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 - ७९३००३
Nongrim Hills, Shillong – 793003.

ISO 9001:2008

Ph. No: 0364 - 2520050
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Website: www.nerpc.nic.in

No. NERPC/SE (O)/OCC/2014/**2634-69** Dated: October 24, 2014

To,

1. Managing Director, AEGCL, Bijuli Bhawan, Guwahati – 781 001
2. Managing Director, APDCL, Bijuli Bhawan, Guwahati – 781 001
3. Managing Director, APGCL, Bijuli Bhawan, Guwahati – 781 001
4. Director (Generation), Me. PGCL, Lumjingshai, Short Round Road, Shillong – 793 001
5. Director (Distribution), Me. ECL, Lumjingshai, Short Round Road, Shillong – 793 001
6. Director(Transmission), Me. PTCL, Lumjingshai, Short Round Road, Shillong – 793 001
7. Managing Director, MSPDCL, Electricity Complex, Keishampat, Imphal – 795 001
8. Managing Director, MSPCL, Electricity Complex, Keishampat, Imphal – 795 001
9. CGM, (LDC), SLDC Complex, AEGCL, Kahilipara, Guwahati-781 019
10. Chief Engineer (WE Zone),Department of Power ,Govt. of Arunachal Pradesh, Itanagar- 791111
11. Chief Engineer (EE Zone),Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
12. Chief Engineer (TP&MZ),Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791111
13. Engineer-in-Chief (P&E), Department of Power, Govt. of Mizoram, Aizawl – 796 001
14. Chief Engineer (P), Department of Power, Govt. of Nagaland, Kohima – 797 001
15. General Manager, TSECL, Agartala – 799 001
16. Group General Manager, NTPC, Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
17. ED, NERTS, PGCIL, Dongtieh-Lower Nongrah, Lapalang, Shillong -793 006
18. ED (O&M), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
19. ED (Commercial), NEEPCO Ltd., Brookland Compound, Lower New Colony, Shillong-793003
20. ED (O&M), NHPC, NHPC Office Complex, Sector-33, Faridabad,Haryana-121003
21. GM (Plant), OTPC, Badarghat Complex, Agartala, Tripura - 799014
22. GM, NERLDC, Dongtieh, Lower Nongrah, Lapalang, Shillong -793 006
23. Member Secretary, ERPC, 14 Golf Club Road, Tollygunge, Kolkata-700033
24. Chief Engineer, GM Division, Central Electricity Authority, New Delhi – 110066

Sub: Minutes of the 102nd OCC Meeting - Reg.

Sir,

The Minutes of the 102nd OCC Meeting of NERPC held on 16.10.2014 at "Hotel Nandan", Guwahati is enclosed for favour of kind information and necessary action please**.**

Any comments or observations may kindly be communicated at the earliest.

With warm regards,

Encl: As above

भवदीय / Yours faithfully,

बि. लिंगखोइ / B. Lyngkhoi
निदेशक **/ Director/ SE**

Copy to:

1. CGM, AEGCL, Bijuli Bhavan, Guwahati - 781001
2. CGM, APGCL, Bijuli Bhavan, Guwahati - 781001
3. CGM, DISCOM, Bijuli Bhavan, Guwahati - 781001
4. Head of SLDC, Me.ECL, Lumjingshai, Short Round Road, Umjarain, Shillong – 793 022
5. Head of SLDC, Department of Power, Govt. of Arunachal Pradesh, Itanagar- 791 111
6. Head of SLDC, Department of Power, Dimapur, Nagaland
7. Head of SLDC, Electricity Department, Govt. of Manipur, Keishampat, Imphal – 795 001
8. Head of SLDC, Department of Power, Govt. of Mizoram, Aizawl – 796 001
9. Head of SLDC, TSECL, Agartala – 799 001
10. Chief Engineer(Elect), Loktak HEP,Vidyut Vihar, Kom Keirap, Manipur- 795124
11. Addl. GM (EED), NTPC Ltd., Bongaigoan Thermal Power Project, P.O. Salakati, Kokrajhar- 783369
12. DGM (C&M), OTPC, 6th Floor, A-Wing, IFCI Tower -61, Nehru Place, New Delhi – 110019.

वी. लिंगारेड्डि

निदेशक / **Director/ SE**

North Eastern Regional Power Committee

MINUTES OF THE 102nd OPERATION COORDINATION SUB-COMMITTEE MEETING OF NERPC

Date : 16/10/2014 (Thursday)
Time : 10:00 hrs
Venue : "Hotel Nandan", Guwahati.

The List of Participants in the 102nd OCC Meeting is attached at **Annexure – I**

Shri A.K. Bandyopadhyay, Member Secretary I/C, NERPC welcomed all the participants to the 102nd OCC meeting. He stated that some of the issues were pending for few months and requested constituents to extend their valuable cooperation to resolve the issues. The Constituents were requested to comply OCC/PCC decisions as NER grid is in vulnerable condition. He requested all the constituents to actively participate in the discussion for fruitful deliberation.

Thereafter, Member Secretary requested Shri B. Lyngkhoi, SE(O), NERPC to take up the agenda item for discussion.

A. CONFIRMATION OF MINUTES

CONFIRMATION OF MINUTES OF 101st MEETING OF OPERATION SUB-COMMITTEE OF NERPC.

The minutes of 101st meeting of Operation Sub-committee held on 10th September, 2014 at Guwahati were circulated vide letter No. NERPC/SE (O)/OCC/2014/1982-2017 dated 22nd September, 2014.

SE (O) informed that NHPC vide mail dated 03.10.2014 has communicated their observation in respect of 101st OCC minutes of the meeting as below:

"In the Attendance Sheet in Annexure – I, the participant list of NHPC was not recorded and they want to incorporate the same". The same has been noted.

Further, they informed that additional item on Peak time at Loktak may also be included in the minutes as below:

They informed regarding Low Voltage problem in Loktak during evening (peak hours) and inability to generate full 105 MW during this time as the voltage goes very low which is usually in the range of 118KV,119KV, 120KV, etc. It was discussed and decided in the meeting that when they give DC (declared capability) of 105MW for 3 hrs (peak time), NERLDC will give a schedule of 105MW for 1 (one) block and the remaining MW to be distributed to other blocks at lower MW (say 103 MW or below). It was requested that the above decision be recorded so that they can implement this in the scheduling.

It was also discussed that the cause of low voltage in Loktak area be studied and possibility of installing a capacitor bank near the load centre say Imphal area/Imphal PG/Yurembam be explored.

The Sub-committee endorsed the above comments from NHPC and the minute of 101st OCCM of NERPC was confirmed as no other comments/observations were received from the constituents.

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

B.1. OPERATIONAL PERFORMANCE AND GRID DISCIPLINE DURING September, 2014

As per the data made available by NERLDC, the grid performance parameters for September, 2014 are given below:

NER PERFORMANCE DURING SEPTEMBER, 2014

	Energy Met (MU)			Energy Reqr. (MU)		
States	**Sep-14**	**Aug-14**	**% inc(+)/dec(-)**	**Sep-14**	**Aug-14**	**% inc(+)/dec(-)**
Ar. Pradesh	53.95	**52.96**	1.9	70.00	**55.21**	26.8
Assam	688.04	**732.62**	-6.1	825.00	**795.61**	3.7
Manipur	59.79	**56.18**	6.4	65.00	**58.36**	11.4
Meghalaya	131.21	**131.27**	-0.1	145.00	**152.17**	-4.7
Mizoram	34.46	**35.42**	-2.7	36.00	**37.08**	-2.9
Nagaland	54.64	**53.48**	2.2	60.00	**55.20**	8.7
Tripura	92.98	**94.98**	-2.1	120.00	**103.81**	15.6
Region	**1115.06**	**1156.9**	-3.6	**1321.00**	**1257.44**	5.1

	Demand Met (MW)			Demand in (MW)		
States	**Sep-14**	**Aug-14**	**% inc(+)/dec(-)**	**Sep-14**	**Aug-14**	**% inc(+)/dec(-)**
Ar. Pradesh	115	**116**	-0.9	139	**118**	18.1
Assam	1207	**1242**	-2.8	1350	**1379**	-2.1
Manipur	126	**138**	-8.9	135	**141**	-4.5
Meghalaya	280	**280**	0.0	310	**288**	7.7
Mizoram	78	**81**	-3.7	86	**85**	0.9
Nagaland	116	**116**	0.0	117	**121**	-3.0
Tripura	256	**235**	8.9	260	**240**	8.1
Region	**2112**	**2053**	2.9	**2380**	**2356**	1.0

REGIONAL GENERATION & INTER-REGIONAL EXCHANGE IN MU

Month---->	**Sep-14**	**Aug-14**
Total Generation in NER (Gross)	1214.34	1199.5
Total Central Sector Generation (Gross)	807.99	831.5
Total State Sector Generation (Gross)	406.35	367.9
Inter-Regional Energy Exchange		
(a) NER-ER	117.37	80.58
(b) ER-NER	49.29	65.61
© Net Import	-68.08	-14.97

AVERAGE FREQUENCY (Hz)

Month---->	**Sep-14**	**Aug-14**
	% of Time	% of Time
Below 49.7 Hz	28.68	39.38
Between 49.7 to 50.2 Hz	55.3	48.33
Above 50.2 Hz	16.02	12.29
Average	49.95	49.92
Maximum	50.37	50.34
Minimum	49.34	49.36

From the above table, it is seen that energy requirement increased whereas requirement met (MU) of the region decreased slightly where as peak met (MW) increased slightly from the previous month.

FOLLOW UP ACTION

C.1 Synchronization of Pallatana Module -II

Regarding status of commissioning of second unit of Palatana, OTPC representative informed the members that: -

1) ONGC ensured to enhance the gas supply for both the units of Palatana.

2) During trial run of Unit#2 of Palatana, Seal Oil Pump component failed which is not available at site with BHEL. The pump has been sent for maintenance which is expected to be completed by end of October 2014 after which trial run of Unit#2 may be resumed.

