सत्यमेव जयते

भारत सरकार Government of India
विद्युत मंत्रालय Ministry of Power
उत्तर पूर्वी क्षेत्रीय विद्युत समिति
North Eastern Regional Power Committee
मेघालया स्टेट हाउसिगं फिनांस को- आपरेटिव सोसायटी लि. बिल्डिगं
Meghalaya State Housing Finance Co-Operative Society Ltd. Building
नांग्रिम हिल्स, शिलोंग – 793003
Nongrim Hills, Shillong – 793003.

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No. 103/2/NERPC/OCC/2008/ 3614-50 Date: 23rd October, 2008

To

1. CGM, (LDC), SLDC Complex, AEGCL, Kahelipara, Guwahati-781 019
2. Managing Director, AEGCL, Bijuli Bhawan, Guwahati – 781 001
3. Member (Tech), MeSEB, Lumjingshai, Short Round Road,Shillong – 793 001
4. Chief Engineer (WE Zone),Department of Power,Govt. of Arunachal Pradesh,Itanagar- 791 111
5. Chief Engineer (EE Zone),Department of Power,Govt. of Arunachal Pradesh,Itanagar- 791 111
6. Chief Engineer (P), Department of Power, Govt. of Nagaland, Kohima – 797 001
7. Chief Engineer (P), Electricity Department, Govt. of Manipur, Keishampat, Imphal – 795 001
8. Chief Engineer (P&E), Department of Power, Govt. of Mizoram, Aizawl – 796 001
9. General Manager, TSECL, Agartala – 799 001
10. GM, NERLDC, Dongtieh-Lower Nongrah, Lapalang, Shillong -793 006
11. ED (O&M), NERTS, PGCIL, Dongtieh-Lower Nongrah, Lapalang, Shillong -793 006
12. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
13. ED (Commercial), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
14. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad,Haryana-121003
15. ED (Commercial), NHPC, NHPC Office Complex, Sector-33, Faridabad,Haryana-121003
16. Vice President, PTCIL, 2nd Floor, NBCC Tower, 15, Bhikaji Cama Place, New Delhi - 110022
17. AGM(BD), NVVN, Core5, 3rd Floor, Scope Complex,7 Institutional Area, Lodhi Road, New Delhi - 110003
18. Member Secretary, ERPC, 14 Golf Club Road, Tollygunge, Kolkata-700033
19. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066

Sir,

Sub: Minutes of the 31st OCC Meeting held on 16th October, 2008 at Shillong.

The Minutes of the 30th OCC Meeting of NERPC held on 16/10/2008 at NERPC Conference Hall, Shillong is enclosed for favour of kind information and necessary action please.

Encl: As above

भवदीय / Yours faithfully,

(Manjit Singh)
सदस्य सचिव / Member Secretary

Copy to:

1. SA to Member(GO&D), CEA, Sewa Bhawan, R.K. Puram, New Delhi – 110066
2. Chief Engineer, AEGCL, Bijuli Bhavan, Guwahati - 781001
3. Chief Engineer, APGCL, Bijuli Bhavan, Guwahati - 781001
4. MD, CA DISCOM, Bijuli Bhavan, Guwahati - 781001
5. MD, UA DISCOM, Bijuli Bhavan, Guwahati - 781001
6. MD, LA DISCOM, Bijuli Bhavan, Guwahati - 781001
7. CGM (LDC), SLDC Complex, AEGCL, Kahelipara, Guwahati-781019.
8. S.E. (Trans. & Dist), MeSEB Lumjingshai, Short Round Road,Shillong – 793 001
9. Head of SLDC, MeSEB, Lumjingshai, Short Round Road,Shillong – 793 001
10. Head of SLDC, Department of Power,Govt. of Arunachal Pradesh,Itanagar- 791 111
11. A.C.E. (Gen & Trans), Department of Power, Govt. of Nagaland, Kohima – 797 001
12. Head of SLDC, Department of Power, Dimapur, Nagaland
13. A.C.E. (Power-I), Electricity Department, Govt. of Manipur, Keishampat, Imphal – 795 001
14. Head of SLDC, Electricity Department, Govt. of Manipur, Keishampat, Imphal – 795 001
15. S.E. (Trans & Dist), Department of Power, Govt. of Mizoram, Aizawl – 796 001
16. Head of SLDC, Department of Power, Govt. of Mizoram, Aizawl – 796 001
17. Head of SLDC, TSECL, Agartala – 799 001
18. Chief Engineer(Elect), Loktak HEP,Vidyut Vihar, Kom Keirap, Manipur- 795124

North Eastern Regional Power Committee

MINUTES OF THE 31st OPERATION COORDINATION SUB-COMMITTEE MEETING OF NERPC

Date: 16/10/2008 (Thursday)

Time: 10:30 hrs

Venue: "NERPC Conference Hall", Shillong.

The List of Participants in the 31st OCC Meeting is given in Annexure - I

Sh. B. Lyngkhoi, Assistant Secretary, NERPC welcomed the participants to the 31st OCC Meeting. He introduced Shri Manjit Singh, the new Member Secretary, NERPC who had recently taken over the charge. He stated that his long experience in power system operation and the RPC activities would prove to be a useful guidance for NERPC functioning and in bringing this region at par with other regions in the country.

GM, NERLDC expressed his sincere wishes to Shri Manjit Singh and stated that with his experience and knowledge he had attained during his tenure of working in WRPC, the region will be benefited under his leadership. He stated that all necessary co-operations would be extended to him in carrying out the NERPC activities in a smooth manner.

Member Secretary, NERPC welcomed the members and participants to the 31st OCCM of NERPC. He expressed his sincere thanks for the warm welcome conveyed to him by the OCC members and stated that NERPC would put all efforts to work for the benefit of this region. He stated that OCC is an important forum where various vital issues are discussed and are resolved amicably. He, therefore, requested all the constituents to actively deliberate in matters relating to secured and integrated operation of the N-E-W grid so as to arrive at the most suitable solutions. He said that the various generation projects and the transmission systems associated with these are likely to come up in the region and are expected to deliver benefits to this region from year commencing 2011-12. To ensure timely completion of the projects it is important that all the pre-requisites like signing of various agreements between

the utilities/beneficiaries and the project execution agencies/project authorities are completed on priority, in line with the decisions taken in 6th NERPC meeting held on 8th August 2008. He added that the progress of works for various inter-state transmission lines, the connecting off-take transmission network and the generation projects shall be regularly discussed in the OCCs/TCC meetings to appraise the NER Power Committee in the RPC meetings for addressing bottlenecks, if any, coming in the way of timely commissioning schedule of the above projects.

While briefly summarizing the power position of the region, he said that during September 2008 the system frequency profile was lower compared to that in August 2008 as system frequency remained below 49 Hz for 15.28% of the time in September 2008 compared to 6.01% of the time in August 2008. Power availability in September 2008 got reduced as the energy availability was 736.1 MUs compared to that of 779.59 MUs in August 2008. The regional peak demand in September 2008 had however dropped by 1.54% compared to that in last month. The peak demands for Arunachal Pradesh, Assam, Manipur and Meghalaya States in September 2008 had dropped by 9.8%, 2.24%, 9.48% and 2.13% respectively, whereas peak demands for Mizoram, Nagaland and Tripura States had gone up by 1.01%, 2.15% and 3.33% respectively compared to the same in past month.

He then requested Shri B. Lyngkhoi Executive Engineer (Operation), NERPC to take up the agenda items.

A. CONFIRMATION OF MINUTUTES

CONFIRMATION OF MINUTES OF 30TH MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

Executive Engineer (Operation), NERPC said that the minutes of 30th meeting of Operation Sub-committee held on 9th September, 2008 were circulated vide letter No. 103/2/NERPC/OCC/2008/789 – 834 dated 12th September, 2008. No comments have been received from any constituents.

The minutes of the 30th OCC Meeting were therefore confirmed.

A.1 Operational Grid Discipline and Operational Planning

Based on real-time observations, NERLDC gave presentation relating to the performance of the grid during the month of September, 2008.

NERLDC intimated that total STOA sale of energy from April 2008 to September 2008 (2008-09) went up compared to that during the same period last year (2007-08), which was 752.9 MUs as against 527.5 MUs. The STOA sale however went below in case of Meghalaya from 91.4 MUs in last year to 7.4 MUs this year.

The overdrawl at frequency below 49 Hz had prevailed to the extent of 10-15 MW in Arunachal Pradesh and Tripura ranging between 10-12 MW and occasional overdrawl in Mizoram of the order of 10 MW.

Member Secretary, NERPC requested constituents that under provisions of the IEGC, sustained overdrawls at frequency below 49.0 Hz should be avoided and advise by NERLDC in the real-time during such instances should be followed by all the concerned utilities in this regard.

The detailed presentation by NERLDC is at Annexure – II.

Member Secretary stated that a "National Conclave on Development of Power Sector in the North Eastern Region and Sikkim" which was organized by MoP and CEA was held on 4th-5th April, 2008 in Guwahati. The conclave was inaugurated by Hon'ble Union Minister of Power, Shri Sushil Kumar Shinde. Shri Pradyut Bordoloi, Hon'ble Minister of Power, Government of Assam had welcomed the august gathering. Other eminent speakers who addressed the gathering during the inaugural session were Shri Tarun Gogoi Hon'ble Chief Minister, Government of Assam; Shri D.Y.Sema, Hon'ble Minister of Power, Government of Nagaland; Dr.(Mrs.) I.K.Barthakur, Member, North East Council; Shri Anil Razdan, Secretary, Ministry of Power, Shri Rakesh Nath, Chairperson, Central Electricity Authority. The conclave was attended by Central Ministries, North East Council, representatives of all the North Eastern states including Sikkim, State Regulatory Commission, PSUs, Border Road Organization and various other industries including BHEL, JP Hydro, KSK Energy Ltd. etc. Some of the major issues were addressed in the conclave which included Land acquisition, Meeting base load

requirements, Problem in Environmental Clearance of projects, Conversion of some Hydro storage projects into ROR projects, Evacuation of exportable power from North Eastern Region and Sikkim, Poor Transmission and Sub-transmission System, Viability gap funding for projects etc.

The major observations and recommendations of the Conclave during various sessions suggesting speedier actions by concerned agencies/utilities associated with the implementation of the ongoing generation and the inter-state/intra-state schemes in the NE Region which would help in timely completion of the projects so that Region starts deriving benefits from the same soon are enclosed at Annexure-III.

I T E M S F O R D I S C U S S I O N

B. FOLLOW UP ACTION

B. 1. Installation of Line Reactor at Kathalguri end of Misa – Kathalguri Line

Executive Engineer (Operation), NERPC stated that as high voltage problems were being faced by 220 kV Misa-Kathalguri line, during 30th OCCM of NERPC, the constituent members had suggested NERPC to request CEA to conduct a system study taking into consideration the future system configuration. In this regard, it was intimated that NERPC vide letter dated 17th September, 2008 had requested CEA for the same and status in this regard was still awaited.

The sub-Committee discussed the matter and it observed that the future system presently planned by CEA is likely to be available within 3-4 years' time period from now. The transmission system so planned keeps in view the fact that smooth voltage profile is maintained after the system is fully commissioned. Thereafter, it is expected that abnormal over voltage profile would not exist. Till such time, the future system so planned comes up; the over voltage conditions similar to the subject case would continue to prevail. Therefore, the sub-committee observed that apart from taking short-term operational measures on the real-time basis like ensuring the maximization of reactive MVAr absorption at the nearby generating stations etc., an interim measure to provide a line reactor of suitable rating at Kathalguri end of the above line or at any other suitable location/sub-station in the surrounding area would prove to be helpful.

The sub-Committee after deliberations suggested that using software-package available with NERLDC and ASEB, a system study may be carried out by NERLDC in association with NEEPCO and ASEB to determine suitable location and capacity of a line reactor/ or a bus reactor keeping in view the space requirements etc, under the prevailing operational scenario of the NER grid network. The NERLDC would come out with the recommendations and the proposal for the reactor alongwith the study details in the next OCCM of NERPC for further needful action.

B. 2. <u>Back Up energy meter for Kopili - II</u>

Executive Engineer (Operation), NERPC stated that as per the decision taken in the 29th OCC meeting held on 5th August, 2008, a team comprising from NERLDC, NERTS, NERPC & M/S L&T visited the site at Kopili Stage – II HEP on 19th September, 2008 and examined the scope of installing a back up meter. The above team observed that a secure make meter (not ABT compliant) is presently installed on the 11 KV side. The CT ratio for this meter is 2000:5 A and PT ratio is 11 KV: 110 V. In view of the above, it was suggested to replace the existing meter with ABT compliant L&T meter as back up for the meter already in place of 132 KV side.

NERTS representative informed that all ABT compliant L&T meters available at the NERTS were of 1 Amp specification, which would not be suitable for installation on the 11 kV side.

The sub-Committee agreed and recommended to replace the existing meter on 11 kV side of the station with that of ABT compliant, 5 Amp specification be installed at the earliest and the matter for above replacement intimated to Commercial sub-Committee for needful.

B. 3. <u>Status of DCDs procurement by PGCIL</u>

As per the discussions in 30th OCC meeting regarding providing the spare DCDs at least 2 (two) numbers for each generating stations, it was intimated that NERPC had taken up with NERTS, POWERGRID vide letter No. 101/1/NERPC/RPA/2008/2816 – 17 dated 15th September, 2008 requesting them to intimate current status on procurement of DCDs.

NERTS representative intimated that order for procurement of 45 Nos SEMs and 30 DCDs had already been placed on the 13th October, 2008 and the same were expected to be received within 2 (two) months period.

C. N E W I T E M S

C. 1 Status of 400 KV D/C Ranganadi – Balipara Line – NERPC

NERLDC vide letter No NERLDC/GM/368-71 dated 4th September, 2008 have informed that Ranganadi HEP generation had to be withdrawn around 1700 hrs on 03.09.2008, subsequent to shutdown of 400 KV Balipara – Ranganadi D/C line taken by POWERGRID as an emergency and safety measure to prevent damages arising due to flood and approach of Dikrong River towards tower location No. 43 & 44 due to change of its course. As a result there was generation reduction at Ranganadi HEP of the order of 405 MW round the clock for 3 – 4 days during September, 2008. This had resulted in resorting to heavy load shedding to the extent of 700 MW during evening peak of 03.09.2008.

Considering the vulnerable condition of some towers in the area, POWERGID were requested to intimate necessary preventative measures to overcome similar situation in future and current status on restoration of the above line circuits.

NERTS representative informed that at present one circuit was put on Emergency Restoration System (ERS) while the other circuit will be put through after completion of construction work on a temporary tower. They have also informed that NERTS have proposed to construct pile foundation towers for the damaged towers in locations No. 43 & 44 which is likely to take more time. The sub-Committee suggested that availability for both circuits is essential in view of reliability considerations and suggested POWERGRID to expedite action to fully restore the line. The alternative options to the pile foundation like diversion to distant place etc might also be explored and economic proposal prepared.

The sub-Committee suggested that POWERGRID may prepare detailed proposal for completing the tower reconstruction work for discussion in the CCM of the NERPC for needful.

C. 2.1.1 Generation Planning

The Sub-committee discussed status on ongoing forced/plan outages during the region and may finalize schedule of plan outages for the generating units for October/November, 2008. The schedule for planned outage approved by sub-Committee is at Annexure – IV.

NERLDC representative stated that as reservoir levels of Khandong and Doyang are lower, the generation is rescheduled at these reservoirs and higher schedule made at Kopilli and Loktak stations as the reservoir levels at these stations have not reduced over the last month.

