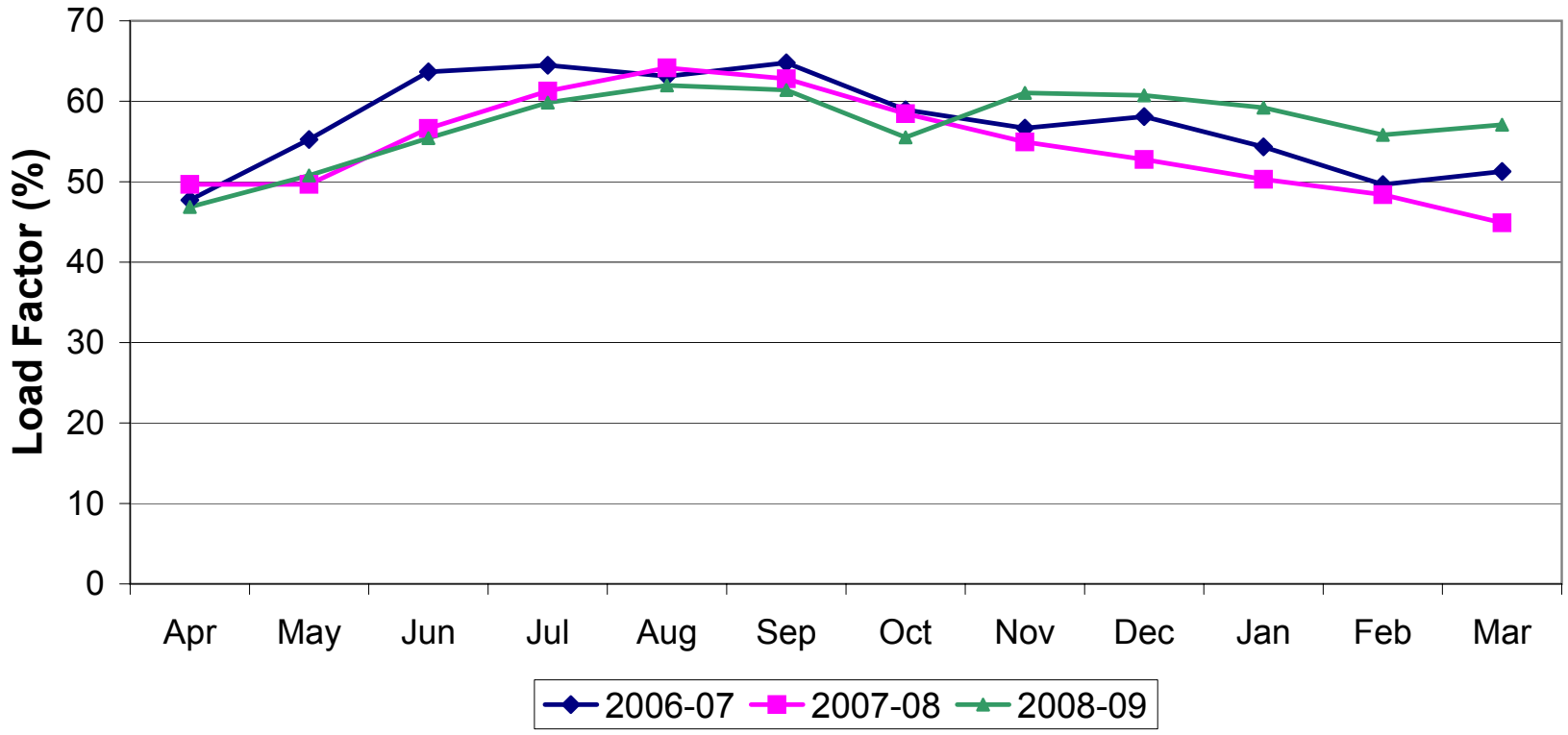
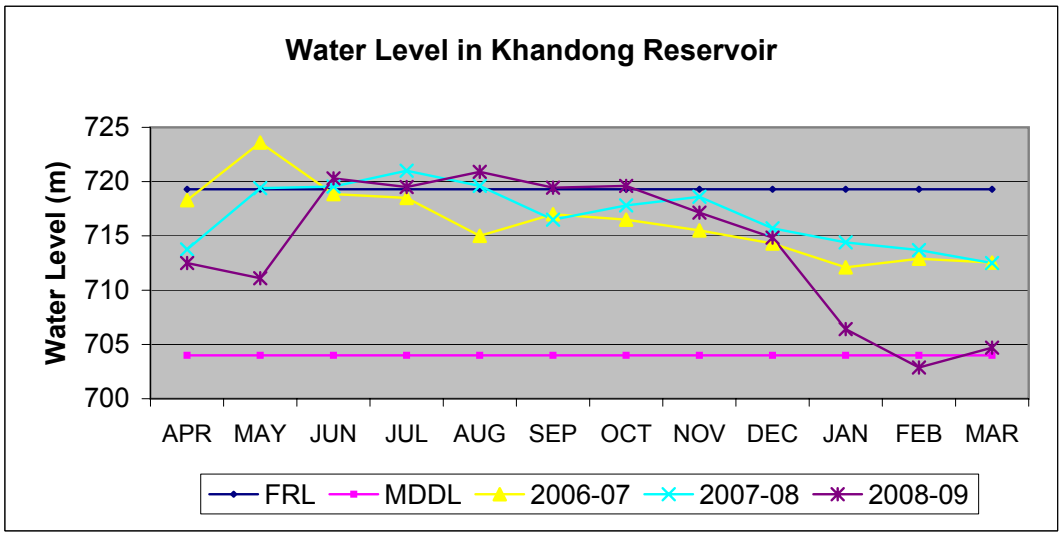