The Sub-committee also reviewed the status of commissioning of second unit of OTPC at Pallatana, following Transmission lines of POWERGRID and substation at Azara of Assam. The status as informed by OTPC, Assam and POWERGRID is as follows:

SN	Items	Status as given in 101st OCC Meeting	Status as on 102nd OCC
1	Trial operation and CoD of Unit -II of Palatana	Trial run is expected in October, 2014 and CoD is expected in Oct-Nov, 2014	Trial run is expected by end of Oct 2014 and CoD is expected in 3rd Week of Nov, 2014
2	400KV D/C Silchar - Melriat line	March, 2015	June, 2015
3	400KV D/C Silchar - Imphal line	November, 2014	December, 2014
4	220KV D/C Mariani (New) – Mokokchung	October, 2014	December, 2014
5	400KV D/C Byrnihat-Bongaigaon line	Byrnihat – Azara section charged on 28.07.2014. Azara–Bongaigaon section is expected by December, 2014	December, 2014

6	400kV Balipara – Bongaigaon D/C line 3 & 4 with FSC	August, 2014 subject to availability of forest clearance for 5.2 kms of the line.	November, 2014
7	400/220 kV sub-station at Azara of Assam	Completed	

The Sub-committee requested OTPC to furnish the details for trial run of Unit #2 in advance to NERLDC. OTPC agreed.

The Sub-committee requested Assam to implement the Reverse Power Relay as decided in the system study committee meeting at the earliest which is given below:

1) ***If the flow is above 45-50 MW, relay at Azara should operate accordingly with 5 minutes time delay.***
2) ***If the flow is above, 50 MW, the reverse power relay at Azara should operate instantaneously.***

AEGCL agreed to implement the required settings at the earliest and the status would be intimated to NERPC/NERLDC accordingly.

The Sub-committee noted as above.

C.2 SPS scheme for Pallatana

The following four (4) System Protection Scheme (SPS) associated with generating Unit#1 (363.3MW) of OTPC at Palatana has been planned for NER:

Case 1: Tripping of generating unit of OTPC at Palatana

Case 2: Tripping of 400 kV D/C Palatana- Silchar line (with generation from OTPC's plant at Palatana)

Case 3: Tripping of 400 kV Silchar-Byrnihat line (with generation from OTPC's plant at Palatana)

Case 4: Tripping of 400 KV Silchar – Byrnihat line (without generation from OTPC's plant at Palatana)

The above Special Protection Schemes associated with tripping of Palatana were studied and deliberated by the system study group of NERPC on 14.10.2014 at NERLDC, Shillong. The minutes are reproduced below: -

a) Case I & IV have already been implemented.

b) Case II has also been implemented (by default)

Regarding Case 3, the Sub-committee requested OTPC to reduce the generation to 200 MW to survive in case of tripping of above line. This is not only to survive the machine but also to reduce the restoration time of the machine.

OTPC agreed to pursue with BHEL to complete the GTG/STG setting soon.

It was also agreed that NERTS will make Silchar - Azara and Silchar - Byrnihat in series, the necessary changes in wiring will be done by NERTS.

Deliberation of the Committee

OTPC representative informed that the ramp down rate of GTG = 18 MW / min and the ramp down rate of STG is very low. Reduction from full load to 200 MW therefore takes time.

After deliberation, OTPC was requested to implement at the earliest the required technical modifications for SPS Case - III through BHEL or any other firm. OTPC was requested to intimate the action plans within a week.

The Sub-committee noted as above.

Enhancement of quantum of load relief during SPS operation:

The matter was studied and deliberated by the system study group of NERPC on 14.10.2014 at NERLDC, Shillong. The minutes are reproduced below: -

1. Lumshnong – Khliehriat will be disconnected and Lumshnong will be fed from Panchgram

Once Palatana trips, then Lumshnong S/s will be tripped and a load relief of 15 MW may be expected.

2. Dharmanagar - P.K. Bari will remain disconnected and Dharmanagar & Dullavcherra will be fed from Silchar S/S radially.

Once Palatana trips, then 132kV Sichar-Dullavcherra feeder will be tripped at Silchar End through SPS and relief of 14 MW load can be achieved.

The change in wiring pattern may be incorporated by NERTS for implementing tripping from Silchar side.

The above suggestions may be reviewed by system study committee as and when required.

The sub-committee noted as above.

C.3 Details of Installations and self-certification (by STUs and CTUs) in respect of operationalisation of Under Frequency Relays (UFRs) in NER systems and additional requirement of UFR and df/dt relays:

The list of feeders identified for UFRs installation with quantum of load shedding is given below. The following details as confirmed in 102nd OCC meeting.

Name of State	Total Quantum of Load Shedding required (MW)	Location of UFR (Feeder's Name)	Stage	Load in each feeder (MW)	Quantum of Load Shedding Implemented (MW)	Additional quantum of Load Shedding required (MW)
Ar. Pradesh	20	**At Satyam Ispat** (11KV Banderdewa - Satyam Ispat)	Stage - I (49.2 Hz)		3.5	1.5
		To be identified	Stage - II (49.0 Hz)		0	5
		To be identified	Stage - III (48.8 Hz)		0	5
		To be identified	Stage - IV (48.6 Hz)		0	5

Representative from Arunachal Pradesh informed that Stage - I is completed. Stage - II is under consideration and may be expected by December 2014. Stage - III and Stage - IV may be expected to be completed by March 2015.

The Sub-committee requested Ar. Pradesh to furnish the feeder's name of Stage II, III & IV at the earliest. Ar. Pradesh agreed.

Name of State	Total Quantum of Load Shedding required (MW)	Location of UFR (Feeder's Name)	Stage	Load in each feeder (MW)	Quantum of Load Shedding Implemented (MW)	Additional quantum of Load Shedding required (MW)
Assam	220	**At Gauripur** (132 KV Dhaligoan - Gossaigoan - Gauripur)	Stage - I (49.2 Hz)	16	54.5	0
		At Sipajhar (132 KV Depota - Rowta - Sipajhar)		10		
		At Dhemaji (132 KV Gohpur - Nalkata - Dhemaji)		11		
		At Majuli (132 KV Nalkata - Majuli)		2.5		
		At Baghjap (132 KV Kahilipara - Chandrapur - Baghjap)		15		
		At Diphu (132 KV Samaguri - Sankardev - Diphu)	Stage - II (49.0 Hz)	11	61	0
		At Gohpur (132 KV Samaguri - B. Chariali - Gohpur)		8		
		At Rupai (132 KV Tinsukia - Rupai + AP Load)		17		
		At Jogighopa (132 KV Dhaligoan - Jogighopa)		7		
		At Sankardevnagar (132 KV Samaguri - Sankardevnagar)		18		
		At Gossaigoan (132 KV Dhaligoan - Gossaigoan)	Stage - III (48.8 Hz)	7	59	0
		At Rowta (132 KV Depota - Rowta)		18		
		At Chandrapur (132 KV Kahilipara - Chandrapur)		12		

		At Nalkata (132 KV Gohpur - Nalkata)		11		
		At Bokakhat (132 KV Jorhat - Bokakhat)		11		
		At Gossaigoan (132 KV Dhaligoan - Gossaigoan)		7		
		At Rowta (132 KV Depota - Rowta)		18		
		At Chandrapur (132 KV Kahilipara - Chandrapur)		12		
		At Sishugram (132 KV Sarusajai - Sishugram)	Stage - IV (48.6 Hz)	45	57	0
		At Ledo (132 KV Tinsukia - Ledo)		12		
Representative from AEGCL informed that all the above stages are implemented in the feeders depicted and load relief of 200 MW is expected. However, no reports regarding operation of UFRs installed in the above feeders are received from AEGCL till date. AEGCL was once again requested to send the UFR operation report in the prescribed format of NERLDC.						

Name of State	Total Quantum of Load Shedding required (MW)	Location of UFR (Feeder's Name)	Stage	Load in each feeder (MW)	Quantum of Load Shedding Implemented (MW)	Additional quantum of Load Shedding required (MW)
MSPCL Manipur	20	**At Yurembam** (33 KV Yurembam - Leimakhong)	Stage - I (49.2 Hz)		3	2
		At Yaingangpokpi (33 KV Yaingangpokpi - Napetpalli)	Stage - II (49.0 Hz)		0	5
		At Kongba (33 KV Kongba - Mongsangei)	Stage - III (48.8 Hz)		0	5
		At Kakching (33 KV Kakching - Wangjing)	Stage - IV (48.6 Hz)		0	5
Representative from MSPCL informed that all the four stages are implemented and the exact quantum of load relief will be furnished soon. He agreed to send the UFR operation report from November 2014 onwards.						

Name of State	Total Quantum of Load Shedding required (MW)	Location of UFR (Feeder's Name)	Stage	Load in each feeder (MW)	Quantum of Load Shedding Implemented (MW)	Additional quantum of Load Shedding required (MW)
Me. ECL Meghalaya	60	**At Nangalbibra** (33 KV Mendipathar - Nangalbibra)	Stage - I (49.2 Hz)	6.5	15	0
		At Rongkhon (33 KV Garobadha I - Rongkhon)		8.5		
		At Mawphlang (132/33 KV, 20 MVA Transformer)	Stage - II (49.0 Hz)		15	0
		At Khliehriat (132/33 KV, 20 MVA Transformer)	Stage - III (48.8 Hz)	12	15	0
		At Nongstoin (33 KV Nongstoin - Mairang)		3		
		At Mawlai (33 KV Mawlai - Nongthymmai)	Stage - IV (48.6 Hz)	7.5	15	0
		At NEHU (33 KV NEHU - Happy Valley)		7.5		
Representative from Me.ECL informed that UFRs based load shedding for Stages I, II & III have been completed. Stage - IV implementation process is held up due to law and order problem in Garo Hills. Me.ECL is sending UFR operations report regularly to NERLDC for implemented 3 stages.						
Mizoram	20	**At Khawiva** (33 KV Khawiva - Sazaikawn)	Stage - I (49.2 Hz)	2.38	5.09	0
		At Bukpui (33 KV Bukpui - Chhingchhip)		2.71		
		At Zuangtui (6.3 MVA, 33/11 KV Transformer - I)	Stage - II (49.0 Hz)	5.31	5.31	0
		At Zuangtui (6.3 MVA, 33/11 KV Transformer - II)	Stage - III (48.8 Hz)	4	5.1	0
		At Tlangnuam (33 KV Tlangnuam - Aibawk)		1.1		
		At Chawnpui (6.3 MVA, 33/11 KV Transformer - I)	Stage - IV (48.6 Hz)	3	5.2	0
		At Zuangtui (11 KV Zuangtui - Chaltlang)		2.2		

EE, SLDC, Mizoram informed that UFR based load shedding for Stages I has been completed. Stage - II is under consideration which may be expected to be implemented by December 2014. Status of Stage - III & IV will be intimated in next OCC meeting. Mizoram is sending the UFR reports regularly for the implemented stages.