GM, NERLDC intimated about the problem relating to frequent tripping of gas compressors at AGBPP plant of NEEPCO affecting generation availability- getting reduced to as low as 40-80 MW from the normal generation level of 230-240 MW in the grid since 20/08/2008. Member Secretary, NERPC enquired from NEEPCO about the necessary corrective steps taken by them to attend to the problem.

NEEPCO informed that the reason of frequent tripping was found to be mainly due to contamination of compressor oil. They further informed that steps have been taken to install a filter to check the oil contamination. GM, NERLDC requested that NEEPCO may intimate the likely time which would be taken for complete installation of the filters since the monsoon is over and full capacity availability of this station shall have to be ensured during the ensuing winter months.

NEEPCO representatives informed that they will take up with the suppliers and the Kathalguri engineers for exact details and present the same in the next OCCM of NERPC.

C. 2.1.2 Preparation of generation targets for year 2009 - 10

Member Secretary, NERPC stated that CEA, New Delhi is in the process of preparation and finalization of generation targets for various generating units on all India basis for the year 2009–10. He said that to evaluate better estimation of

monthly demand supply gap and maximizing the availability from the existing generating capacity availability during the peak/lean seasons/months for the region, the generation outage planning shall require to be made in a realistic manner so that the available capacity is put to use in an optimum manner. He therefore, requested constituents/generating utilities of NE Region to furnish the necessary details concerning unit wise maintenance schedule of the generating units in their systems as proposed by them along with expected monthly generation (peak MW & MUs) and month wise anticipated monthly peak demand and energy availability of their respective systems during the year 2009-10, while keeping in view the above aspects. The information so furnished by them is proposed to be discussed for approval by OCC forum of NERPC during November 2008 for onward transmission to CEA and further needful by them. Based on the generation targets finalized by CEA/MOP, the annual LGBR for the year 2009 – 10 for the region shall be prepared. He requested all the ISGS/CGUs and the State utilities to furnish the above information latest by 30th October 2008 to NERPC for further needful.

C. 3 <u>Outage Planning for Generator & Transmission elements</u>

The planned shut-down program of transmission line outages for October/November, 2008 proposed by PGCIL/Constituents was discussed. The transmission shutdown programme finalized by the sub-Committee is at Annexure – V

GM, NERLDC enquired from NERTS about the status on restoration of 132 kV Jiribam – Aizawl line, which has been on forced outage since 13.10.2008. NERTS informed that the problem is due to Insulator problem and the line would be attended to soon. GM, NERLDC requested that NERTS should immediately inform NERLDC about the line which is likely to remain on prolonged outage so as to ensure better operation planning and the NER constituents/utilities are kept informed suitably about the ongoing reduced network state.

C. 4 Review of Grid performance in the Previous Month

The data relating to generation performance, Voltage profile, Frequency profile, drawl pattern of the NER constituents vis-à-vis system frequency, STOA details, availability-requirement etc. during the month of September, 2008 was presented by NERLDC for detailed discussion by the Sub-committee.

NERLDC were requested to also send to NERPC Secretariat a month-wise compiled summary of instances of sustained overdrawls at frequency below 49.0 Hz and requests sent by them for corrective action thereof, for discussion/noting by the OC sub-Committee of NERPC.

The presentation on grid performance by NERLDC for the month of September, 2008 is at Annexure – VI.

C. 5 Major grid disturbances in the previous month (September, 2008)

NERLDC intimated that on 27.9.2008, major tripping had taken place when NER grid was running in synchronism with ER grid through 400 kV Balipara-Bongaigaon-New Siliguri D/c and 220 kV Birpara-Salakati D/c lines, as summarized below:

At 1201 hours, 315 MVA ICT at MISA tripped on overloading due to tripping of 220 kV Samaguri-Mariani, 220 kV Samaguri-Balipara and 220 kV Samaguri-Sarusajai on Earth-Fault. This resulted isolation of 220 kV and 132 kV network of NER from rest of the main grid. The generation at AGBPP, Loktak, DHEP & Kopili were reduced to zero due to high frequency. AGTPP generation was reduced to 50 MW. Power interruption in Manipur & Nagaland and part of Lower Assam had taken place. Rest of 132 kV system comprising Mizoram, Tripura, South Assam & part of Meghalaya survived with AGTPP, Khandong, Kopili Stg II & Maghalaya generation. Above-mentioned isolated 220 kV and 132 kV NER system was synchronized with the main grid at 1243 hours at Dimapur and system restored at 1247 hours.

GM NERLDC intimated that tripping of major lines is often simultaneously accompanied by inadvertent tripping of other important lines which is normally not called for from protection as well as operational point of view in the interest of grid security. It seems that trippings of this nature need to be examined. The operation of distance relays also needs to be studied and the existing relay coordination settings reviewed periodically with the coming up EHV transmission system in the region.

Member Secretary, NERPC requested that the instances of all minor and major trippings that take place in State / Central Sectors in the NER grid may be immediately reported to NERLDC followed by relays indication details to NERPC Secretariat and the NERLDC. The quarterly details of the same will be examined, analysed and compiled for discussion by the Protection sub-Committee of NERPC for further examination and the recommendations for taking necessary corrective measures in the interest of NER grid security.

C. 6 Preparation of Revised Operating procedures for N.E.Region.

NERLDC intimated that the existing document for 'Operating Procedure for North Eastern Region' requires updating in line with IEGC provisions. A draft document prepared by the NERLDC was circulated for views/suggestions by the NER utilities. Upon receiving comments/suggestions of the NER constituents, the draft document will be discussed by NERPC forum for preparation and issue of the finalized document.

C. 7 Any other item

Nil

C. 8 Date and Venue of next OCC

It was proposed to hold the 32nd OCC meeting of NERPC on 7th November, 2008 (Friday) at NERPC Conference Hall, Shillong.

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Annexure-I

NERPC/CEA

List of Participants in the 31st OCC meeting held on 16/10/2008

Venue : NERPC Secretariat, Shillong

Sl. No	Name & Designation	Organization	Contact No. /e-mail ID
1	No Representatives	Arunachal Pradesh	
2	Sh. H. Hazarika, DGM	LDC, AEGCL (Assam)	9854809104
3	Sh.A.K. Saikia, Sr. Mgr	SLDC, AEGCL (Assam)	9864116176
4	Sh. Benjamin L. Saiato, EE	P&E, Manipur	9436024085
5	Sh Th. Bimol Singh, AE	P&E, Manipur	9856245139
6	Sh. T. Passah, SE	SLDC, MeSEB (Meghalaya)	9863063375
7	Sh. D.J. Lyngdoh, AEE	SLDC, MeSEB (Meghalaya	9436326178
8	No Representatives	Mizoram	
9	No Representatives	Nagaland	
10	No Representatives	Tripura	
11	Sh. L.K.Kanungo, GM	NERLDC	9436302725
12	Sh. T.S.Singh, DGM	NERLDC	9436302720
13	N.R.Paul, CM	NERLDC	9436302723
14	Sh. S.K. Saha, Dy. Manager	NERLDC	9436335371
15	Sh. Sheikh Shadruddin, CM	NERLDC	9436335380
16	Sh. Somiran Das, DM	NERTS	9436335240
17	Sh. Bhaskar Goswami, SM	NEEPCO	9436163983
18	Sh. B.R.Bhattacharya, Mgr	NEEPCO	03670-288233
19	Sh. K.K.Khongwar, DM	NEEPCO	9436110872
20	No Representatives	NHPC	
21	Sh. Manjit Singh, MS	NERPC	9436706436
22	Sh. B. Lyngkhoi, AS	NERPC	9436163419
23	Sh. S.M.Aimol, AEE	NERPC	9863311203
24	Sh. G. Medhi, AE	NERPC	9863317776