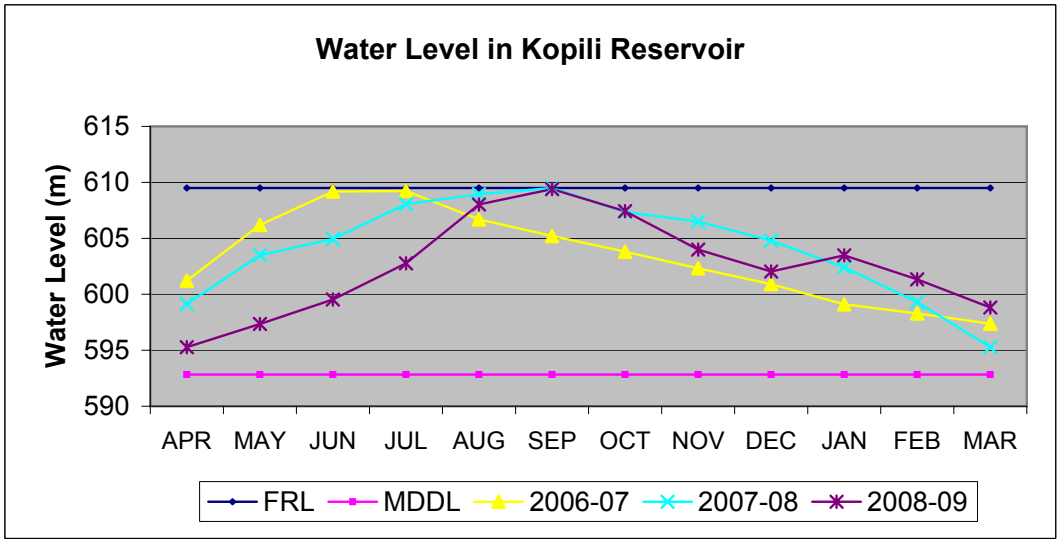