Name of State	Total Quantum of Load Shedding required (MW)	Location of UFR (Feeder's Name)	Stage	Load in each feeder (MW)	Quantum of Load Shedding Implemented (MW)	Additional quantum of Load Shedding required (MW)
Nagaland	20	**At Mokokchung** (66 KV Mokokchung - Tuli)	Stage - I (49.2 Hz)		6	0
		At Dimapur (33 KV Dimapur - AP - I)	Stage - II (49.0 Hz)		4.5	0
		At Kohima (132 KV Kohima - Wokha)	Stage - III (48.8 Hz)		5	0
		At Dimapur (33 KV Dimapur - Refferal Hospital)	Stage - IV (48.6 Hz)		4.5	0
Representative from Nagaland informed that UFRs based load shedding for all the Stages have been completed. UFR operation reports are sent to NERLDC from September 2014 onwards.						
Tripura	40	**At Badharghat** (33 KV Badarghat - Bishalghar)	Stage - I (49.2 Hz)	8.5	11	0
		At Badharghat (33 KV Badarghat - Takarjala)		2.5		
		At Rabindra Nagar (33 KV Rabindra Nagar - Melaghar)	Stage - II (49.0 Hz)	6.5	10	0
		At Rabindra Nagar (33 KV Rabindra Nagar - Kathalia)		3.5		
		At 79 Tilla (33 KV, 79 Tilla - Mohanpur)	Stage - III (48.8 Hz)	7.5	14.5	0
		At 79 Tilla (33 KV, 79 Tilla - Durjoy Nagar)		7		
		At 79 Tilla (33 KV, 79 Tilla - College Tilla)	Stage - IV (48.6 Hz)		12.5	0

TSECL representative informed that UFRs based load shedding for Stages I & II have been implemented. Tendering is done for Stages III & IV, after evaluation of tenders; approval from TSECL Board will be taken. It is expected to implement Stages III & IV by November 2014.

Implementation of UFR load shedding based on average load as per CERC order in Petition No. 263/MP/2012 on 19.12.13: As per para no 13 of CERC order in Petition No. 263/MP/2012 on 19.12.13:

Quote

We have heard the parties and perused the pleadings. We are in agreement with the petitioner that there is a need to review and estimate the actual load on the feeders and the constituents should consider average load in the feeders for computation of target relief on identified feeders. As sufficient load relief has not been achieved, the respondents are directed to identify more feeders for installation of UFR and df/dt relays and submit the details to SRPC.

Unquote

At present, UFR load shedding based on maximum load is implemented in NER. When UFR based load shedding are required, load of identified feeders are not generally at peak load. As such sufficient load relief will not be achieved for system requirement. NER beneficiaries are accordingly requested to compute average load of identified feeders where UFRs are installed and to identify additional feeders for installation of UFRs to fulfill the target based upon average load.

Regarding the CERC order mentioned above to compute average load and fulfillment of target, the sub-committee agreed to refer the same to NPC for necessary guidance and clarifications.

C.4 Lines under long outages

During the 101st OCC meeting, the issue for restoration of these lines was reviewed by the committee and the status was as follows:

a) 39km of 132kV Rengpang – Jiribam line – [Since Oct'02]

Manipur representative informed that towers are faulty in locations 90 and 91 due to constructions of railway line and road by Ministry of Railway and BRTF.

Compensation for the same is awaited from the 2 parties and repairing work may be completed after 2 months after receipt of the compensations. The line is expected to be restored by October 2014.

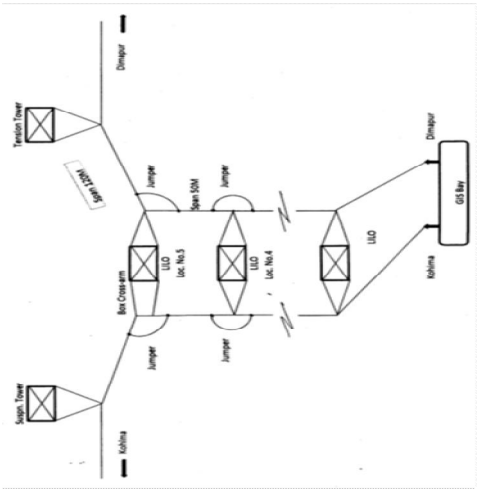
Deliberation of the Committee

Manipur representative stated that the line would be completed by end of November 2014.

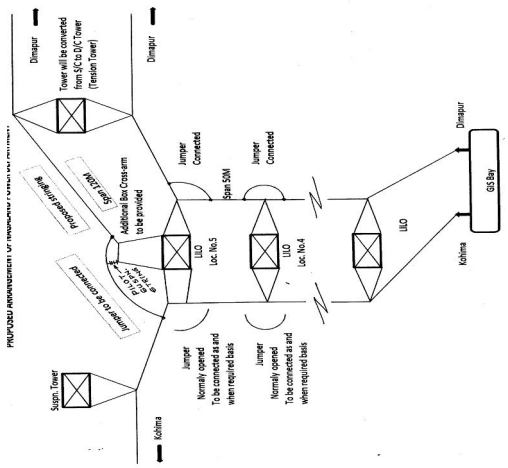
The sub-committee noted as above.

C.5 LILO of 132 kV Dimapur (Nagaland) - Kohima

LILO of 132 kV Dimapur (Nagaland) – Kohima (Nagaland) line at 220/132 kV Dimapur (PGCIL) Substation- [Since Aug'11]:



Before Modification



After Modification

During 100th OCC meeting, EE, DoP, Nagaland informed that towers have been erected and stringing is about to start. The work is likely to be completed by September 2014.

Deliberation of the Committee

EE, DoP, Nagaland informed that the line was completed and the end equipments are yet to be installed. It is under consideration and will be installed at the earliest.

Further, MS (I/C) stated that the above arrangement is the proposal of Nagaland for their own benefits and so Nagaland should expedite the execution. He suggested dropping the agenda.

The Sub-committee noted as above.

C.6 CT Ratio of Transmission Lines in NER:

During 99th OCC meeting, NERLDC informed that the details of CTs have been received from Tripura, Meghalaya, Nagaland and Kopili (NEEPCO). Assam has handed over the CT details to NERLDC/NERPC during the meeting. NEEPCO informed that details of CT for the remaining stations have already been sent to NERLDC. NERLDC requested NEEPCO to submit again as they have not received the details. Manipur stated that the details of CT will be furnished soon. The subcommittee requested Manipur, Mizoram & AR. Pradesh to submit the CT details to NERLDC at the earliest.

During 101st OCC meeting, the sub-committee requested NERLDC to finalize the list of lines and highlight the restricting/constraints in the power flow on those lines with the existing CT ratio, so that if required, enhancement of CTs would be carried out by the concerned constituents accordingly. It was also suggested that details of CTs which are not being sent to NERLDC may also be highlighted. The required enhancement detail may be furnished by NERLDC in next OCC

Deliberation of the Committee

NERLDC has finalized the list of lines along with CTs to be upgraded as per system requirement (CEA Recommendations) as attached in **Annexure – C.6**

The sub-committee observed that certain correction is required in the list and accordingly requested NERLDC to incorporate those corrections and submit the list to all concern for early implementation.

C.7 Furnishing Geographic Co-ordinates of Nodes of NER Grid:

Power Maps of NER states are being developed by CBIP. To represent nodes of NER Grid in power maps, Co-ordinates of **existing Nodes, Nodes under construction** & **identified future Nodes** (66 kV & above) of NER Grid are required. Power Utilities of NER are requested to furnish latitude & longitudes of Nodes of NER Grid.

During 101st OCC meeting, NERLDC informed that all the beneficiary states except Manipur have submitted the required information.

Now NERLDC informed that NEEPCO (Khupi S/S), POWERGRID (Mariani, Mokokchung, Melriat, Namsai, Tezu & Roing), NHPC (Loktak HEP & Lower Subhansiri HEP), OTPC (Palatana GBPP) and NTPC (Bongaigaon TPP) have not furnished these data till date.

Deliberation of the Committee

Manipur representative stated that they had already sent to GM, NERLDC. Tripura representative submitted to NERLDC during the meeting. NERTS agreed to submit soon. NEEPCO will check and submit. OTPC agreed to submit soon.

The subcommittee noted as above.

C.8 Up-dated Operating Procedures of NER 2014:

As decided in last OCCM of NERPC, Operating Procedures of NER 2014 in MS Word format & MS Excel format uploaded in NERLDC website and also e-mailed to regional entities of NER to furnish comments/suggestion of this document by 20th September, 2014.

Deliberation of the Committee

Since no comments/suggestion of this document were received from the constituents by 20th September, 2014. Hence, the Operating Procedures of NER 2014 is finalized and uploaded in website of NERLDC.

The subcommittee noted.

C.9 Single Line Diagram of Sub-stations, Switching Stations & Power Stations of NER:

Constituents of NER are requested to furnish Single Line Diagram of Sub-Stations, Switching Stations & Power Stations owned by them at the earliest as these diagrams are required for proper visualization.

During 101st OCC meeting, DGM, NERLDC informed that only NERTS have submitted the required information. All other constituents are requested to submit the same at the earliest.

SE(O) stated that SLD of sub-stations, switching & power stations is one of the requisite information relating to preparation of DPR for R&U scheme for funding

from PSDF and he mentioned that the revised formats as desired by NLDC/ CEA have been circulated to all the beneficiaries and requested them to furnish the updated status by 15th September 2014 so that the same may be pursued with NLDC/ CEA. He requested all the constituents to submit the DPR to NLDC and CEA with a copy to NERPC at the earliest.