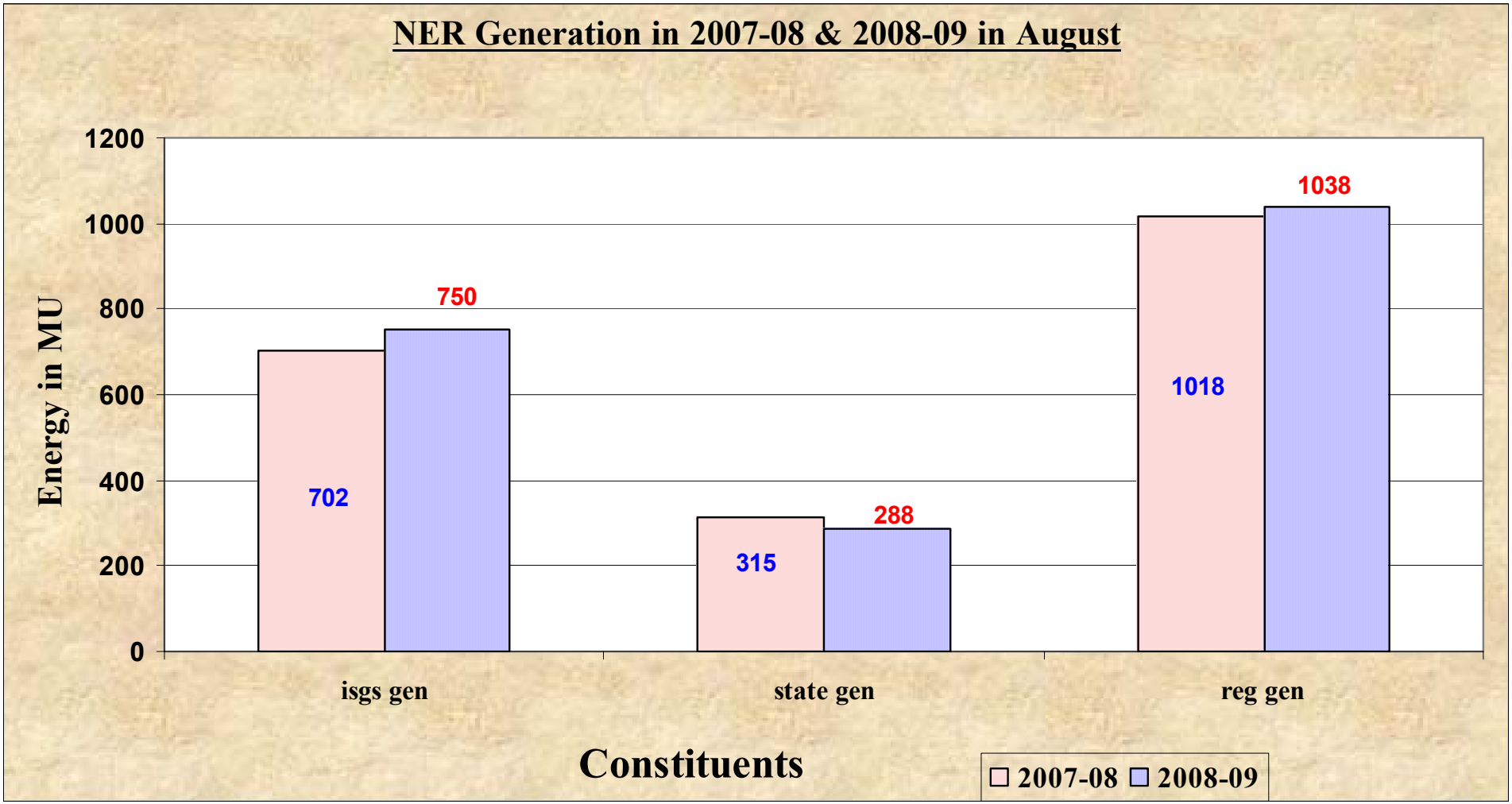
NER GRID PERFORMANCE
August 2008

NERLDC, Shillong

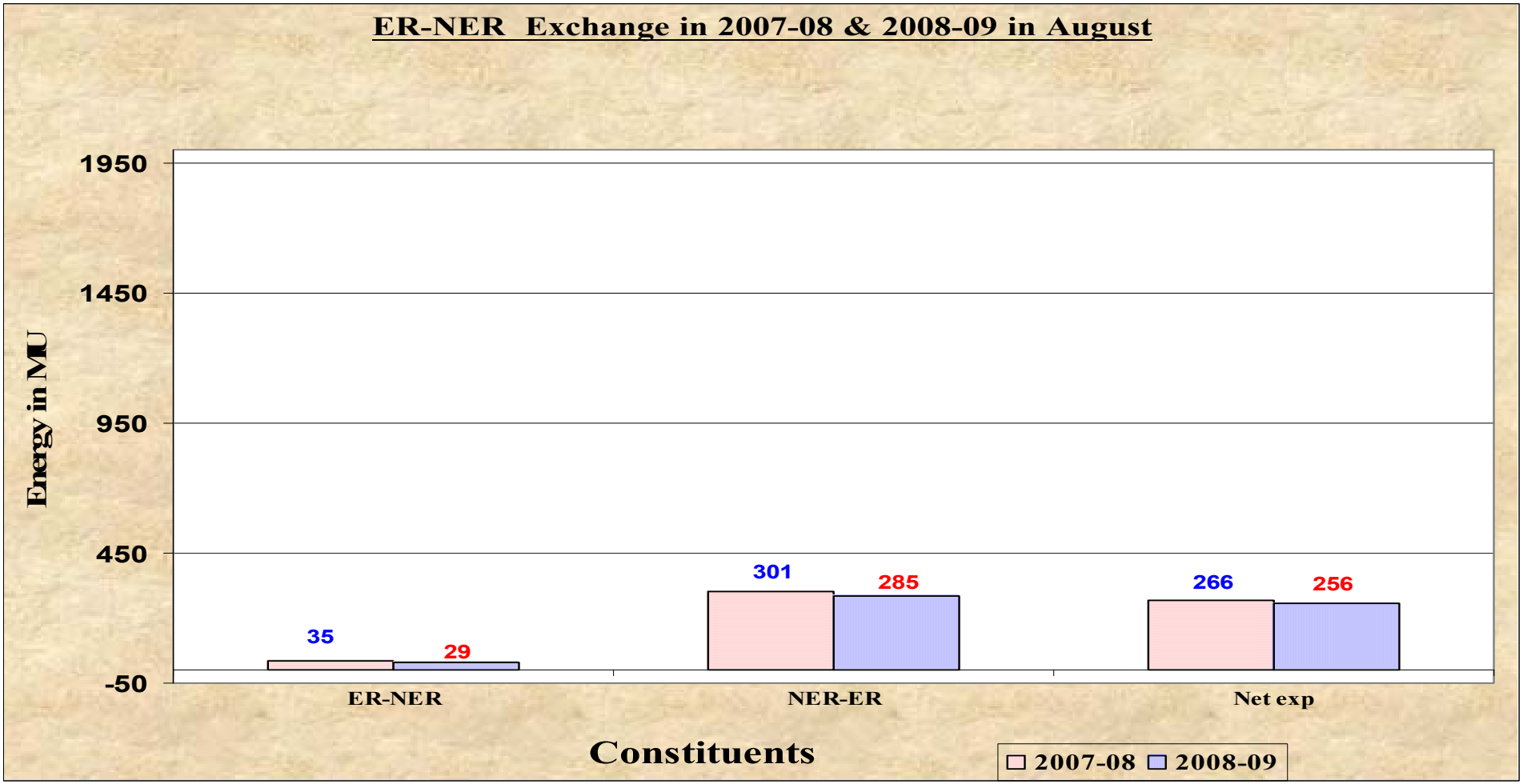
Content

1. Highlights
2. Frequency Profile
3. Voltage Profile
4. ISGS Performance
5. State Power Scenerio
6. ER-NER Exchange

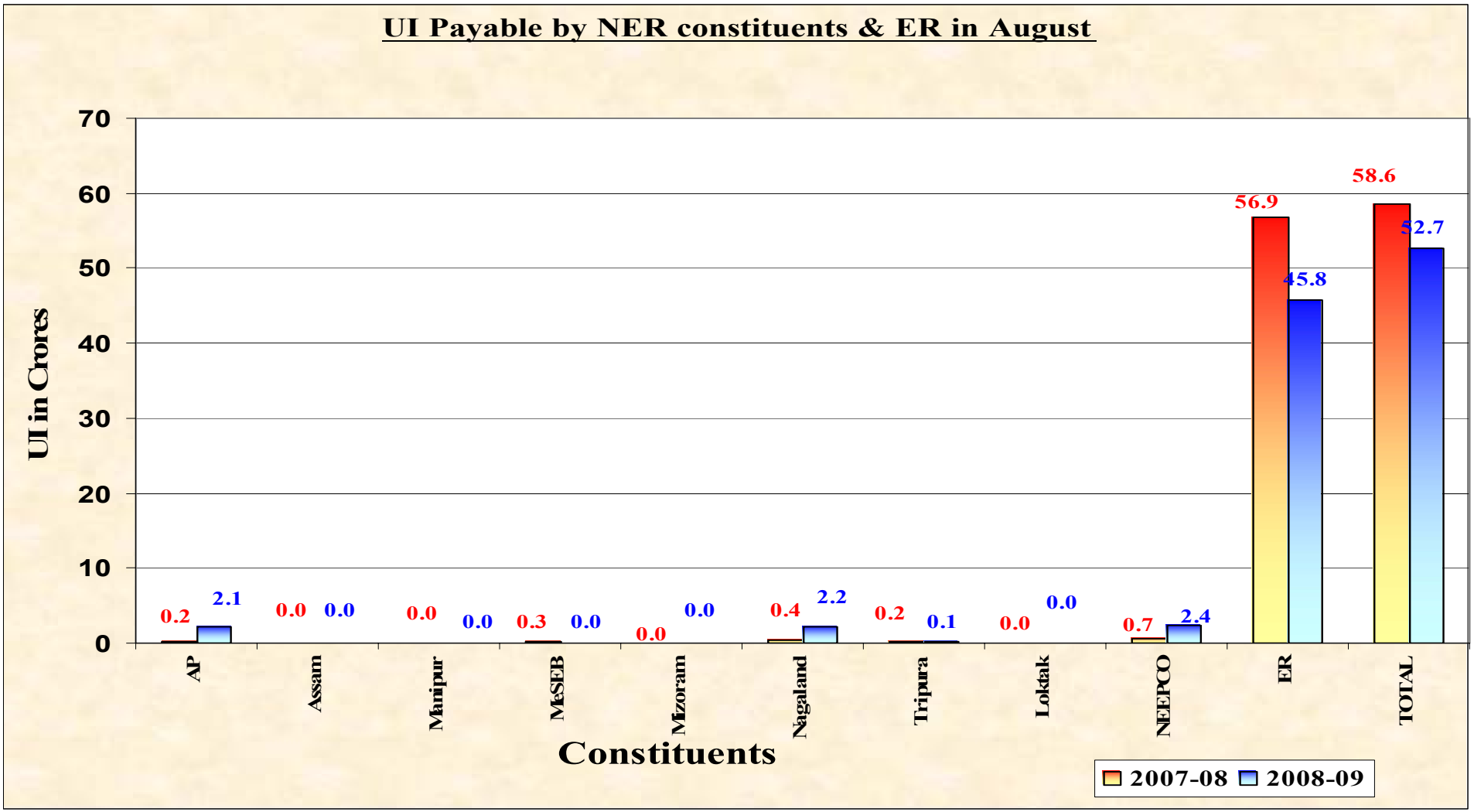
Highlights


NER Generation in 2007-08 & 2008-09 in August
1200
1000
800
600
400
200
0
Energy in MU
750
702
315
288
1038
1018
isgs gen
state gen
reg gen
Constituents
2007-08
2008-09

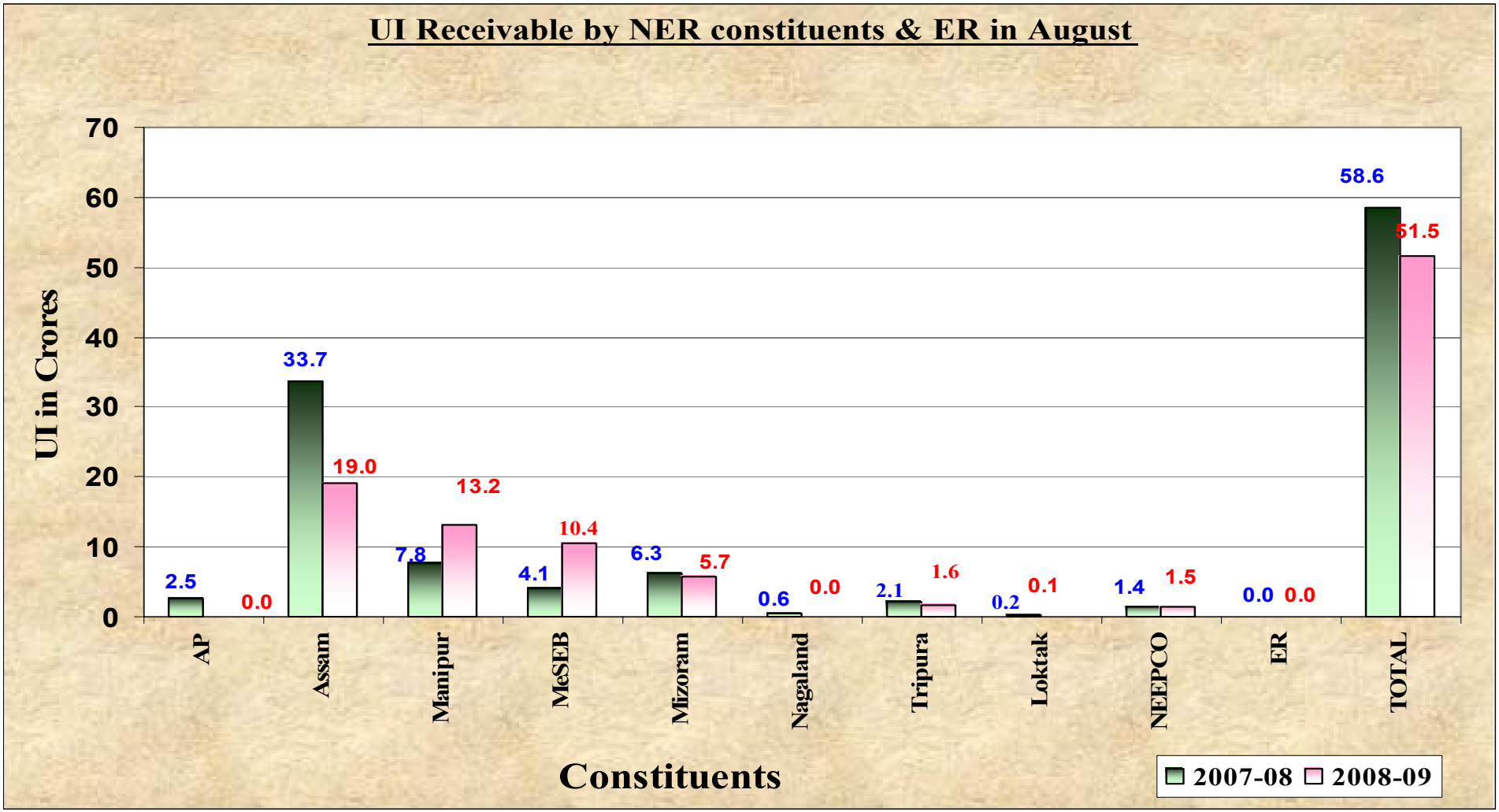
Highlights


ER-NER Exchange in 2007-08 & 2008-09 in August
1950
1450
950
450
-50
Energy in MU
35
29
301
285
266
256
ER-NER
NER-ER
Net exp
Constituents
2007-08
2008-09

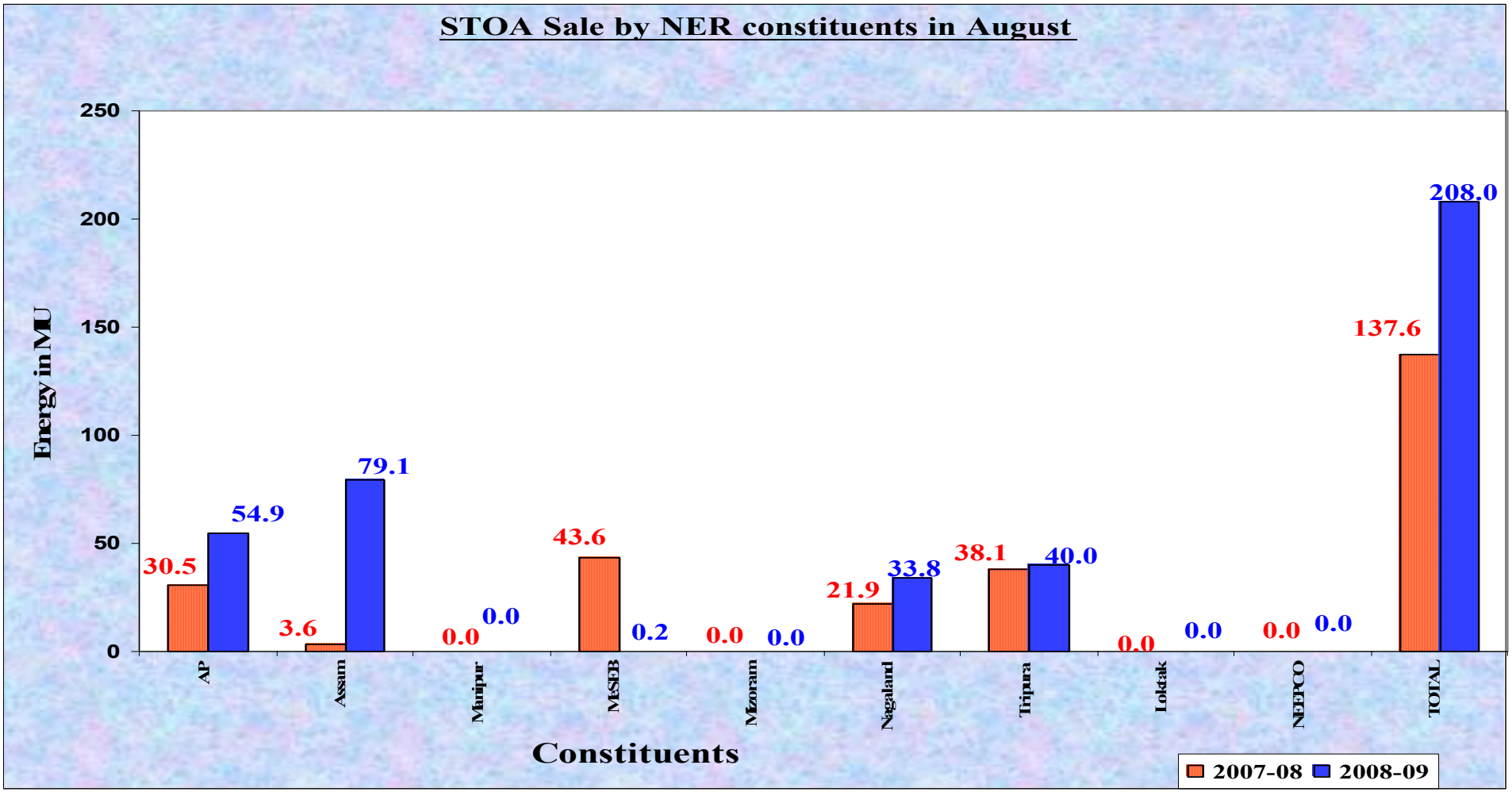
Highlights


UI Payable by NER constituents & ER in August
UI in Crores
70
60
50
40
30
20
10
0
0.2
2.1
0.0
0.0
0.0
0.0
0.3
0.0
0.0
0.0
0.4
2.2
0.2
0.1
0.0
0.0
0.7
2.4
56.9
45.8
58.6
52.7
AP
Assam
Manipur
MeSEB
Mizoram
Nagaland
Tripura
Loktak
NEEPCO
ER
TOTAL
Constituents
2007-08
2008-09

Highlights


UI Receivable by NER constituents & ER in August
UI in Crores
70
60
50
40
30
20
10
0
2.5
0.0
33.7
19.0
7.8
13.2
4.1
10.4
6.3
5.7
0.6
0.0
2.1
1.6
0.2
0.1
1.4
1.5
0.0
0.0
58.6
51.5
AP
Assam
Manipur
MeSEB
Mizoram
Nagaland
Tripura
Loktak
NEEPCO
ER
TOTAL
Constituents
2007-08
2008-09

Highlights


STOA Sale by NER constituents in August
Energy in MU
250
200
150
100
50
0
30.5
54.9
3.6
79.1
0.0
0.0
43.6
0.2
0.0
0.0
21.9
33.8
38.1
40.0
0.0
0.0
0.0
0.0
137.6
208.0
AP
Assam
Manipur
MSEB
Mzoram
Nagaland
Tripura
Loktak
NEEPCO
TOTAL
Constituents
2007-08
2008-09

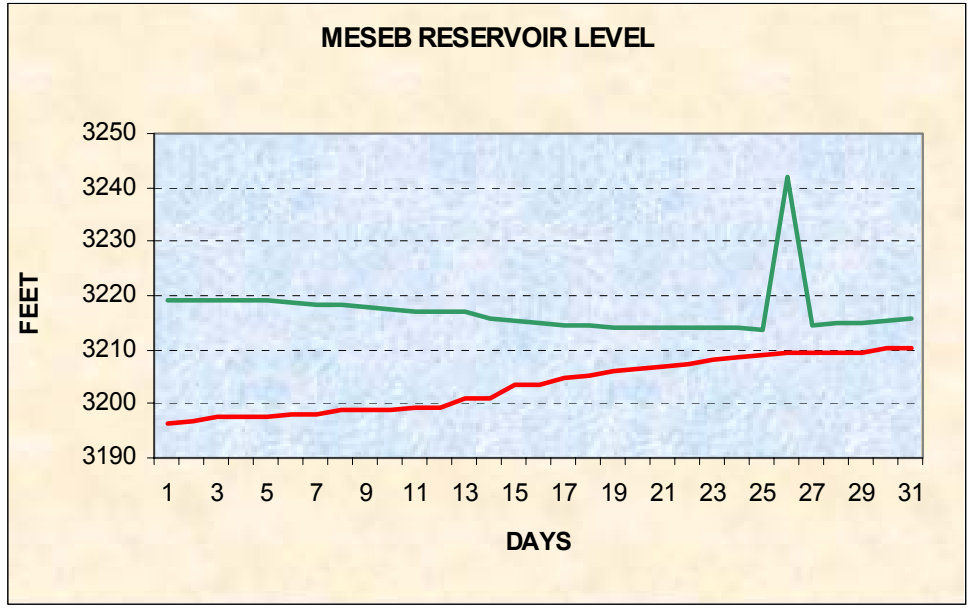
Highlights

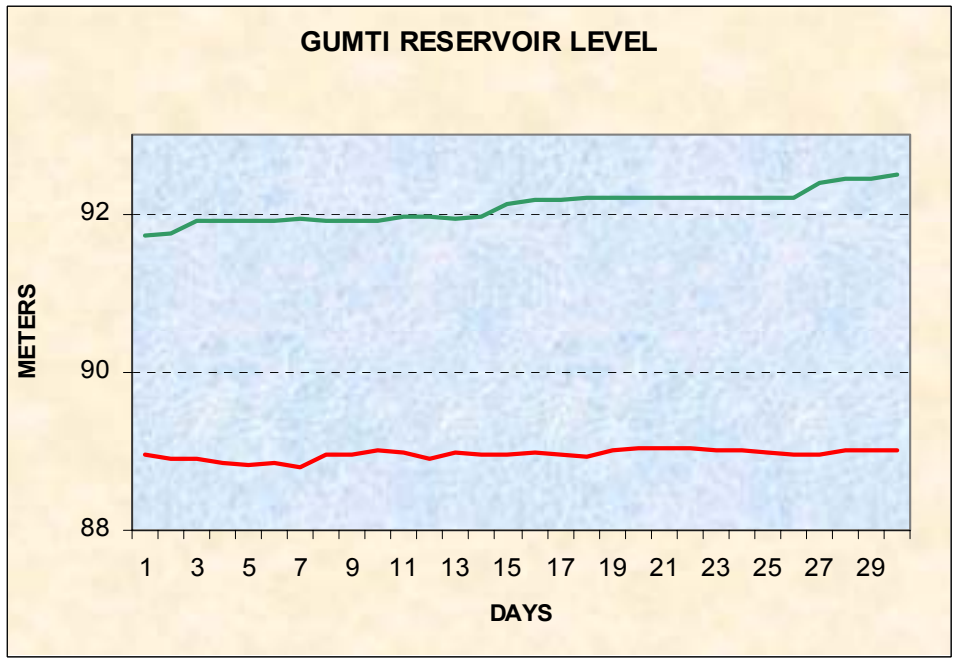
States	Demand Met (MW)		Diff	% Diff
	Aug'08	Aug'07		
Ar. P'sh	59-7.8.08	55	4	6.8
Assam	740-15.8.08	713	27	3.6
Manipur	95-13.8.08	83	12	12.6
M'laya	250-8.8.08	268	-18	-7.2
Mizoram	52-16.8.08	56	-4	-7.7
Nagaland	86-29.8.08	84	2	2.3
Tripura	137-16.8.08	113	24	17.5
Region	1330-19.8.08	1282	48	3.6