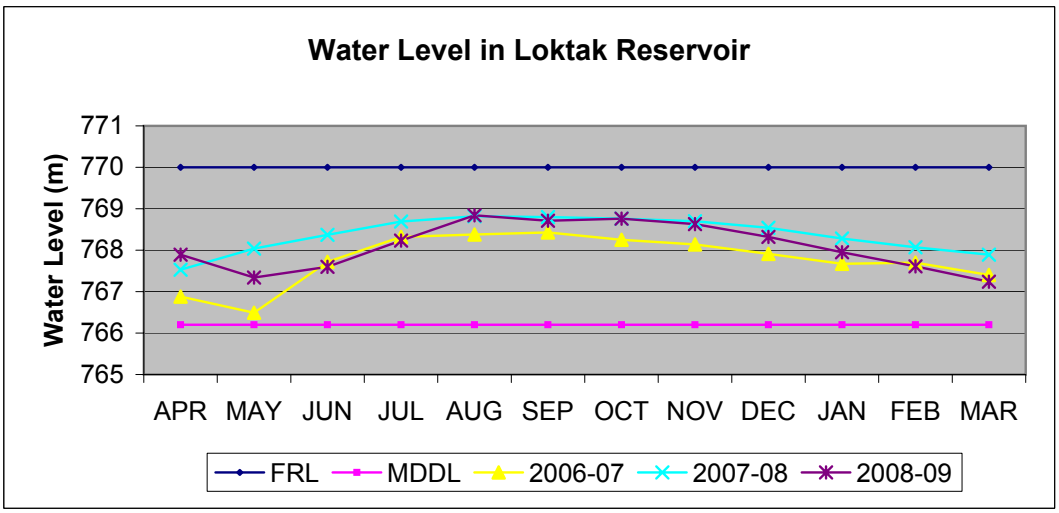
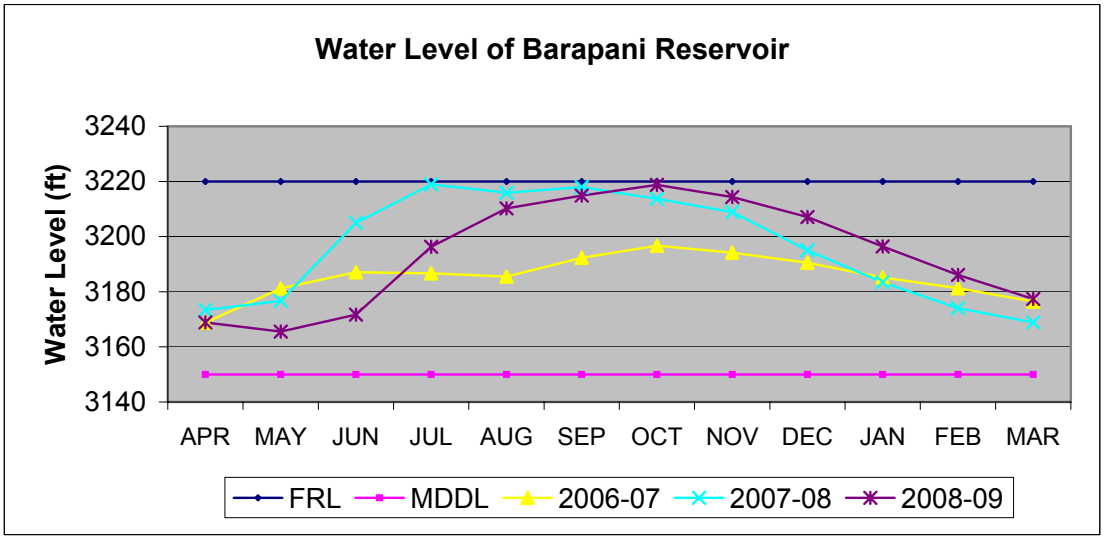