AEGCL informed that Single Line Diagrams (SLDs) of some sub-stations in which the equipments required to be replaced may take some time. However, they assured that the same will be prepared and sent as early as possible. Further, AEGCL informed that DPR for R&U scheme has already sent by them to NLDC & CEA with a copy to NERPC.

Meghalaya & Nagaland have assured that the DPR for above scheme will be sent within one week.

Deliberation of the Committee

Mizoram and PGCIL already sent to NERLDC. Me.ECL will send to NERLDC very soon. Tripura representative submitted to NERLC during the meeting. AEGCL agreed to submit within a week. MSPCL agreed to submit within a week. Nagaland agreed to submit soon.

The sub-committee noted.

C.10 Monthly MU requirement & availability of each state of NER as per format:

The following figures of state wise MU requirement and availability were taken from LGBR 2014-15 of NERPC. State wise MU requirement and availability for these months are to be checked. Constituents may kindly verify if the above data are correct.

Requirement:

Name of State	Oct14	Nov14	Dec14	Jan15	Feb15
Ar. Pradesh	70	65	65	65	55
Assam	790	660	680	690	615
Manipur	65	65	65	70	55
Meghalaya	170	175	175	195	175
Mizoram	43	43	40	41	35
Nagaland	65	55	55	60	55
Tripura	120	110	120	125	120
NER	**1323**	**1173**	**1201**	**1246**	**1090**

Availability:

Name of State	Oct14	Nov14	Dec14	Jan15	Feb15
Ar. Pradesh	58	47	43	40	31
Assam	534	461	454	439	385
Manipur	72	64	59	56	47
Meghalaya	231	158	148	133	111
Mizoram	46	39	36	36	31
Nagaland	52	38	34	32	27
Tripura	147	134	138	137	112
NER	**1130**	**941**	**914**	**873**	**744**

- *These data required for preparation of various reports.*

Constituents may kindly note.

C.11 Monthly MW requirement & availability of each state of NER:

The following figures which were agreed during 101st are given below:

A. Peak Demand in MW

Name of State	Oct14	Nov14	Dec14	Jan15	Feb15
Ar. Pradesh	136	125	125	130	130
Assam	1380	1435	1450	1380	1235
Manipur	140	135	135	150	135
Meghalaya	335	350	345	390	385
Mizoram	87	90	80	79	78
Nagaland	140	120	125	130	120
Tripura	310	270	250	245	235
NER	**2528**	**2525**	**2460**	**2455**	**2318**

B. Peak Availability in MW

Name of State	Oct14	Nov14	Dec14	Jan15	Feb15
Ar. Pradesh	130	120	118	110	101
Assam	993	874	867	835	816
Manipur	134	115	118	109	105
Meghalaya	415	290	276	246	192
Mizoram	91	80	79	75	71
Nagaland	86	75	75	70	66
Tripura	295	285	281	275	272
NER	**2145**	**1839**	**1814**	**1719**	**1623**

As decided in 96th OCCM, SLDCs are requested to provide the following data:-

A. Off Peak Demand in MW (0800 Hr)

Name of State	Oct14	Nov14	Dec14	Jan15	Feb15
Ar. Pradesh	75	69	69	72	72
Assam	856	890	899	856	766
Manipur	84	81	81	90	81
Meghalaya	201	210	207	234	231
Mizoram	57	59	52	51	51
Nagaland	84	72	75	78	72
Tripura	202	176	163	159	153
NER	**1485**	**1555**	**1470**	**1465**	**1426**

B. Off Peak Availability in MW (0800 Hr)

Name of State	Oct14	Nov14	Dec14	Jan15	Feb15
Ar. Pradesh	121	115	114	107	100
Assam	914	831	835	817	796
Manipur	114	104	105	102	98
Meghalaya	390	276	264	240	216
Mizoram	84	76	76	73	69
Nagaland	78	70	71	68	64
Tripura	284	279	274	271	268
NER	**1910**	**1751**	**1740**	**1465**	**1611**

The Sub-committee noted as above.

D. N E W I T E M S

D.1 Generation Planning (ongoing and planned outages)

The availability of hydro stations of NEEPCO/NHPC are as follows:

Generating Station	Reservoir level as on 15/10/14	MU Content	Present DC MU	No. of days as per current generation
Khandong & Kopili-II	718.00	21.9	0.835	26
Kopili	609.59	185.8	2.304	81
Doyang	321.60	27.2	0.542	50
Loktak	767.69	75.0	1.365	55

Hydro generation planning for lean hydro period - Proper planning is required to utilize the available water for entire lean hydro period, say up to May, 2015. It was agreed that DC of Loktak may be reduced for better utilization during lean hydro period.

OTPC representative stated that due to heavy leakage observed in various points of HRSG, the Palatana U#1 would be taken shut down from 00:00 Hrs of 17.10.2014 to 12:00 Hrs of 21.10.2014. The Sub-committee approved the shut down.

The sub-committee noted as above.

D.2 Water level and spillage data of hydro stations

Historical data of reservoir level and spillage data of Hydro stations are not available with NERLDC. This information is sometimes asked by various authorities to facilitate in making database for the same. All concerned are requested to furnish the available information to NERLDC as early as possible.

During 101st OCC meeting, DGM, NERLDC informed that the format was sent to all the constituents for necessary submission of data. However, till date no constituents have submitted the data to NERLDC.

Deliberation in the meeting

DGM, NERLDC informed that the format was sent to all the constituents for necessary submission of data. However, till date no constituents have submitted the data to NERLDC.

The Sub-committee requested all the constituents to furnish the data as per format given below to NERLDC at the earliest.

Water level format:

Year		FRL		MDDL	
Station	Month	Date	Water level	Generation in MU	Water utilized in cumecs

Water spillage format:

Year	Station					
Date	Inflow in cumecs	Status of spillage (Spilling/ Not spilling)	Duration		Total	
			From (Hrs.)	To (Hrs.)	Hrs.	Month

D.3 Outage Planning Transmission elements

It was agreed in the 99th OCC meeting, shutdown will be availed only after approval is given by the OCC forum. It was also agreed that deferment/revision of outages elements other than already approved in OCC will be henceforth put/displayed in the website of NERPC (**under Operational Activities/OCC Approved shutdown**) as per CERC regulations/ CEA guidelines etc for ensuring smooth & secure grid operation.

Furnishing request of shut down of the element, which was approved by NERPC, by Indenting Agency (ISTS licensees/STUs/Generating Companies) to NERLDC: Planned shutdown approved by NERPC shall be considered for implementation by NERLDC on D-3 basis. If an outage is to be availed on say 10th of the month, the shutdown availing agency would reconfirm to NERLDC on 7th of the month by 10:00 Hr. This practice is necessary to ensure optimal capacity utilization and the time required for associated system study/coordination by/amongst RLDC/NLDC.

Deliberation in the meeting

The sub-Committee approved the transmission line outages proposed by Constituents for October-December, 2014 which is already uploaded in the website

D.4 TTC of NER-ER Corridor under N-1 Criteria & enhancement of TRM of NER-ER Corridor:

Subsequent to the commissioning of Azara S/s and associated transmission lines etc, it has been observed from system study that sensitivity towards BTPS has increased and accordingly the credible contingency for calculation of TTC of NER-ER Corridor under present condition is taken as collapse of tower of 220kV BTPS Salakati line [i.e. N-1-1 Criteria] and the TTC is 780/600 MW during Off-peak/Peak considering N-1 of Misa ICT also. Further as per detailed procedure for relieving congestion in real time operation of CERC, size of largest generating unit in the control area/ group of control area/Region will be import transmission reliability margin (TRM) of the corridor. Import TRM of NER-ER corridor is presently taken as 50 MW. However now 363 MW of Palatana is largest size of machine in NER Grid and being located in southern part of the region the TRM is directly related to the

outage of this unit. Accordingly import TRM of NER-ER corridor needs to be revised; around 300 MW considering SPS based load relief is considered.

During 100th OCC meeting, the forum did not agree to import TRM of NER-ER corridor and revision of 300 MW load relief SPS. The forum requested NERPC Secretariat to take up the matter with NLDC on the matter.

During 101st OCC meeting, DGM, NERLDC further informed that as per detailed procedure for relieving congestion in real time operation of CERC, size of largest generating unit in the control area/ group of control area/Region is import transmission reliability margin (TRM) of the corridor. Installed capacity of Palatana Module 1 which is largest size machine of NER and located in southern part of the region is 363 MW. Import TRM is directly related to the outage of this machine.

Import TRM of NER-ER corridor was revised to 300 MW considering SPS based load relief. However, Import TRM of NER-ER corridor will be 35/50 MW during the period of outage of Module of Palatana.

NERLDC gave presentation on system studies, carried out by them, elaborating the methods to arrive at the TRM of 300 MW. The issues of sensitivities of different corridors in case of tripping of Palatana units which result in enhanced TRM were appreciated by the constituents.

The forum requested NERPC Secretariat to take up the matter with higher authorities on the matter so that some special relaxation for TRM may be given to NER states considering insufficient transmission corridors. In the meantime, system study group will finalize the amount of SPS related load relief for each state so that TRM may be reduced to desirable amount.

Deliberation in the meeting

SE(O) informed that the issue has been taken up with NLDC to revise the quantum of TRM and also the ATC/TTC till commission of Pallatana second unit or Bongaigoan TPS.

NERLDC informed the house that import TRM had been revised from 300 MW to 40 MW and import TTC had been revised to 700 MW and 600 MW during off-peak and peak hours respectively.

Committee noted as above.

D.5 Review of Generation Run-back frequency setting of Pallatana machines:

It has been observed that Palatana generation starts decreasing when system frequency is more than 50.60 Hz (Generation run back continues till frequency reaches 50.3 Hz). It is requested to review the settings to avoid sharp decrease of generation in case of system isolation resulting collapse of the system.

During 100th OCC meeting, OTPC representative informed that the matter will be taken up by them with the manufacture and the status would be intimated in the next OCC meeting.