Reservoir Water Level

Aug'07

Aug'08

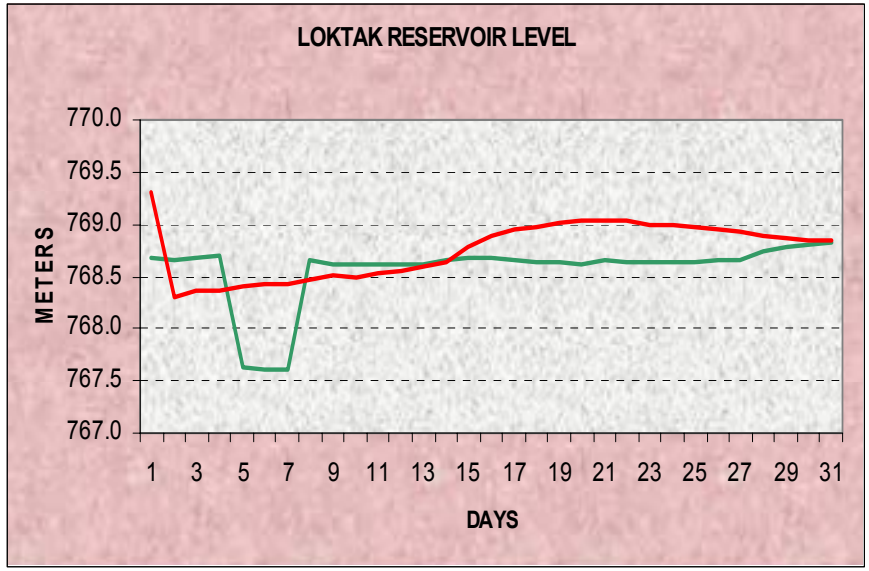


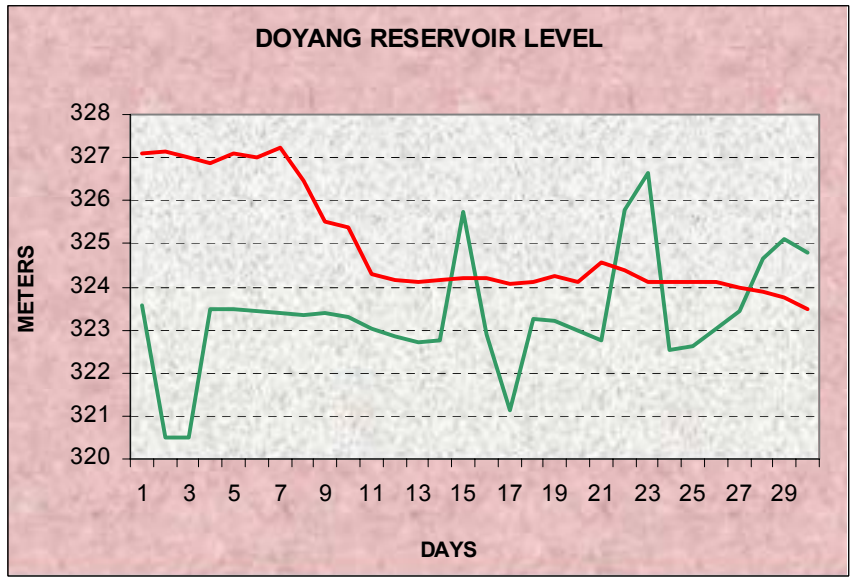


Reservoir Water Level

Aug'07

Aug'08

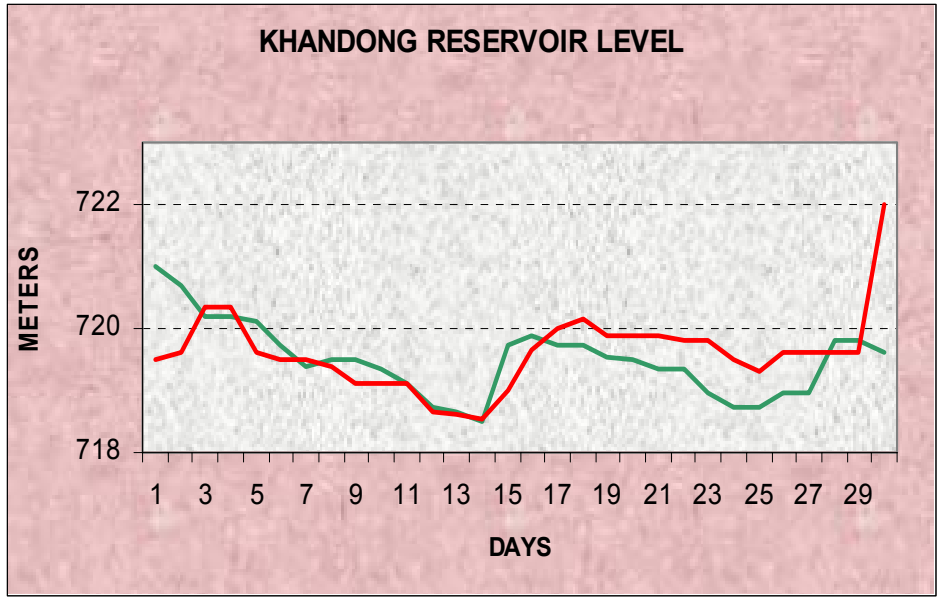


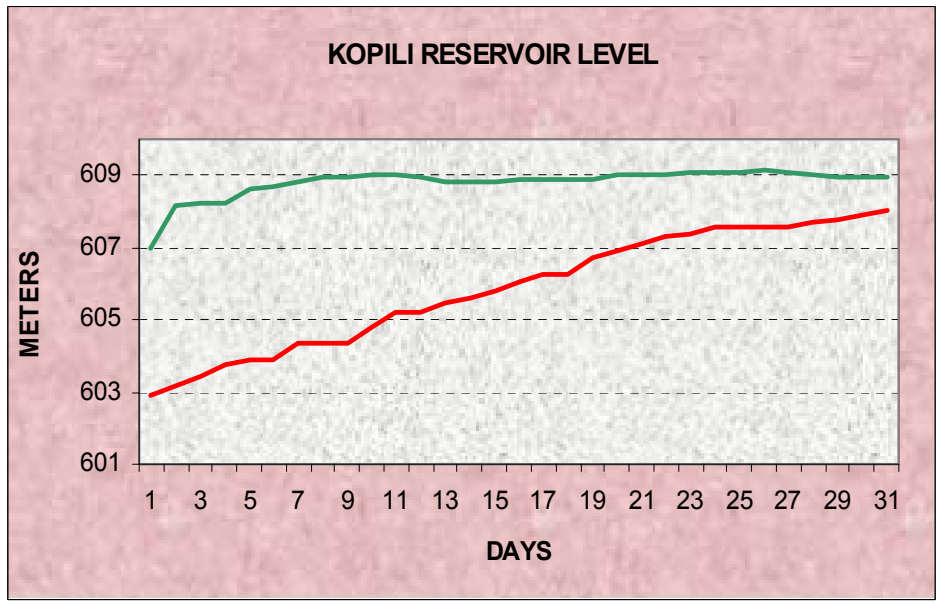


Reservoir Water Level

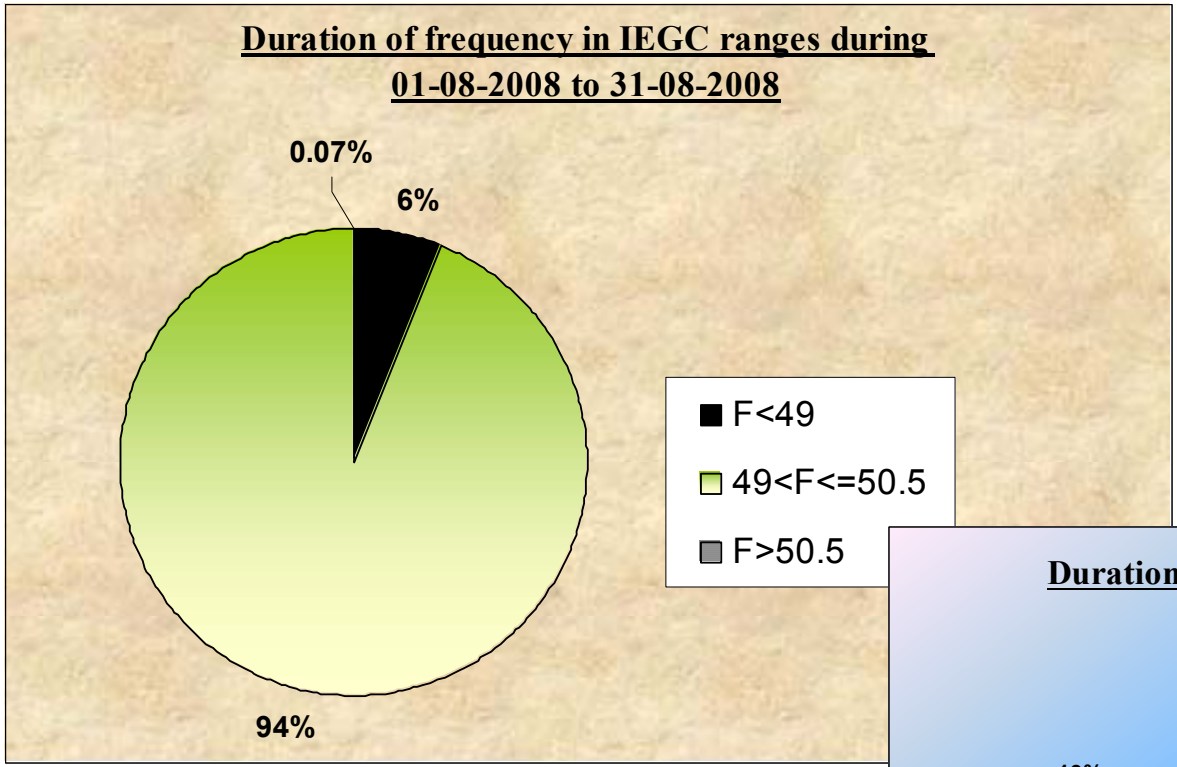