Annual Load Factor Curve of NER
Load Factor (%)
70
60
50
40
30
20
10
0
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Feb
Mar
2006-07
2007-08
2008-09

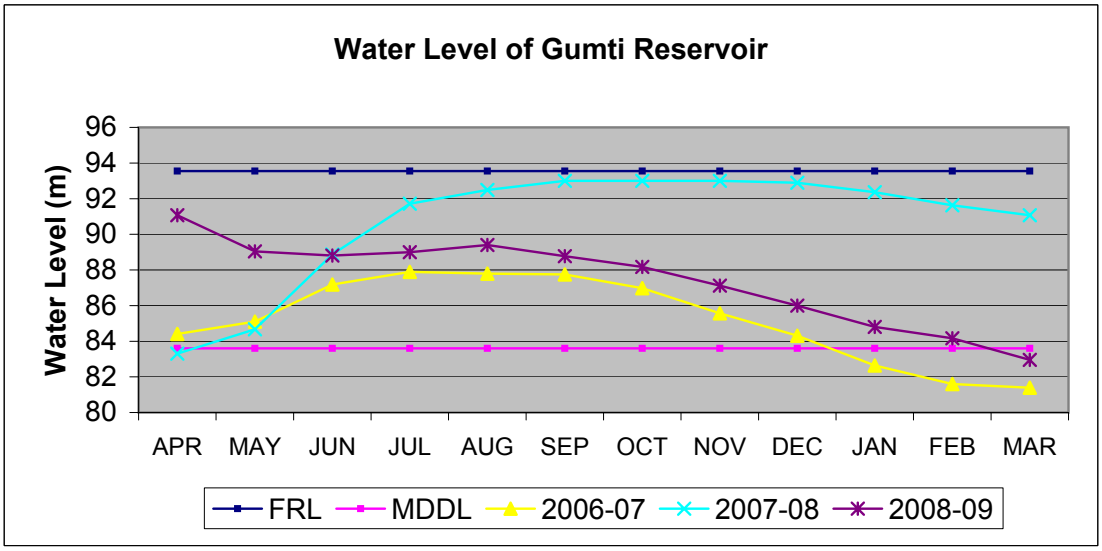
Exhibit-XI


Water Level in Khandong Reservoir
Water Level (m)
725
720
715
710
705
700
APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR
FRL MDDL 2006-07 2007-08 2008-09


Water Level in Kopili Reservoir
Water Level (m)
615
610
605
600
595
590
APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR
FRL MDDL 2006-07 2007-08 2008-09


Water Level in Loktak Reservoir
Water Level (m)
771
770
769
768
767
766
765
APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR
FRL MDDL 2006-07 2007-08 2008-09


Water Level of Barapani Reservoir
Water Level (ft)
3240
3220
3200
3180
3160
3140
APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR
FRL MDDL 2006-07 2007-08 2008-09


Water Level of Gumti Reservoir
Water Level (m)
96
94
92
90
88
86
84
82
80
APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR
FRL MDDL 2006-07 2007-08 2008-09

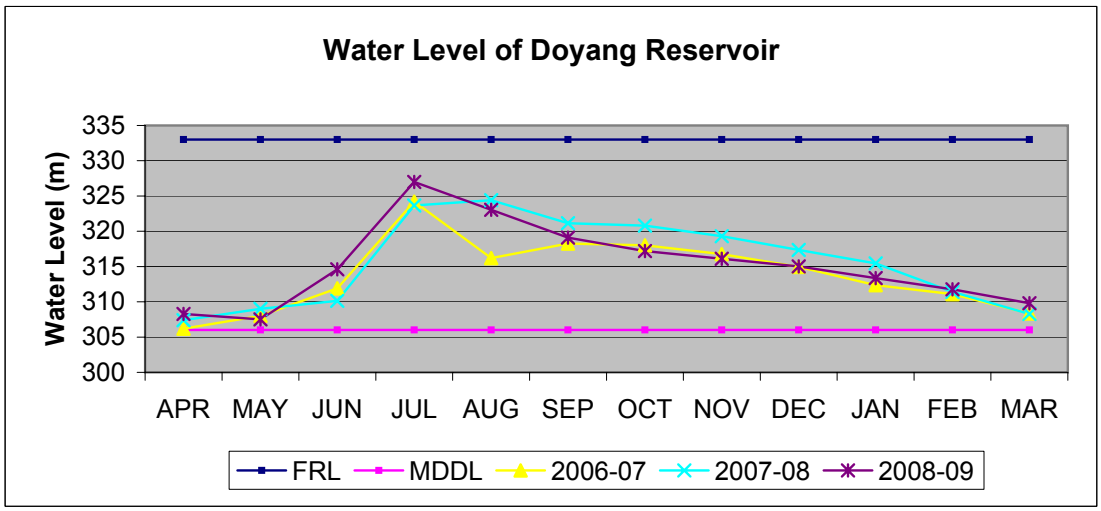

Water Level of Doyang Reservoir
Water Level (m)
335
330
325
320
315
310
305
300
APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR
FRL MDDL 2006-07 2007-08 2008-09

Exhibit-XII

Energy Content of Reservoirs during 2008-09