The unit was under shut down w.e.f 20.08.14 to 01.09.14 and it is understood that OTPC carried out several activities in presence of manufacturer's representative.

During 101st OCC meeting, OTPC representative informed that the run-back frequency is set at 50.7 Hertz and re-setting frequency is set at 50.5 Hertz. The machine settings are yet to be confirmed by GE which may be intimated in the next OCC meeting.

Deliberation in the meeting

After deliberation, it was agreed that the difference between run-back frequency and re-setting frequency may be minimized and the re-setting frequency may be set at 50.6 Hertz accordingly. OTPC representative agreed to pursue the same with GE and the same will be intimated within few days.

Committee noted as above.

D.6 Status/Load ability of 132 kV Lumshnong – Panchgram Line:

Meghalaya informed that since the line is old, loading of above line needs to be fixed at a safe thermal limit. Hence both Assam & Meghalaya may look into the matter for strengthening of the system.

During 98th OCC meeting, Assam informed the members that healthiness of the line has been checked by AEGCL till Panchgram and it was found that the line is very old and cannot be loaded up to 50 MW. Healthiness of the line from Lumshnong end may be confirmed from Me. PTCL.

During 99th OCC meeting, Member Secretary (I/C) informed that the 132kV Lumshnong – Panchgram line is an interstate line benefiting the NER region.

Strengthening of this line is essential to increase the loadability of the line beyond 50MW and this will require huge expenditure. He further stated that possibility of funding from PSDF may be explored as per PSDF guidelines.

Member Secretary I/C advised Me.ECL to apply for funding from PSDF by filling in prescribed formats as provided by CEA/NLDC.

During 100th OCC meeting, SE, Me. ECL informed that the DPR for the same is almost ready and the same will be sent to NERPC Secretariat for further action in this regard. But till date no information has been received.

During 101st OCC meeting, the forum requested NERLDC to carryout system study to assess the required loadability of the above line and intimate the Operation & Protection sub-committee responsible for system security & reliability so that the concerned constituents may take appropriate action as per recommendation of the committee.

Deliberation in the meeting

NERLDC representative informed that system studies have been conducted to assess the required loadability of the line. The line loading is required to be enhanced to 80 MW. This will help in case of any exigency occurs. Hence requested Me. ECL to look into the matter.

Me.ECL informed that they are planning for re-conductoring of the line. However it was discussed to review the idea of re-conductoring as it involves huge financial implication which, in any case, should be unnecessary investment. The subcommittee suggested physically checking the condition of the conductor and replacing only the physically damaged portions. Further, double jumpering and checking of tightness of existing jumpering is must before testing the loadability of the line. AEGCL and Me.ECL were requested to take up the necessary action accordingly.

System study results of NERLDC is attached at **Annexure - D.6**

The sub-committee noted as above.

D.7 Power Demand of Manipur:

Manipur vide letter dated 4th October, 2014 has requested NERLDC to conduct a load flow studies along with feasibility report for drawing 130 MW and 110 MW to meet the peak and off-peak demand of Manipur as MSPDCL have completed agreements and formalities with PTC and other registered traders to supply and make up the shortfall of power between demand and scheduled entitlement for November, 2014 to June, 2015.

Deliberation in the meeting

NERLDC gave a presentation enclosed at **Annexure - D.7** depicting various conditions of the grid. From the system studies, it was shown that Manipur can draw 100 MW during off-peak and 130 MW during peak hours provided atleast 2 Units of Loktak are generating.

The Sub-Committee noted as above.

D.8 Frequent disruption of power supply to Kameng HEP:

It was informed in 99th OCC meeting that, the Department of Power, Govt. of Arunachal Pradesh was allowed to draw power from a Tee-connection at Tipi (near Bhalukpong) from the 132 kV Balipara - Khuppi Transmission Line. The Tee-connection was energized on 31-05-11 and drawal of power was temporarily allowed for two months only within which time the LILO System was supposed to be commissioned. It may be noted that the drawal of power in the 132 kV Balipara - Khuppi Line is monitored from Balipara end and therefore the drawal of power in the said Tee-connection is being accounted.

However, due frequent over-drawal by Department of Power, Govt. of Arunachal Pradesh from the said Tee-connection, 132kV Balipara-Khuppi line is frequently opened from Balipara substation which hampers the construction work of Kameng HEP of NEEPCO.

It was agreed in the 99th OCC meeting that NEEPCO will remove the Tee-Connection in consultation with Ar. Pradesh.

After detailed deliberation, the sub-committee in the 101st OCC meeting have decided that Ar. Pradesh should ensured that first priority of power supply should be extended to their local domestic consumers, then uninterrupted construction

power supply to Kameng HEP of NEEPCO and whatever surplus after meeting these two loads, they can extend power supply to the other bulk consumer at Bhalukpong.

Deliberation in the meeting

Ar. Pradesh representative stated that LILO would be completed by November, 2014 (from T-connection) and also stated that frequent interruption would be looked into on priority basis.

The Sub-Committee noted as above.

D.9 Commissioning of 315 MVA ICT at NTPC Bongaigoan & also 220 kV BTPS(Assam):

NTPC D/C line for off loading 220kV Salakati-BTPS D/C line – It has been observed that the 220 kV Salakati – BTPS D/C line is getting overloaded during peak hours posing threat to system security. For off-loading the link it is requested to NTPC for taking actions for early commissioning of 315 MVA ICT at NTPC Bongaigaon & also 220 kV BTPS(Assam) – NTPC D/C line for off loading 220kV Salakati-BTPS D/C line. As no representatives from NTPC were present in the 99th OCC meeting, the subcommittee advised NERLDC/NERPC to take up the matter with NTPC for early commissioning of 315 MVA ICT at NTPC Bongaigoan.

NERPC vide letter dated 30.07.2014 has written to NTPC in this regard, but no reply was received from them.

During 100th OCC meeting, NTPC stated that test charging of Bongaigoan TTs (Tie-Transformers) have been completed along with 4 no. 400KV bays and charging of start-up power upto 6.6 KV will be completed by September 2014.

Deliberation in the meeting

Since no representative from NTPC was present, the status could not be updated.

The Committee noted as above.

D.10 Ramp up & Ramp down of Gas Thermal Stations:

The gas thermal stations have expressed their difficulty in maintaining generation as per the revisions issued by RLDC, on the requests of constituents, due to the fact that the ramp up or ramp down rates for initial as well as final blocks are not in line with the prescribed rates furnished by them. To solve this problem it is proposed to prepare the schedules considering this aspect which may result in some variations w.r.t. the desired revisions by the states in the initial & final 2/3 blocks.

Deliberation in the meeting

Members agreed that NERLDC should continue the present method as provided in IEGC regulation

The sub-committee noted as above.

D.11 Revision of requisition & DC for the next day:

As per stipulations of IEGC final requests for revision for requisition as well as for generation (DC), for the next day, by states & generators respectively should be furnished to RLDC by 22:00 hrs so that RLDC can issue R1 by 23:00 hrs for implementation w.e.f. 00:00 hrs of next day. It is observed that this procedure is not being followed on many occasions resulting in difficulty.

Committee may like to discuss & constituents are requested to follow the procedure of IEGC to avoid any confusion.

Deliberation of the Committee

The sub-committee requested NERLDC to strictly follow the above procedure as per IEGC guideline and no request for revision beyond that stipulated time (22:00 Hrs) shall be entertained.

D.12 Finalization of Annual Load Generation Balanced Report (LGBR) for peak and off-peak scenarios and the Annual outage plan for 2015-16 by 31.12.2014 as per IEGC:

As per IEGC, each SLDC shall submit LGBR for its control area, for peak as well as off-peak scenario, **by 31st October** for **the next financial year**, to respective RPC

Secretariat. The annual plans for managing deficits/surpluses in respective control areas shall clearly be indicated in the LGBR submitted by SLDCs.

As per IEGC, all SEBs/STUs, Transmission Licensees, CTU, ISGS, IPPs, MPPs and other generating stations shall provide to the respective RPC Secretariat their proposed outage plan in writing for **the next financial year** by **31st October of each year**. These shall contain identification of each generating unit/transmission line/ICT etc., the preferred date for each outage and its duration and where there is flexibility, the earliest start date and latest finishing date.

All Constituents agreed to submit the data by 31st October, 2014.

D.13 Automatic Demand Management Scheme (ADMS):

Assam stated that the Honorable Commission in its order dated 25.04.2014 in Petition No. SM/005/ 2014 has directed all Officer In Charge of the respondents State Transmission Utilities/ SLDCs to Show cause latest by 15.05.2014, as to why action under Section 142 of the Electricity act 2003 should not be taken against them for non compliance with CERC's direction and the provisions of the Act and the Grid Code with regard to implementation of the Automatic Load Management Scheme.

In this regard a reply was given by Assam to Hon'ble commission that due to non availability of in house expert, the ADMS could not be implemented in Assam. However the other schemes like installation of UFR, Islanding scheme, SPS etc. were intimated to the commission. But the petitioner NLDC in the hearing intimated that the ADMS scheme is basically to restrict the over drawl of power from the system and every State/Distribution Licensees should install ADMS without any delay in order to maintain the security of the grid.

During 98th OCC meeting, SE(O) informed that ADMS was discussed in other RPCs also and stated that none of the States have implemented ADMS fully. However, some states in SR are in the progress of using ToD metering for bulk consumers and tariff is different for different time so as to encourage them to shift part of their overall electricity use from peak demand where the tariff is high. By using this mechanism overdrawl especially during peak hours is reduced. He also mentioned that best way to implement this ADMS is by integrating through SCADA which constituents can explore the possibility. Further, he stated that many new schemes

proposed by POWERGRID viz., GSES, WAMS etc., are in the offing but the logic, technology and so on are yet to be fully understood. He requested constituents to send their views to CERC about the difficulties faced by them.

AGM, SLDC, Assam stated that issue has been taken up by them with CERC and they have explained to them about the action taken by Assam like UFR based load shedding and the GSES scheme of POWERGRID etc.,, but the same was not agreed by CERC.