Aug'07

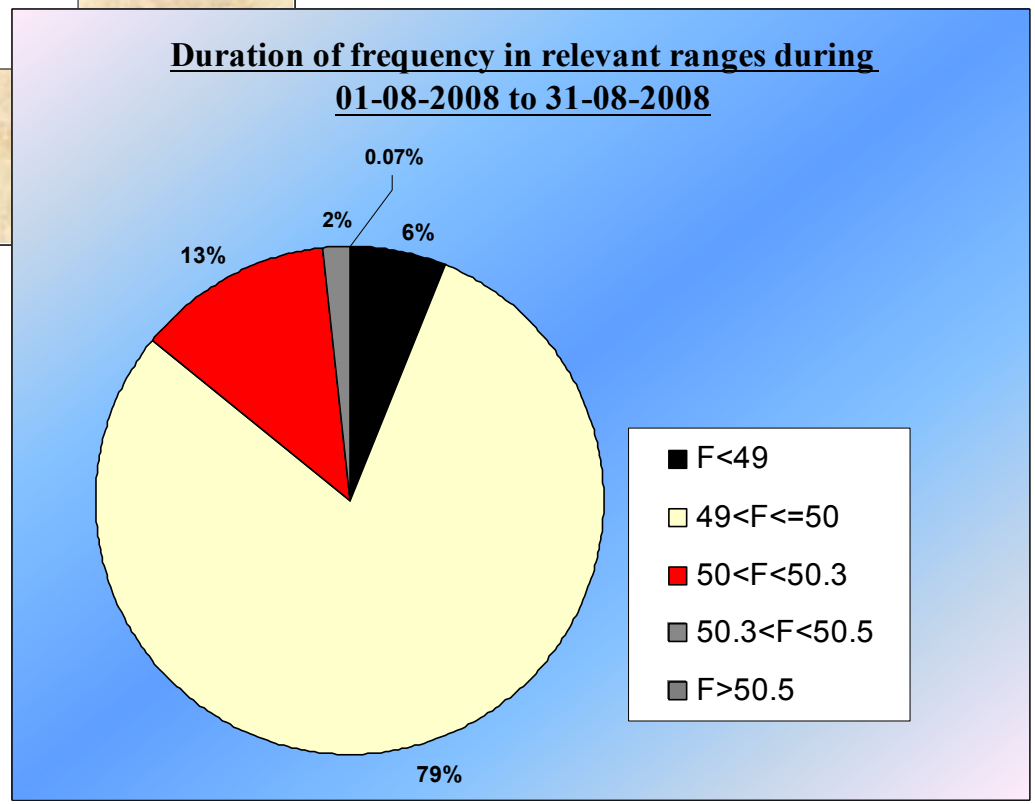
Aug'08



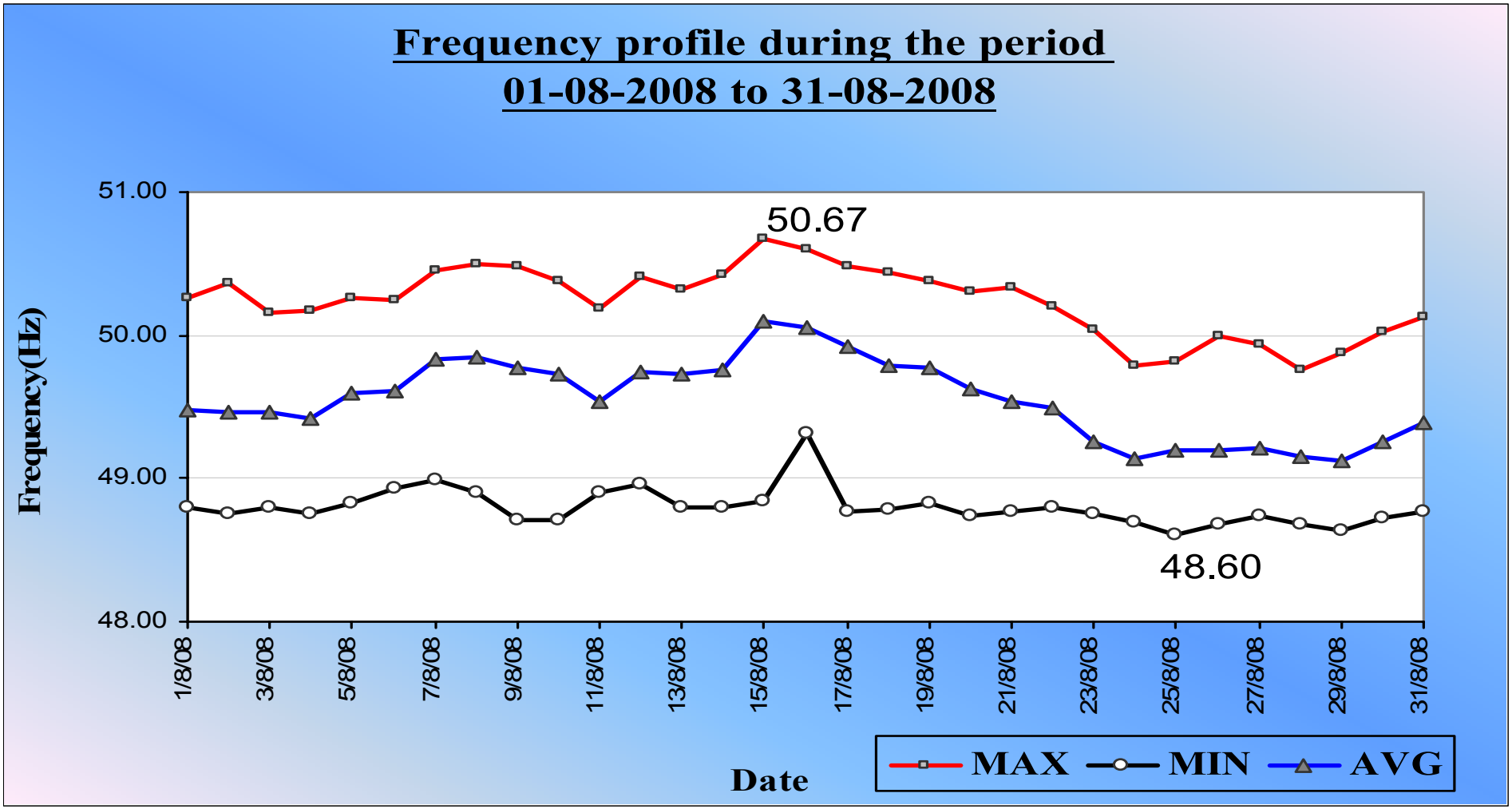


Frequency Spread

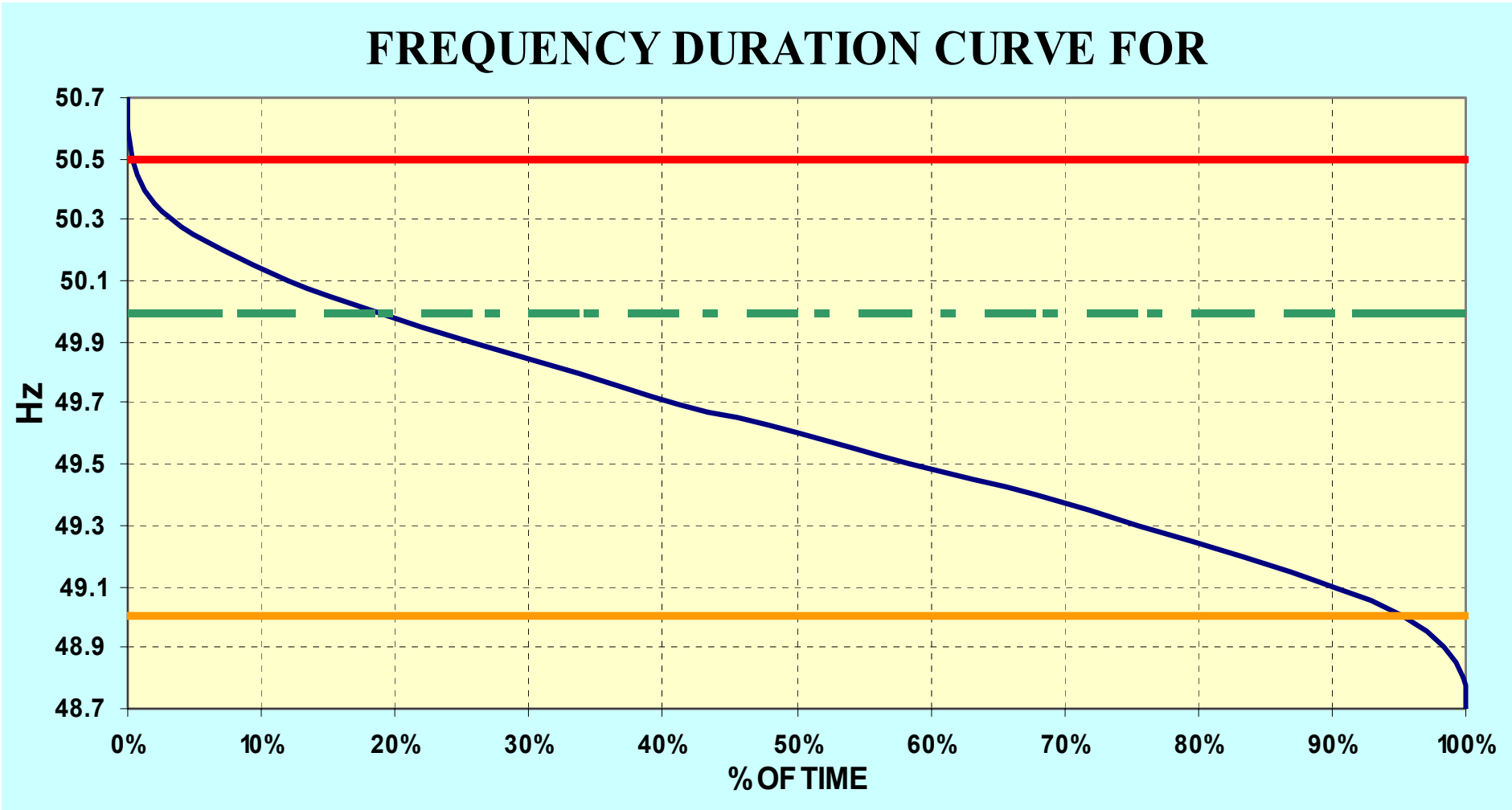




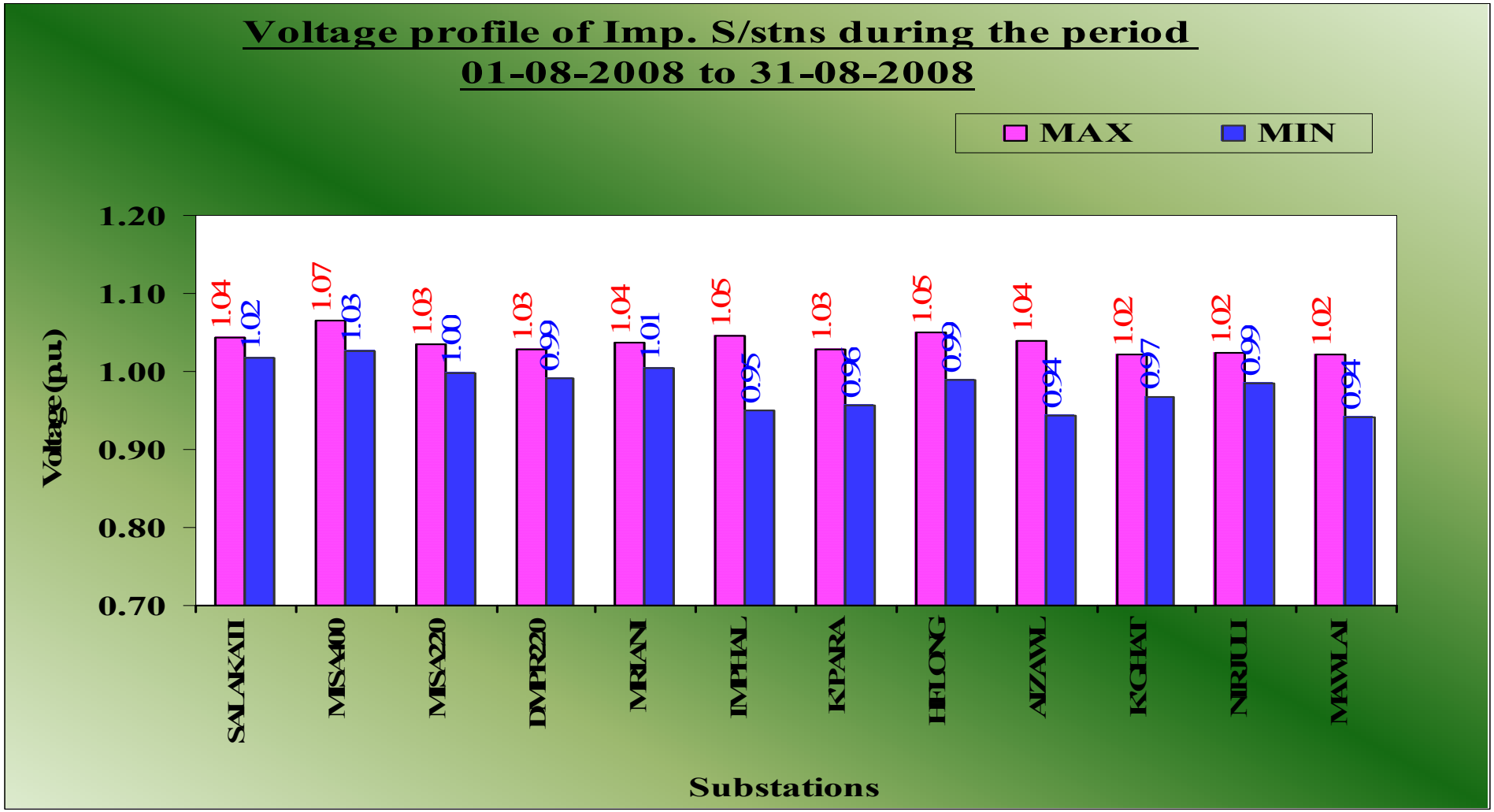
Frequency Profile



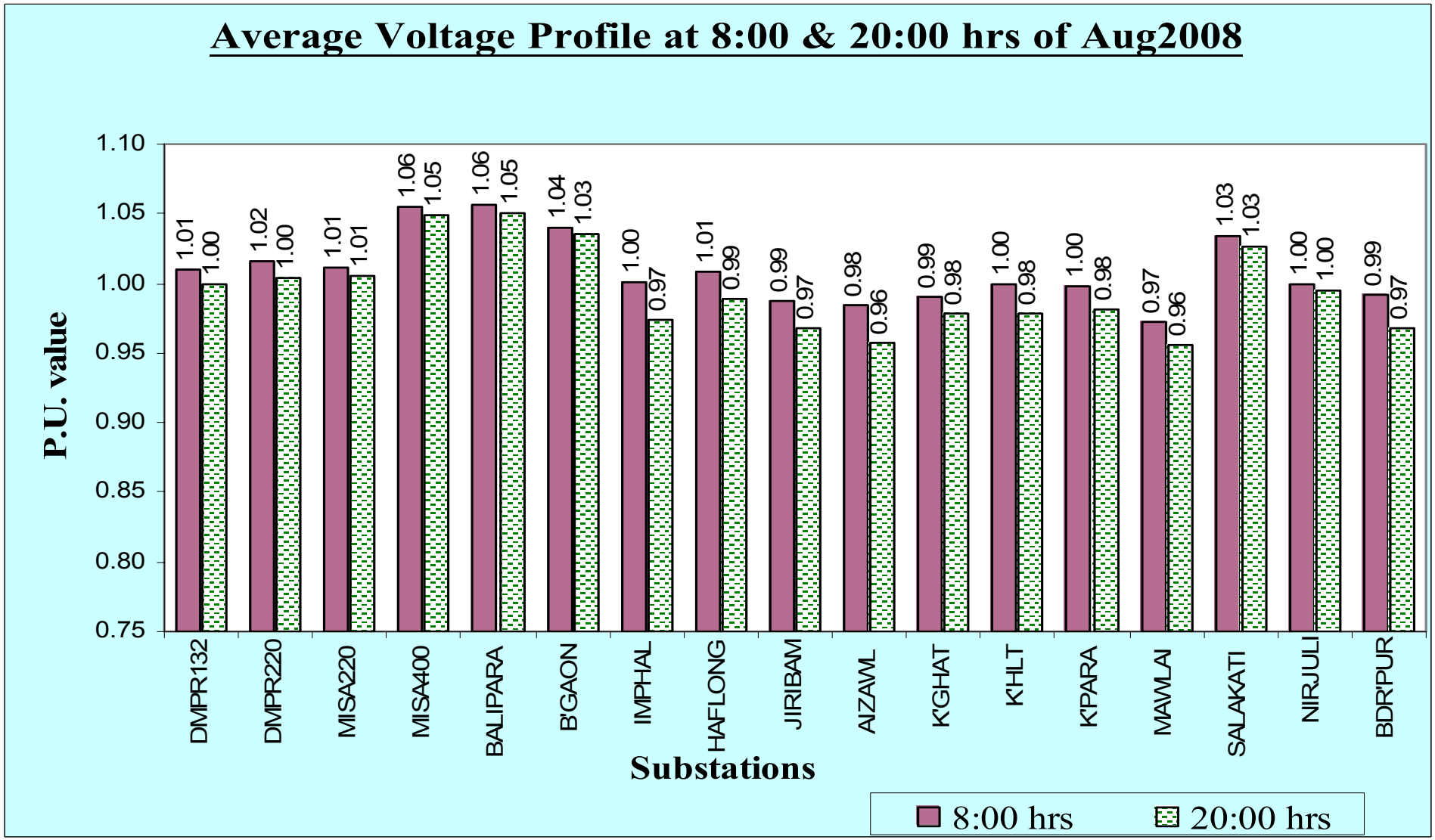
Frequency Duration Curve



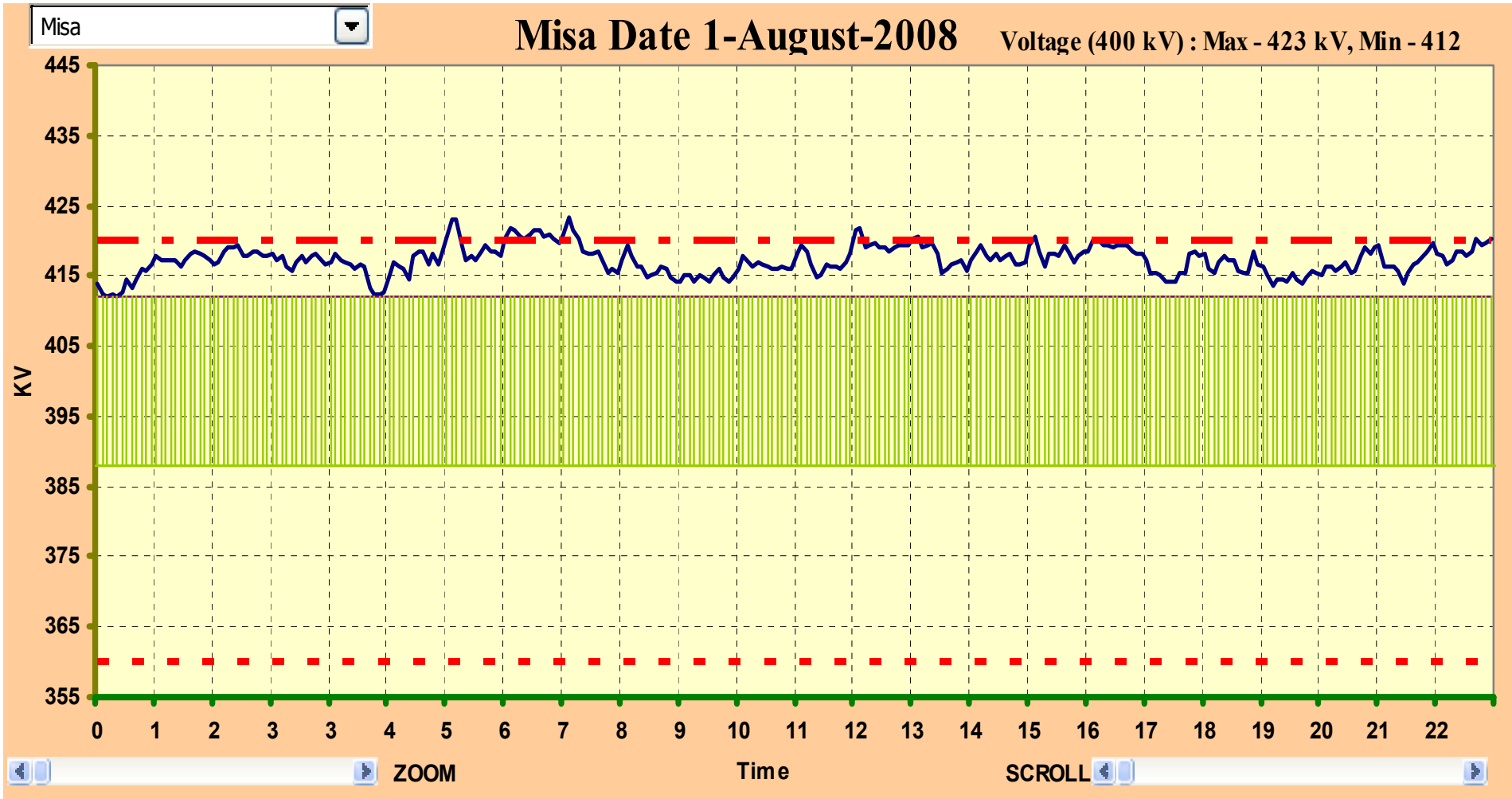
Voltage Profile



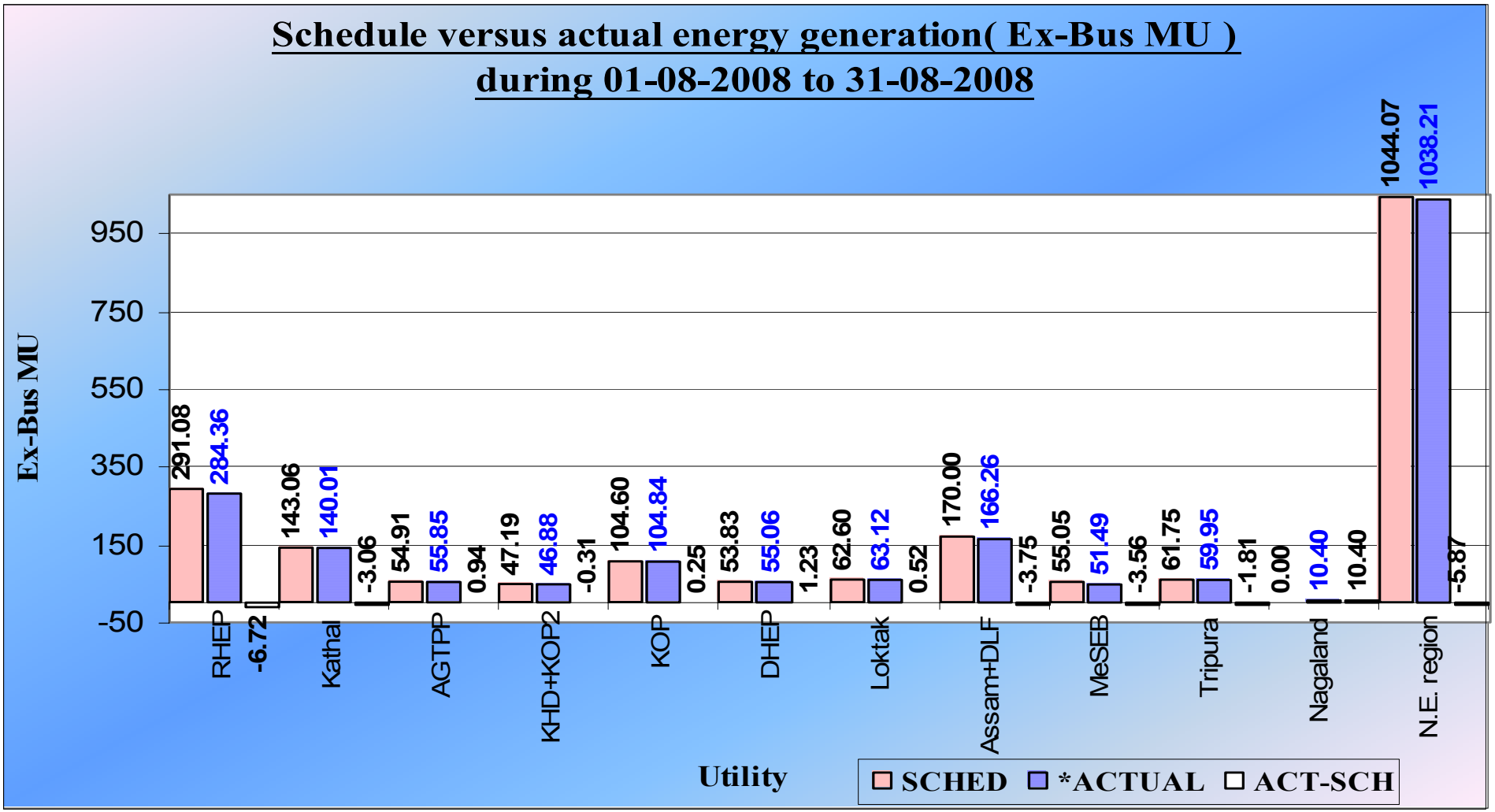
Voltage Profile



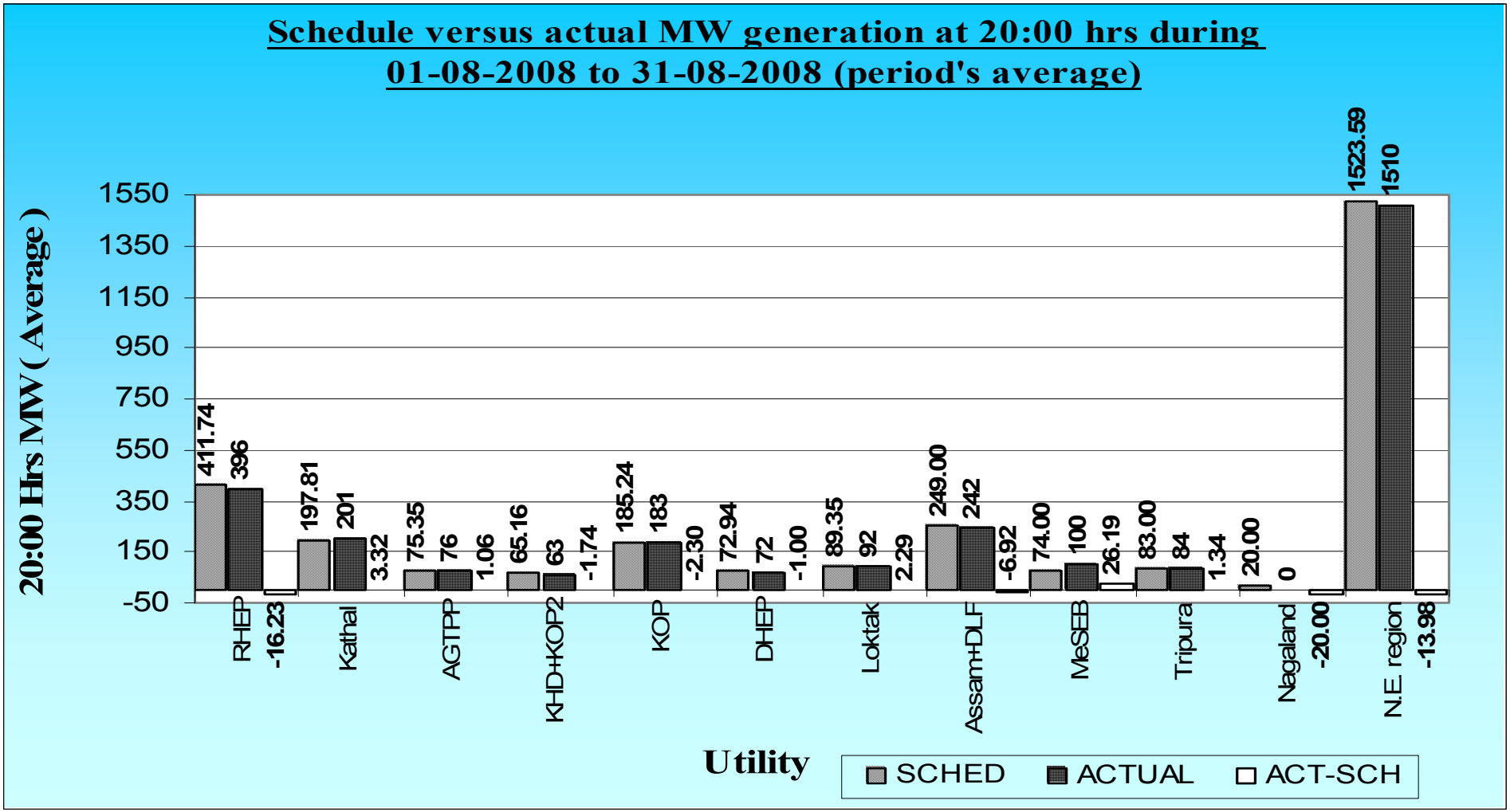
Voltage Profile



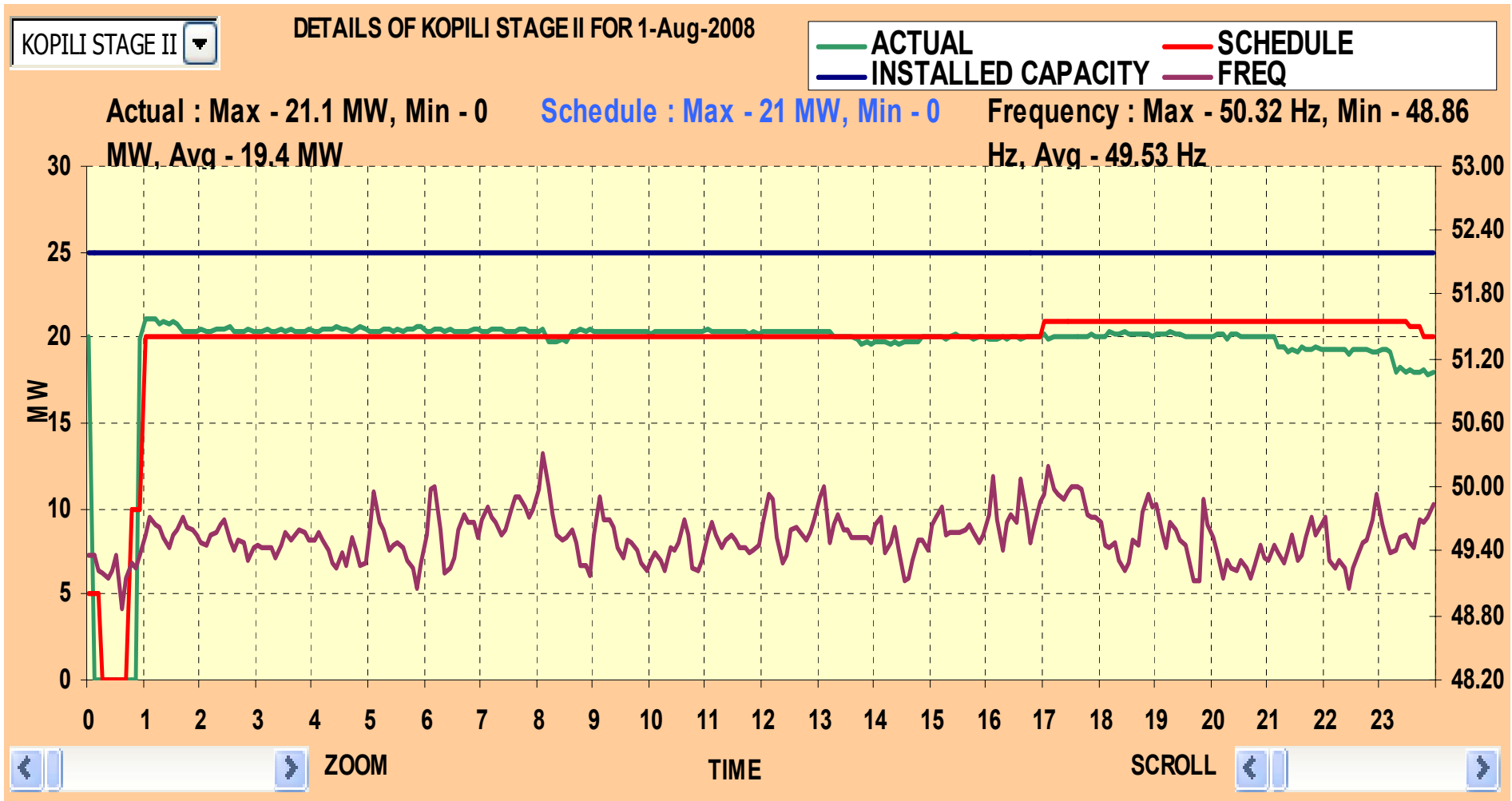
Generation – Schedule vs Actual



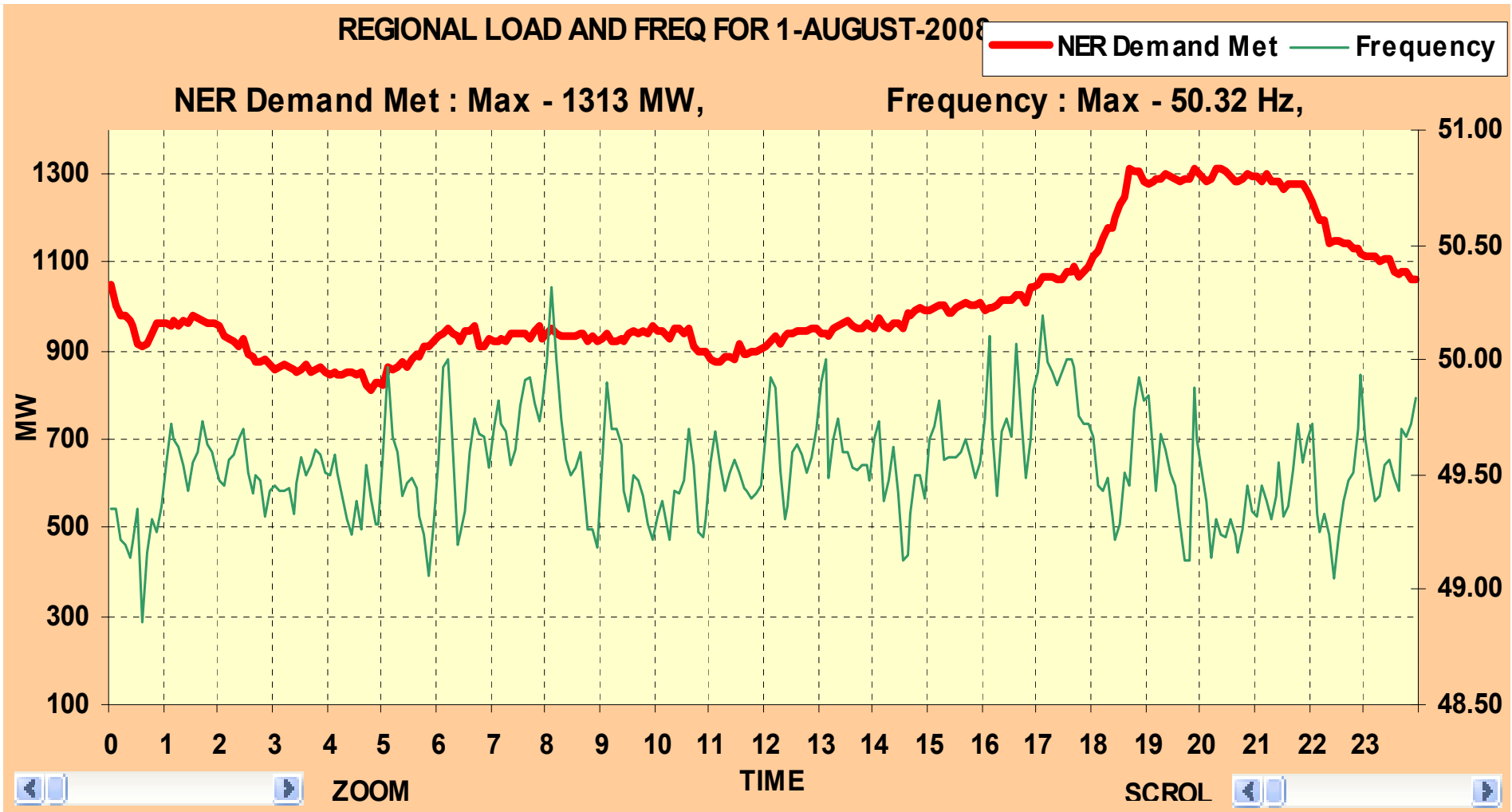
Generation(20:00 hrs) – Schedule vs Actual