The sub-committee unanimously decided that they will request NLDC or POWERGRID to arrange the seminar in this regard so that the logic, technology, communication facilities etc., need to be understood first before they can proceed further.

Deliberation in the meeting

SE(O) informed that he has discussed the matter with other RPCs and only WRPC is in advance stage for implementation of ADMS. However, a presentation on ADMS related issue was given by TATA Power in OCC meeting of NRPC and stated that he will take up the matter with them and request to give a presentation in next OCC meeting.

The Committee noted as above.

D.14 Estimated Transmission Availability Certificate (TAC) for the month of September, 2014.

The Estimated Transmission System Availability for the month of September, 2014, furnished by PGCIL, is **99.9820%.** The detail outage data for calculation of Transmission System Availability furnished by PGCIL, is given during meeting**.** NER constituents are requested to kindly communicate their views and observations, if any, by 29th October, 2014 so that Final TAC for the month of September, 2014 may be finalized by NERPC Secretariat.

Deliberation of the Committee

Availability certification of ISTS elements – NERPC issued provisional certificates for April 2014 - June 2014. However the same will be revised as per the procedures agreed in PCC/ OCC/ CC forums.

Procedure *for calculation of Transmission system availability factor for a month as per CERC Regulation 2014-19*.

The decisions taken in earlier PCC/ OCC/ CC forums were highlighted and members agreed to the proposals.

DGM (MO), NERLDC also gave a presentation (attached at **Annexure - D.14**), proposing the procedure for transmission availability certification. Members agreed to the proposal of NERLDC except the following points: -

1. Constituents may be allowed to study the outage data submitted by NERTS on weekly basis after uploading the same in NERTS website. Then more time will be available for comments to be submitted by next OCC.

2) Outage certification of period from April '14 to June '14 need to be revised as the same will have effect on number of trippings in a year. Further, constituents are not given the evidence provided by transmission licensees for claiming force majeure due to lightning.

The Committee noted as above.

Additional Agenda:

1. Issue regarding DC revision as per IEGC clause 6.5.21 – OTPC agenda:

The provisions of Clause 6.5.21 of IEGC is reproduced below: -

"To discourage frivolous revisions, an RLDC may, at its sole discretion, refuse to accept schedule/capability changes of less than two (2) percent of previous schedule/capability. The schedule of thermal generating stations indicating fuel shortage while intimating the Declared Capacity to the RLDC shall not be revised

except in case of forced outage of generating unit. Provided that in case of gas based ISGS, for optimum utilization of gas, this shall be permitted, i.e. in case of tripping of a unit, this gas may be diverted to another unit using the same gas."

Representative from OTPC informed the members that NERLDC is refusing to change the DC based on the above clause in many occasions. He stated that the declared capacity of Palatana heavily depends on the ambient temperature. When the ambient temperature is favouring more generation, generation may be enhanced for benefit of both generators and beneficiaries.

The Sub-committee requested NERLDC to look into the issue and accommodate, if justified, the requests made by OTPC or any other generating company for the benefit of beneficiaries.

The Committee noted as above.

2. <u>Requisition based scheduling – APDCL agenda</u>:

Representative from APDCL informed that the real time scheduling of power is revised absurdly high due to sudden inflow in RHEP. This sudden revision of schedule is sometimes more than 20% of the earlier schedule, causing inconvenience in demand management besides commercial loss through DSM. He requested the forum to devise some scheduling mechanism by reducing schedules from storage based hydro station while preventing commercial loss of beneficiaries.

Members agreed to the proposal of APDCL. After deliberation, it was decided that NERLDC may come out with a proposal for implementing requisition based scheduling for storage based hydro stations also. However, the following points should be noted: -

1) All scheduling will be done as per IEGC.
2) There should not be any spillage of water as stipulated in IEGC.
3) Technical minimum criteria may be different from thermal stations.
4) Such reduction in requisition may be done only when there are sudden changes of schedule due to inflow of RoR stations.

The Sub-committee requested NERLDC to highlight the proposal in next OCC meeting for deliberation.

3. PoC data for 4th Quarter – NERLDC agenda:

DGM, NERLDC informed the house that the meeting of Validation committee for 4th Quarter would be held shortly. Constituents are requested to furnish the data for computation of PoC charges and losses for the period January – March, 2015 by 31st October, 2014.

Members agreed to furnish the same in time.

The Committee noted as above.

Date & Venue of next OCC meeting

It is proposed to hold the 103rd OCC meeting of NERPC in second week of November, 2014. However, the exact date and venue will be intimated in due course.

The meeting ended with thanks to the Chair.

****

Annexure-I

List of Participants in the 102nd OCC Meetings held on 16/10/2014

SN	Name & Designation	Organization	Contact No.
1.	Sh. Nangkong Perme, EE	Ar. Pradesh	09436288643
2.	Sh. M.K. Bordoloi, CGM,SLDC	Assam	09435203996
3.	Sh. A.K. Saikia, DGM,LDC, AEGCL	Assam	09401026118
4.	Sh. J.P. Choudhury, AGM (Com), APDCL	Assam	09954055295
5.	Sh. J.K. Baishya, AGM, LD-Com, AEGCL	Assam	09435041494
6.	Sh. Karuna Sarma, AGM, AEGCL	Assam	09435013532
7.	Sh. K. Jila Singh, GM(Com-I), MSPCL	Manipur	09612950028
8.	Sh. Shanti Kumar Singh, DGM, MSPCL	Manipur	09436022381
9.	Sh. S. Sanjeet Singh, Manager, MSPCL	Manipur	09856140818
10.	Sh. B.J. Singh, ACCM, MSPCL	Manipur	08415945818
11.	Sh.F.E. Kharshiing, SE, SLDC	Meghalaya	09863066960
12.	Sh. R. War, EE, (T&T)	Meghalaya	09436103088
13.	Sh.T. Gidon, EE, SLDC	Meghalaya	09774479956
14.	Sh. Lalduhawma, EE, SLDC	Mizoram	09436144113
15.	Sh. Peter V.L. Malsawma, AE, SLDC	Mizoram	08974287650
16.	Sh. A. Jakhalu, EE (Trans.)	Nagaland	09436002696
17.	Sh. U. Debbarma, DGM	Tripura	09436462848
18.	Sh. D. Pal, Sr. Manager	Tripura	09436500244
19.	Sh. N. R. Paul, DGM (SO-I)	NERLDC	09436302723
20.	Sh. R. Sutradhar, DGM(MO)	NERLDC	09436302714
21.	Sh. A. Mallick, DGM (SO-II)	NERLDC	09436302720
22.	Sh. B. Medhi, Dy. Mgr.(SO-I)	NERLDC	09436335376
23.	Sh. Tanya Taji, Sr. Mgr.	NEEPCO	09436042053
	No Representatives	**NTPC**	
	No Representatives	**NHPC**	
	No Representatives	**NETC**	
24.	Sh. A. Patir, GM (O&M)	NERTS	09436302529
25.	Sh. P.Kanungo, DGM(OS)	NERTS	09436302823
26.	Sh. N.Gupta, Manager (O)	OTPC	09774233426
27.	Sh. A.K. Bandyopadhya, MS I/C	NERPC	9433068333
28.	Sh. B.Lyngkhoi, Director/S.E (O)	NERPC	09436163419
29.	Sh. Lalrinsanga, A.S	NERPC	09436161886
30.	Sh. S.M. Jha, Dy. Director/EE	NERPC	08731845175
31.	Sh. D.K. Bauri, EE	ERPC	9883617236

Annexure-C.6

List of Transmission Lines of NER requiring CT Ratio enhancement

Sl. No.	Name of Line	Voltage Level (kV)	Owner at End-1	Owner at End-2	CT Ratio at End 1	Adopted CT ratio at End 1	CT Ratio at End 2	Adopted CT ratio at End 2	Adopted ampacity at End 1	Adopted ampacity at End 2	Minimum CT Ratio required at End 1	Minimum CT Ratio required at End 2
1	132 kV AGTPP – Agartala I	132	NEEPCO	TSECL	600/1	300/1	400/1	400/1	300	400	400/1	400/1
*2**	132 kV AGTPP – Agartala II	132	NEEPCO	TSECL	600/1	300/1	400/1	400/1	300	400	400/1	400/1
*3**	132 kV AGTPP – Kumarghat S/C	132	NEEPCO	PG	600/1	600/1	600/1	600/1	600	600	400/1	400/1
*4**	132 kV Badarpur – Jiribam S/C	132	PG	PG	600/1	600/1	600/1	600/1	600	600	400/1	400/1
*5**	132 kV Badarpur – Khliehriat S/C	132	PG	PG	600/1	600/1	600/1	600/1	600	600	400/1	400/1
*6**	132 kV Badarpur – Panchgram S/C	132	PG	AEGCL	600/1	600/1	600/1	600/1	600	600	400/1	400/1
*7**	132 kV Badarpur – Kolasib S/C	132	PG	Mizoram	600/1	600/1	600/1	600/1	600	600	400/1	400/1
8	132 kV Dimapur – Imphal S/C	132	PG	PG	300/1	300/1	300/1	300/1	300	300	400/1	400/1
*9**	132 kV Jiribam – Aizawl S/C	132	PG	PG	400/1	400/1	400/1	400/1	400	400	400/1	400/1
10	132 kV Khandong – Khliehriat I	132	PG	PG	300/1	300/1	600/1	300/1	300	300	400/1	400/1
*11**	132 kV Khandong – Khliehriat II	132	NEEPCO	PG	600/1	600/1	600/1	600/1	600	600	400/1	400/1
12	132 kV Khliehriat(PG) – Khliehriat I	132	PG	MePTCL	300/1	600/1	300/1	300/1	300	300	400/1	400/1
13	132 kV Khliehriat(PG) – Khliehriat II	132	PG	MePTCL	400/1						400/1	400/1
14	132 kV Killing – EPIP-II ckt. I	132	MePTCL	MePTCL	400/1		400/1				400/1	400/1
15	132 kV Killing – EPIP-II ckt. II	132	MePTCL	MePTCL	400/1		400/1				400/1	400/1
16	132 kV Kopili – Khandong I	132	NEEPCO	NEEPCO	600/1	600/1	300/1	300/1	600	300	400/1	400/1
*17**	132 kV Kopili – Khandong II	132	NEEPCO	NEEPCO	600/1	600/1	600/1	600/1	600	600	400/1	400/1
18	132 kV Kumarghat – Aizawl S/C	132	PG	PG	300/1	300/1	300/1	300/1	300	300	400/1	400/1
19	132 kV Loktak – Jiribam S/C	132	NHPC	PG	400/1	400/1	300/1	300/1	400	300	400/1	400/1
20	132 kV Loktak – Imphal S/C	132	NHPC	PG	300/1	300/1	400/1	400/1	300	400	400/1	400/1
21	132 kV Loktak – Ninghoukong S/C	132	NHPC	MSPCL							400/1	400/1
22	132 kV Palatana – Udaipur S/C	132	OTPC	TSECL			400/1				400/1	400/1
23	132 kV Palatana – Surjamaninagar I	132	OTPC	TSECL			600/1				400/1	400/1
*24**	132 kV Ranganadi – Nirjuli S/C	132	NEEPCO	PG	600/1	600/1	500/1	500/1	600	500	400/1	400/1
*25**	132 kV Silchar – Srikona I	132	PG	AEGCL	600/1	600/1	600/1	600/1	600	600	400/1	400/1
*26**	132 kV Silchar – Srikona II	132	PG	AEGCL	600/1	600/1	600/1	600/1	600	600	400/1	400/1
27	132 kV BTPS – Dhaligaon I	132	AEGCL	AEGCL							400/1	400/1
28	132 kV BTPS – Dhaligaon II	132	AEGCL	AEGCL							400/1	400/1
29	132 kV Balipara – Depota S/C	132	PG	AEGCL	400/1	400/1	400/1	400/1	400	400	400/1	400/1
30	220 kV Misa – Samaguri I	220	PG	AEGCL	500/1	500/1	500/1	500/1	500	500	600/1	600/1
31	220 kV Misa – Samaguri II	220	PG	AEGCL	500/1	500/1	500/1	500/1	500	500	600/1	600/1
*32**	220 kV Mariani(AS) – Misa SC	220	AEGCL	PG	800/1	800/1	800/1	800/1	800	800	600/1	600/1
*33**	220 kV AGBPP – Mariani (AS)	220	NEEPCO	AEGCL	800/1	800/1	800/1	800/1	800	800	600/1	600/1
34	220 kV Balipara - Samaguri S/C	220	PG	AEGCL	400/1						600/1	600/1