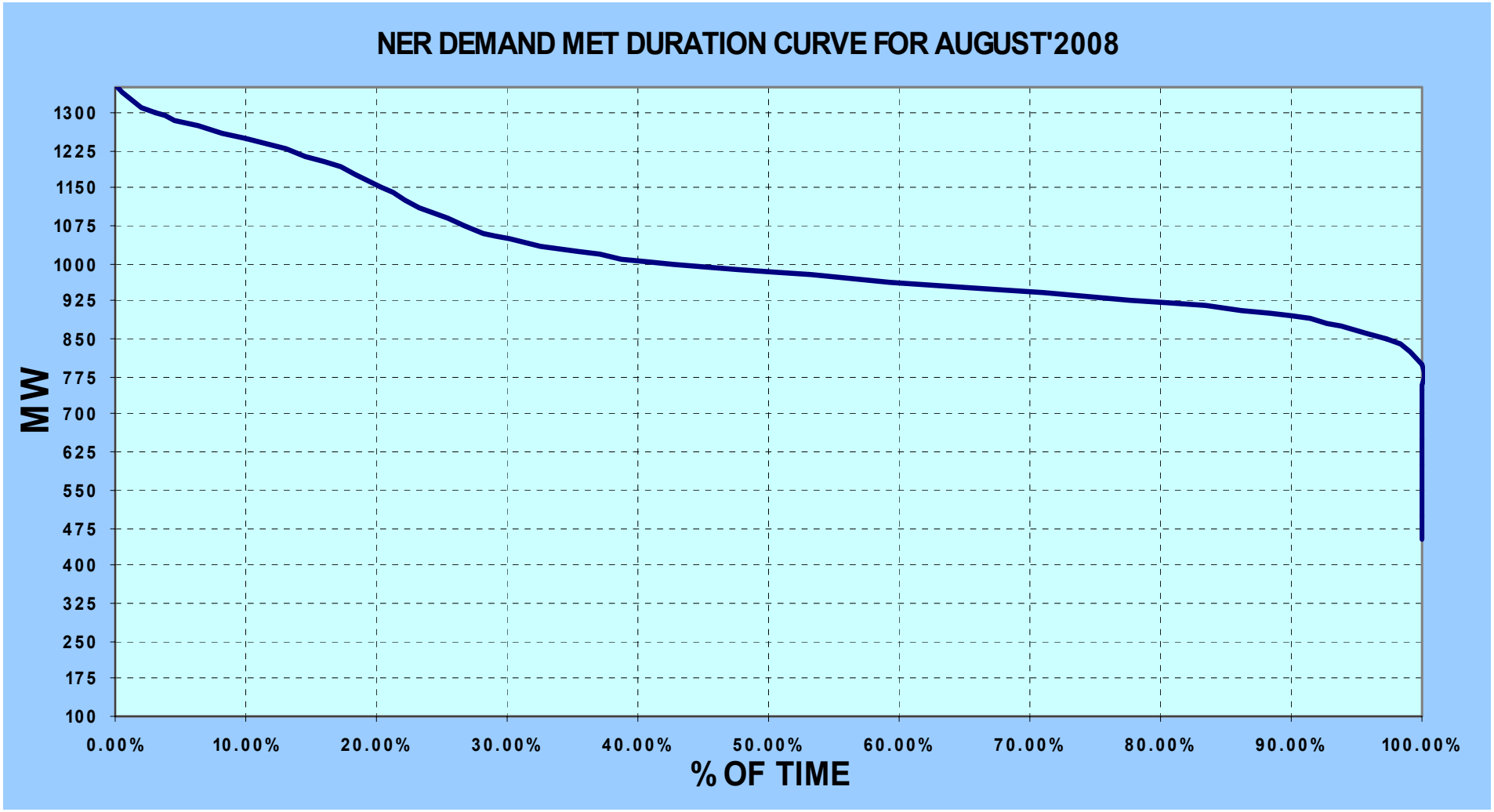
Generation – Schedule vs Actual



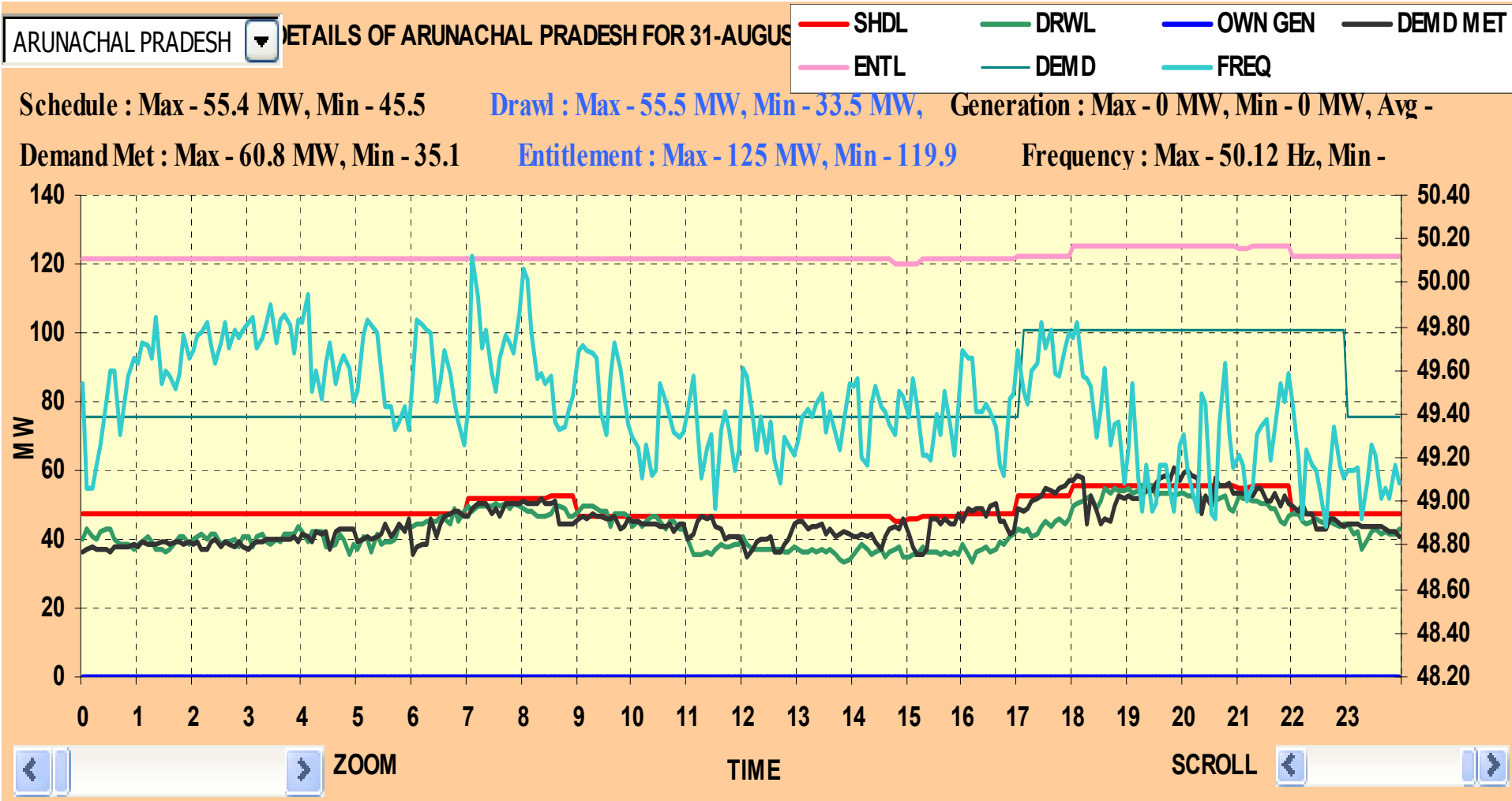
NER Load vs Frequency



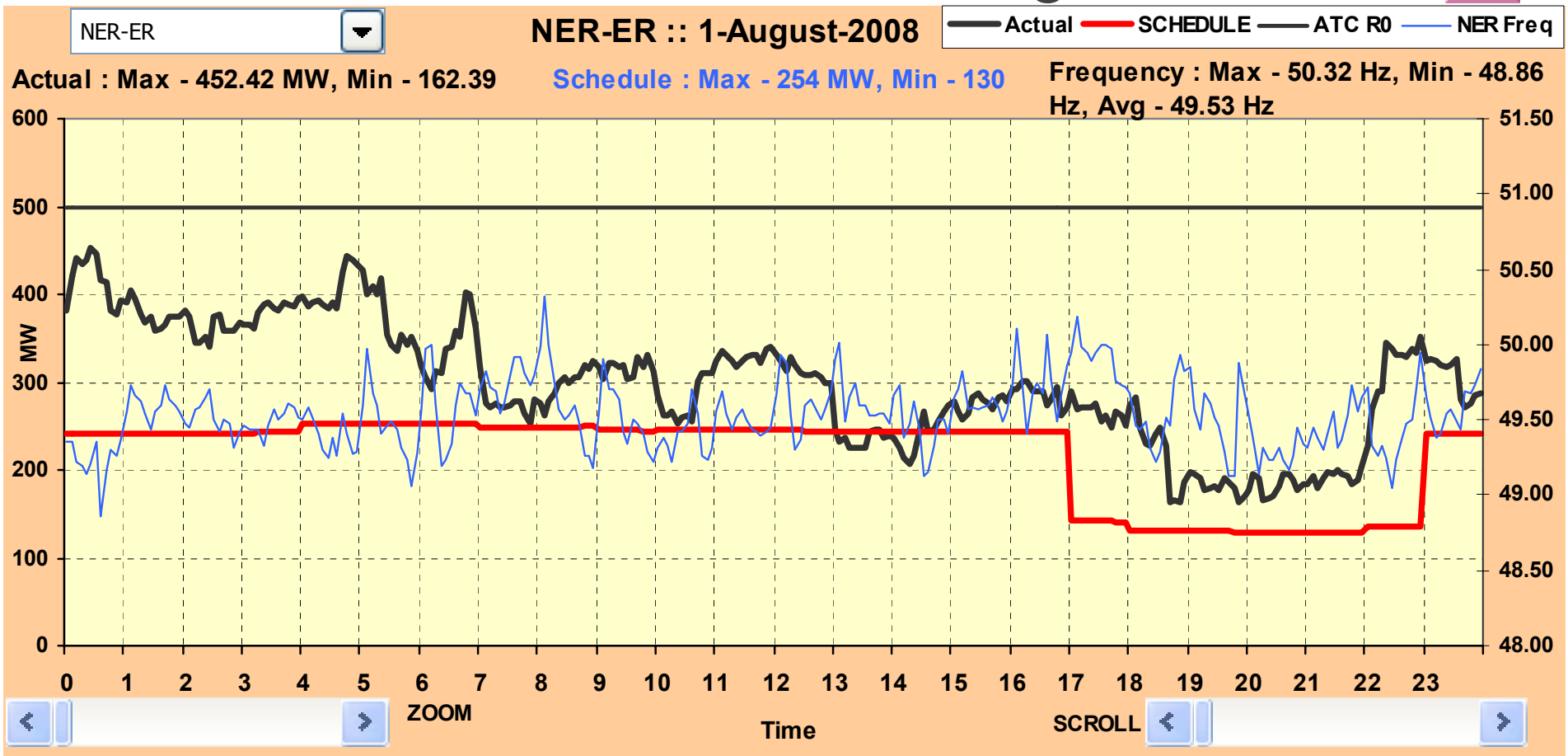
NER Load Duration



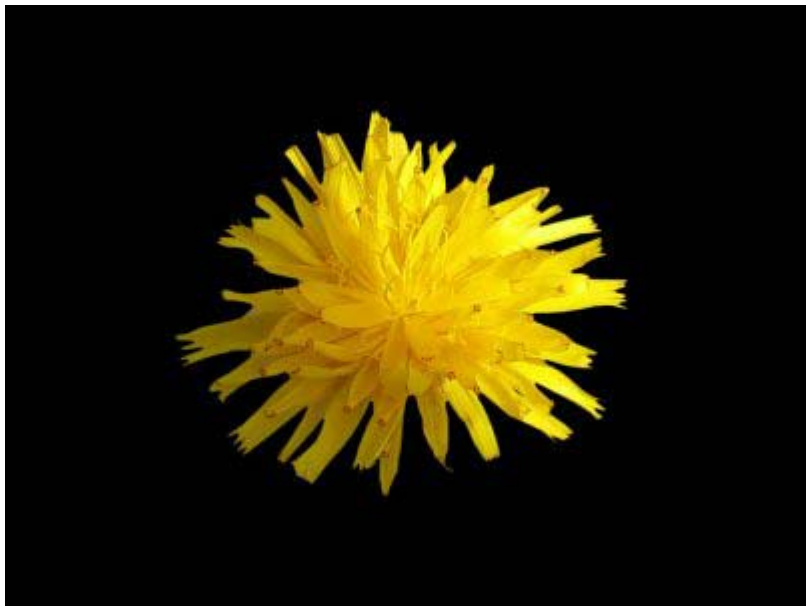
State Load vs Frequency



NER – ER Exchange



+ve Exp -ve Imp	Schedule	Actual	Act-Sch
MU	175.18	256.07	80.89
MW, 20:00	142.07	177.16	35.09



Thank You

Thank You

Major recommendations of National Conclave on *"National Conclave on Accelerated Development of Power Sector in the North Eastern Region and Sikkim"* held on 4th-5th April, 2008 at Hotel Brahmputra Ashok, Guwahati.

"National Conclave on Development of Power Sector in the North Eastern Region and Sikkim" was organized by MoP and CEA in partnership with Ministry for Development of North Eastern Region (DoNER), North East Council & States of North East and Sikkim. CBIP was the co-organizer. The conclave was inaugurated by Hon'ble Union Minister of Power, Shri Sushil Kumar Shinde. Shri Pradyut Bordoloi, Hon'ble unionminister of Power, Government of Assam welcomed the august gathering. Other eminent speakers who addressed the gathering during the inaugural session were Shri Tarun Gogoi Hon'ble Chief Minister, Government of Assam; Shri D.Y.Sema, Hon'ble Minister of Power, Government of Nagaland; Dr.(Mrs.) I.K.Barthakur, Member, North East Council; Shri Anil Razdan, Secretary, Ministry of Power, Shri Rakesh Nath, Chairperson, Central Electricity Authority.

The conclave was attended by Central Ministries, North East Council, representatives of all the North Eastern states including Sikkim, State Regulatory Commission, PSUs, Border Road Organization and various other industries including BHEL, JP Hydro, KSK Energy Ltd. etc. A detailed base paper giving the overview of power sector and major issues was circulated. It was emphasized that North Eastern Region is rich in energy resources and has a major role in meeting the energy requirement of the country in future. The region has huge hydro potential and is called powerhouse of the country. Despite the region being rich in natural resources and substantive mineral and hydrocarbons deposits, the region has been facing energy shortages.

Some of the major issues identified are:

- Lack of Infrastructure facilities like roads, efficient telecommunication lines, rail links/air services, etc.
- Inadequate organizational set up in state sector to implement the projects
- Law and Order problem.
- Land acquisition
- Meeting base load requirements.
- Problem in Environmental Clearance of projects
- Conversion of some Hydro storage projects into ROR projects
-

- Evacuation of exportable power from North Eastern Region and Sikkim.
- Poor Transmission and Sub-transmission System.
- Viability gap funding for projects

The major observations and recommendations of the Conclave during the various sessions are as under:

GENERATION

- The following projects are proposed to be commissioned in NER during 11th Plan.

Sl.No.	Name of the Projects	Capacity (MW)	Year of Commissioning
1.	Subansiri Lower HEP	2000	2011-12
2.	Kameng HEP	600	2011-12
3.	Tripura Gas ILFS JV	750	2011-12
4.	Chujachen	99	2009-10
5.	Teesta III	1200	2011-12
6.	Teesta V	510	2007-08
7.	Lakwa WH	37.2	2009-10
8.	Myndtu Stage-I	84	2009-10
9.	New Umtru	40	2011-12
10.	Bongaigaon	750	2010-12

Timely commissioning of Bongaigaon and Tripura Gas is very important for providing base load power to the region. **(Action: NTPC/ONGC)**

- All out efforts are to be made with strict monitoring of projects to avoid delays in commissioning of projects, which are programmed to be commissioned during 2011-12. NTPC, NHPC, BHEL, NEEPCO, ONGC/IL&FS should ensure that their schedules for commissioning of 11th Plan Projects are achieved. **(Action: MOP/CEA)**

- In addition to above, NEEPCO has proposed the Monarchak project (104MW) for commissioning during the 11th Plan. NEEPCO should ensure that the order is placed by June, 2008. The PPA and transmission system should also be tied by them. **(Action: NEEPCO)**

- Keeping in view the long gestation period required for power generation projects for planning to commissioning, a detailed Action Plan for Development of identified Hydro & Thermal Projects for 12th Plan should be prepared urgently. All DPRs/ Clearances to be obtained and Letter of Award to be placed for the projects proposed during 11th plan itself. Monitoring of 12th Plan projects to be carried out as per Action Plan. **(Action: CEA)**

DEMAND SUPPLY GAP

- Meeting round the year power requirement of NER states is possible by 2011-12. There are peak & off-peak shortages during winter and summer seasons when hydro availability is low. Hydro power partially meets peak requirements. Region is short of base power during summer and winter seasons. Allocation of base power from within and outside NER is required. The entire output of Bongaigaon and Tripura Gas (ONGC) and Monarchak should be allocated to NE Region states. However, 50 % of power from Subansiri and Kameng may be allocated to NR and WR states to enable development of evacuation system for utilisation of hydro plant during monsoon months when hydro power capacity is available in NER. In winter and summer when NER hydro generation is low NER should be allocated additional power from Central Sector coal based states in ER. This will provide a proper balance between demand and supply in NER round the year and ensure exchange of surplus power from NER to deficit regions. Allocation of power from Central Sector Thermal power stations in Eastern Region to NER states during summer and winter would be required to meet their base load demand during low hydro period. **(Action: MOP/CEA)**

HYDRO POWER DEVELOPMENT

- Storage type projects having a capacity of about 5000 MW have been now allocated to private sector for development as Run of River (ROR) projects in Arunachal Pradesh. Some of the storage schemes are proposed to be converted to RoR. Storage projects help transferring of monsoon waters to non-monsoon period. Identified storage schemes posed as RoR schemes may not be appraised by MoWR and CEA as dam site are site specific locations. **(Action: MOWR/CEA)**
- MoEF is insisting for furnishing of EIA study for the entire river basin for according environmental clearance to a hydro project. It is difficult for one of the developers of a project in a river basin to undertake such studies for the entire river basin. Instead of this the EIA study for the entire basin may be got conducted through a single agency by the state and the cost could be recovered from all the developers of the project on the basis on a pro-rata basis. **(Action: State Govt.)**
- Development of identified projects in a basin to be taken up simultaneously preferably so that infrastructure and transmission system could be developed optimally with minimum cost. **(Action: State Govt.)**
- Six Hydro Electric schemes of toal capacity of 7100 MW located upstream of Lower Subansisri HEP in Arunachal Pradesh are held up due to stay by Hon,ble Supreme Court on environmental issues. Efforts are to be made for expediting Supreme Court decision/lifting of stay on development of Subansiri Basin so that other projects could be developed. The matter may be looked into by the Ministry of Power by discussing the problem with MoEF. **(Action: MOP)**
- The state level clearances for environment and forest clearances take a very long time resulting in delay in implementation of projects. The State Governments should facilitate environmental clearance at state level. A time schedule for various steps involved in clearances at state level may be drawn up. . **(Action: NER States)**
- There is an urgent need for proper investigations by developer for time bound formulation of DPRs and implementation of schemes. The home States should monitor the progress and quality of investigations for the time bound implementation of schemes allocated to various developers. **(Action: State Govt.)**

THERMAL POWER DEVELOPMENT

- There is constraint in transportation of heavy equipments for Tripura Gas Project (750 MW). It is suggested to use waterways through Bangladesh for this purpose. LOA for Tripura gas project is required to be placed by ONGC immediately after sorting out the issue regarding transportation of heavy equipments; otherwise the project may slip to 12th Plan. The PPA and transmission system should be tied up by ONGC urgently. **(Action: ONGC)**
- There is no unified approach to explore the coal in North Eastern Region. North Eastern Coal Ltd. NECL should prepare a comprehensive plan for exploitation of coal resources in NER. **(Action: NECL)**
- Development of Garo Hill Project by Meghalaya State Government could be taken up on tariff based competitive bidding route (Case 2). They may approach Power Finance Corporation for consultancy, if required. **(Action: MeSEB)**

TRANSMISSION AND SUB-TRANSMISSION SYSTEM

- Allocation from central sector projects of NER like Kameng, Subansiri, etc. to be finalized at the earliest. Allocation of base power to NER from future Central Sector coal based projects in Eastern Region together with allocation of hydro power from projects in NER to states outside NER would help to improve economic viability of transmission system for evacuation of power and simultaneously meeting the demand of NER. (**Action: MOP/CEA.**
- Most of the hydro projects have low energy content (LF 40%). Considering the transmission distances and the need of high capacity corridor to preserve RoW in chicken-neck area, the transmission charges work out on higher side, resulting in high cost of delivered power and consequently affecting the viability of the project. Basin-wise development of Hydro Power Projects and corresponding basin-wise development of transmission system for evacuation of power from these hydro projects which would help in reducing the transmission cost. Therefore, there is need for basin-wise coordinated development of Hydro Projects so that matching transmission system could be developed in a cost effective way. **(Action: State Govt.)**

- Creation of independent Transmission Agency on the lines of NEEPCO by creating a subsidiary of PGCIL for NER under the Ministry of Power for execution of various intra-state transmission lines in the region. The O & M of transmission lines, which has so far been not very satisfactory, is a sensitive factor for availability and efficient operation of transmission lines to meet load demand and it is suggested that post commissioning, O&M works may also be entrusted with such an organization. **(Action: MOP)**
- Most of the states do not have adequate experience for execution of 132 kV and higher voltage transmission works except ASEB. The Independent Transmission Agency/PGCIL may be entrusted the intra-regional and intra-state transmission system in NER. Most of the States do not have institutional arrangement and it is necessary to have organization framework to formulate and execute various T&D works in a planned manner. Institutional framework to be created by NER states in six months with technical know-how for execution of transmission works at 132 kV level and above. **(Action: MOP)**

- PGCIL to prepare the PFR on the transmission system strengthening works in NER evolved by CEA. Transmission & sub-transmission system should be implemented on 90: 10 basis and be executed by CPSUs and managed by regional agencies. Resource mobilization and tying-up of funds for project works to be implemented under state sectors to be explored by State Govts./STUs. After completion of each phase of the project, an evaluation should be done to take corrective measures for execution of the next phase. **(Action: PGCIL)**
- For export of huge quantum of power from hydro projects in NER and Sikkim, there is a severe RoW constraint (22x18 km) in the chicken neck area in the North Bengal. About 12 nos. high capacity transmission corridors requiring 1/5 km RoW's are required for developing 7-8 nos. HVDC multi-terminal of ±800 kV and 4 nos. 400 kV system. Thus, it is required to reserve RoW in the chicken neck area. **(Action: MOP)**
- There is an urgent need for adopting a national Transmission Tariff sensitive to distance and direction to make the delivered cost of hydro projects in NER viable. **(Action: MoP)**
- The methodology of 90% grant and 10% debt should be adopted for investment for both intra-state and Inter-State transmission as done for other development projects. **(Action: MOP/Planning Commission)**

DISTRIBUTION SYSTEM

- The onus of implementation of RGGVY schemes lies on states. NER States should formulate detailed Rural Electrification plans as per the provisions of the Electricity Act, 2003. The project management and implementation capabilities need to be improved by states for timely execution of the projects under RGGVY and APDRP. The states should adopt the strict monitoring mechanism so as to complete the Rural Village Electrification by 2009. **(Action: State Govt.)**
- States of NER should chalk out a programme for reduction of AT&C losses. The States should seek support of the people to reduce the AT&C losses upto 15%. Distribution utilities in the North-East should adopt franchising of distribution system involving private people in line with the Bhiwandi model of Maharashtra where improvement have been seen in terms of reduction of AT&C losses, etc. **(Action: State Govt.)**
- Financing of sub-transmission & distribution is a major issue which requires immediate attention. **(Action: Min. of DONER,MOP,NEC)**
- The NER States are having inadequate Transmission, Sub-transmission & Distribution Networks. The state grids require substantial reinforcement and strengthening of intra-state and associated inter-state transmission systems. **(Action: State Govt.)**
- States to create the necessary institutional arrangements and organizational framework to formulate, execute various Distribution works in a planned and continuous manner. **(Action: State Govt.)**

GENERAL

- Various Hydro Electric Projects are being implemented by PSUs/IPPs. Trained manpower, which is not adequately available at present, would be required in the region for these projects. The PSUs/IPPs should adopt an ITI initiative and should adopt ITI in the North Eastern Region preferably near the new projects. Some new ITIs could also be constructed near the proposed projects to provide opportunity to local residents to develop skill and get jobs during the construction and O&M of the project. The adoption should be initiated before the commencement of the construction activities at the project site. Adoption would include upgradation of building and equipment and tools/tackles, training of teachers and students, arranging external guest faculty having expertise in power sector. **(Action: Project Developers)**

- Various agencies are involved in building of roads and there is no coordination between them. An Empowered Committee headed by NEC and involving all the executing agencies may be set up to expedite the construction of roads in NER. **(Action: NEC)**
- NEC had developed about 8000 km of roads in NER but their maintenance is a problem. The States should ensure that all roads developed by NEC are properly maintained. **(Action: State Govt.)**
- Access roads connecting National Highways with State Highways and State roads. Prioritize implementation of road projects taking into account the requirement of the Hydro Projects. **(Action: State Govt.)**
- Manufacturing facilities should be developed in the region to address problem of material shortage and improve employment. **(Action: State Govt.)**
- In many states of NER, almost all the land is privately owned and it is difficult to acquire it for project development. The states should facilitate acquisition of land for project development keeping in view the interests of land owners for suitable monetary compensation and R&R. **(Action: State Govt.)**
- In public sector projects where approval of investment decision by Govt. is required, processing of tenders & other formalities can be done in parallel so that work could be awarded immediately after investment decision approval. **(Action: CPSUs/PSUs)**
- PPP route may be adopted for development of waterways in NER.
- Improvement in infrastructure- Meter Gauge rail lines should be changed to Broad Gauge rail lines. **(Action: Min. of Railways)**
- New small airports should be developed in NER for better accessibility. **(Action: Min. of Civil aviation)**
- There is a need of capacity building like strengthening of organization, construction agencies etc. **(Action: State Govt.)**

…….ooOoo…….

31st Meeting of Operation Coordination Committee

Annexure- IV

The planed shutdown in respect of the following Generating units was approved by OCC Sub-committee of NERPC during the 31st OCCM held on 16th October, 2008 at NERPC Office.

Sl. No	Name of Generation Station	S/D Date	Units No	Purpose	MW affected	Agency
1.	AGBPP Kathalguri	18.10.08 to 06.11.08	#7, #8 & #9 (STG)	Condenser Cleaning	60 MW	NEEPCO
2.	Doyang H.E.P	15.11.08 to 08.12.08	#2	AMP	25 MW	NEEPCO

This is for kind information and necessary action please.

Note: The Utility taking shutdown as per above schedule shall confirm program to NERLDC one day before and co-ordinate with NERLDC just prior to taking the shutdown regarding prevailing of favourable grid conditions.

31st Meeting of Operation Coordination Committee

Annexure-V

The planed shutdown in respect of the following Transmission elements was approved by OCC Sub-committee of NERPC during the 31st OCCM held on 16th October, 2008 at NERPC Office.

Sl. No	Name of T/L	S/D Date	S/D Time	Purpose	Areas/Feeder affected	Agency
1.	400 KV Balipara – Bongaigon - I	21.10.08 & 22.10.08	08.00 hrs to 16:00 hrs **(Daily)**	AMP	Balipara – Bongaigon - I	PGCIL
2.	400 KV Balipara – Bongaigon - II	23.10.08 & 24.10.08			Balipara – Bongaigon - II	PGCIL
3.	132 KV Halflong - Jiribam	20.10.08 & 21.10.08	08.00 hrs to 16:00 hrs **(Continuous)**	Railway Diversion Work	Halflong - Jiribam	PGCIL
*4.	132 KV Ranganadi - Ziro	20.10.08	08.00 hrs to 16:00 hrs	AMP	Ranganadi - Ziro	PGCIL

This is for kind information and necessary action please.

* Sl. No 4 subject to concurrence by Arunachal Pradesh (as no representative from Arunachal Pradesh was present)

Note: The Utility taking shutdown as per above schedule shall confirm program to NERLDC one day before and co-ordinate with NERLDC just prior to taking the shutdown regarding prevailing of favourable grid conditions.