Note :

1) As per information received from power utiliites of NER, the CT ratios of lines marked with (*) already satisfy the requirement and hence enhancement is not required.

2) The CT ratio required for 132 kV lines is 400/1 at both ends, while for 220 kV Lines it is 600/1 at both ends. This is considering that Plug Setting Multiplier (PSM) = 1 in all cases.

Annexure - D.6

Requirement for Strengthening of 132 kV Panchgram – Lumshnong S/C line

Study results under different scenarios illustrate the need for strengthening of 132 kV Panchgram – Lumshnong S/C, in order to maintain safe line loadings under with all connected lines from Khliehriat area of Meghalaya or with N-1 contingency of 132 kV Khliehriat – Badarpur S/C.

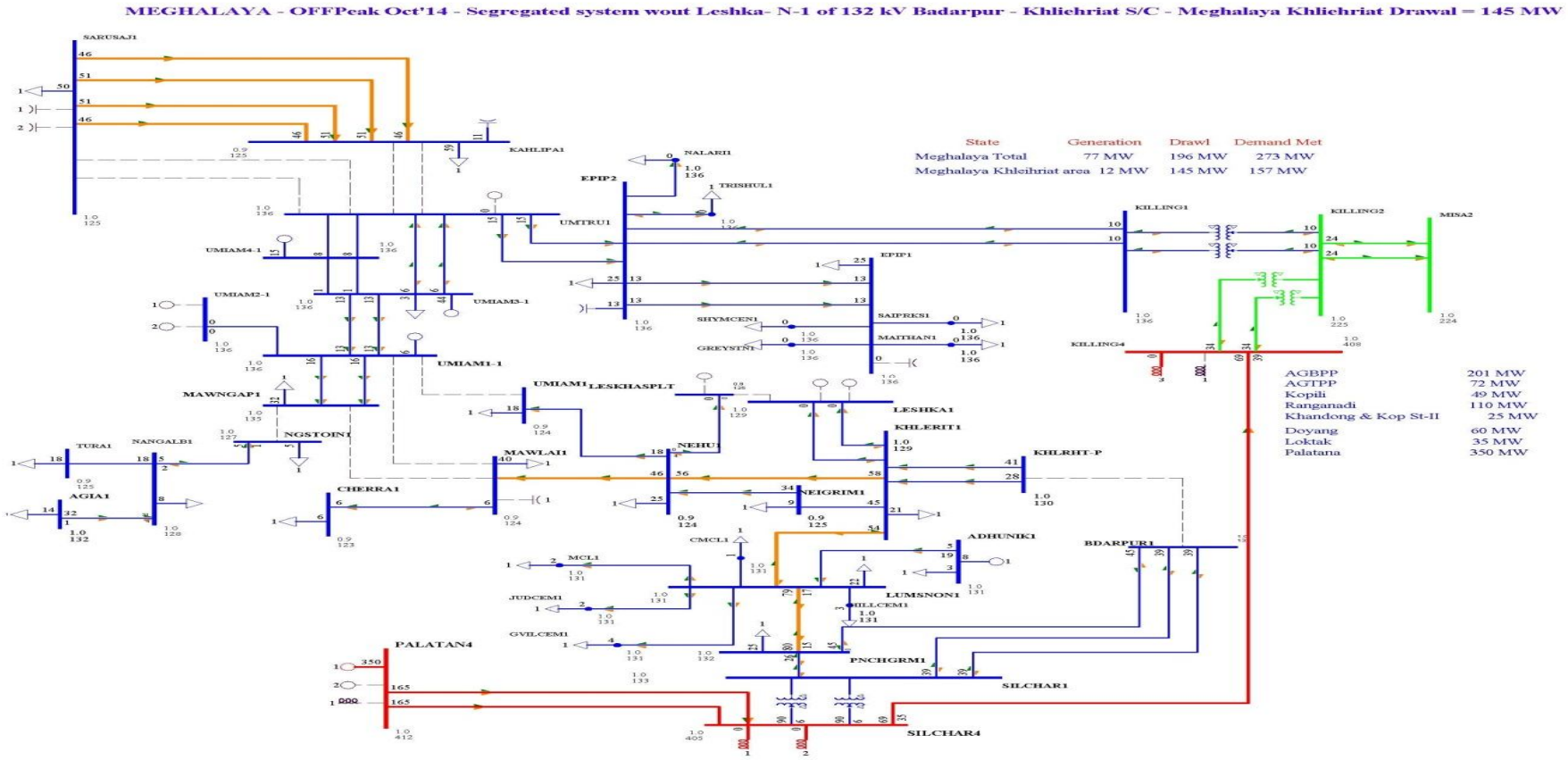
The Khliehriat area of Meghalaya has been considered to be segregated from rest of Meghalaya system in all cases.

The study results are given below, which illustrate the need for strengthening of 132 kV Panchgram – Lumshnong S/C becomes more necessary with commissioning of 2 Modules of Palatana and when generation at Kopili, Khandong stations of NEEPCO and Leshka HPP of Meghalaya (MePGCL) are not present or inadequate:

High Hydro Case (October'14)

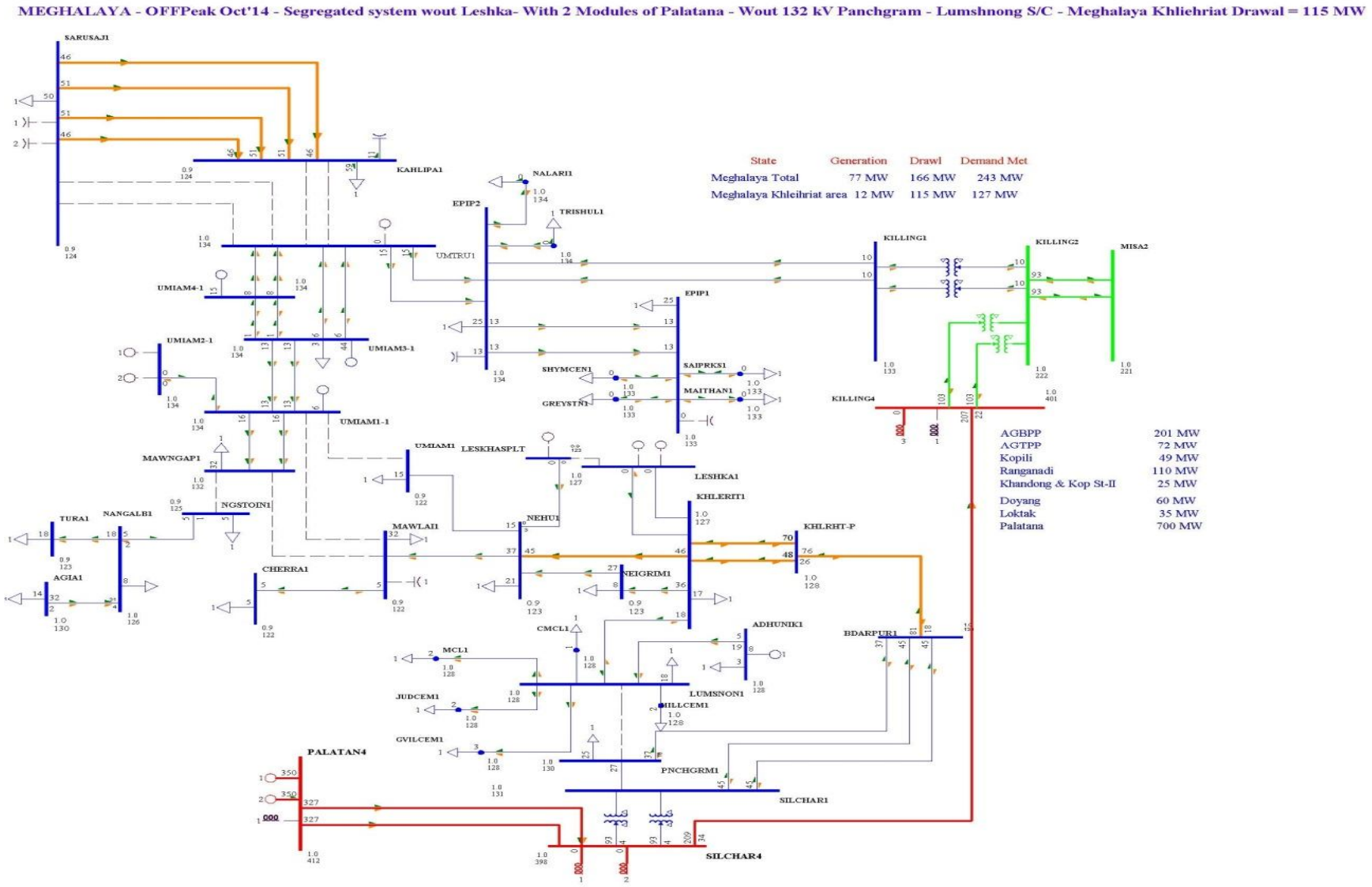
a) With 1 Module of Palatana :

1) OffPeak Case without Leshka Generation – N-1 of 132 kV Badarpur – Khliehriat S/C
(Khliehriat area drawal = 145 MW)



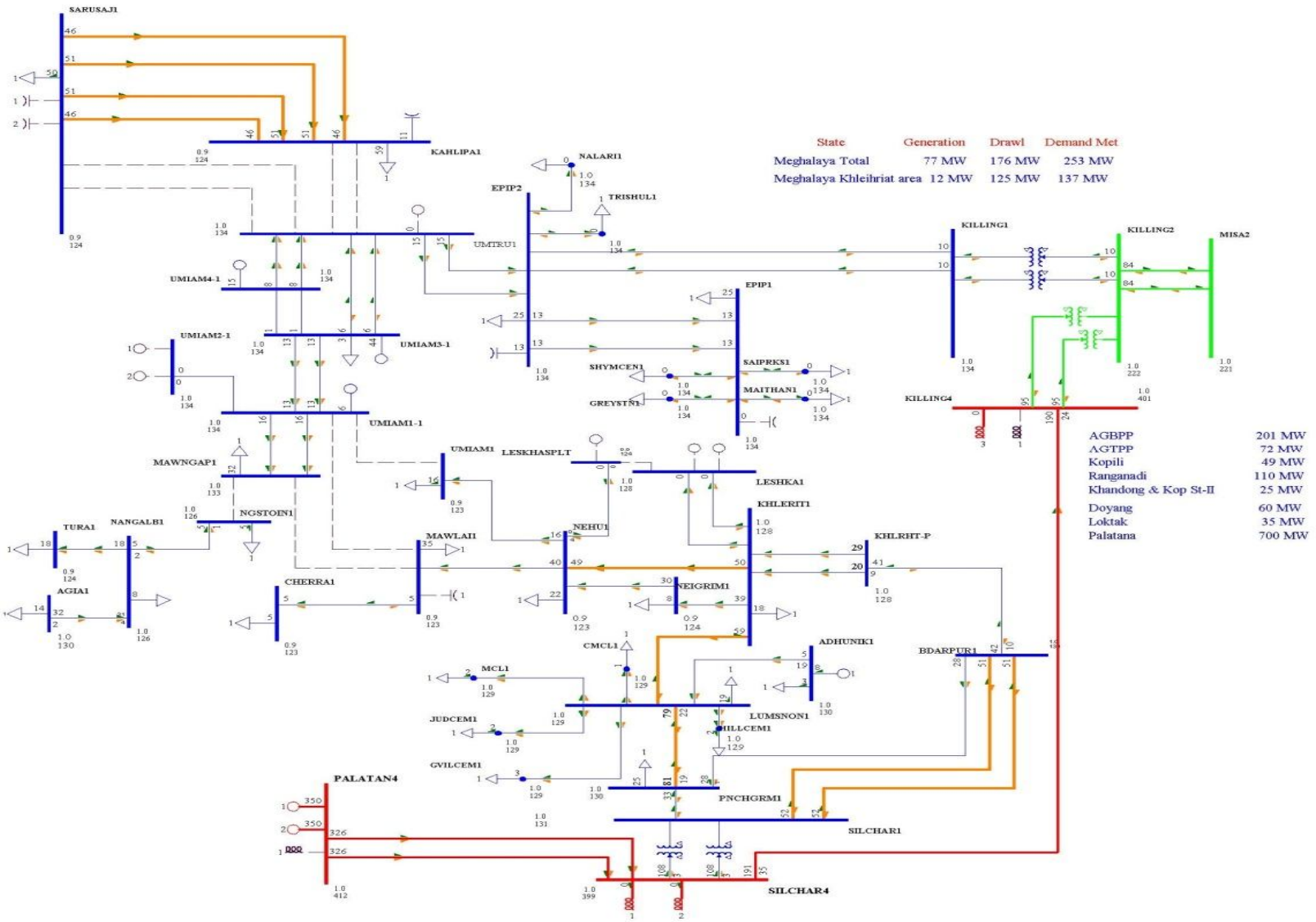
b) With 2 Modules of Palatana :

1) OffPeak Case without Leshka Generation – Without 132 kV Panchgram – Lumshnong S/C in service
(Khliehriat area drawal = 115 MW)



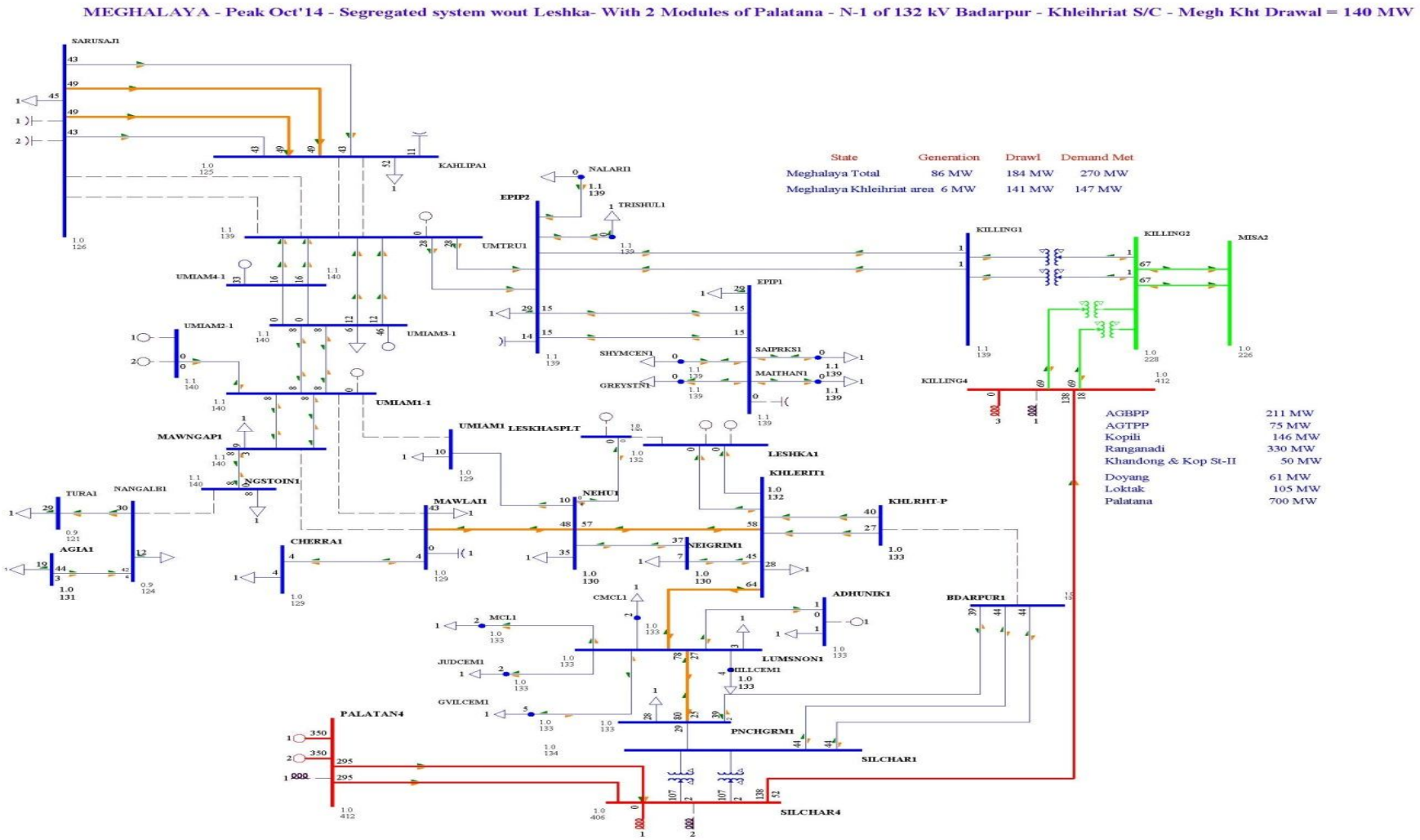
2) OffPeak Case without Leshka Generation– With 132 kV Panchgram – Lumshnong S/C in service and 132 kV Badarpur – Khliehriat S/C in service (Khliehriat area drawal = 125 MW)

MEGHALAYA - OFFPeak Oct'14 - Segregated system wout Leshka- With 2 Modules of Palatana - With 132 kV Panchgram - Lumshnong S/C - Meghalaya Khliehriat Drawal = 125 MW



Note: From case no. 1 and 2 above, it is seen that while with 2 Modules of Palatanaare generating, the drawl capability of Khliehriat area of Meghalaya gets limited due to constraint on 132 kV Badarpur – Khliehriat S/C line. However, if 132 kV Panchgram – Lumshnong S/C is in service, drawal capability of Khliehriat area of Meghalaya is enhanced to certain extent.

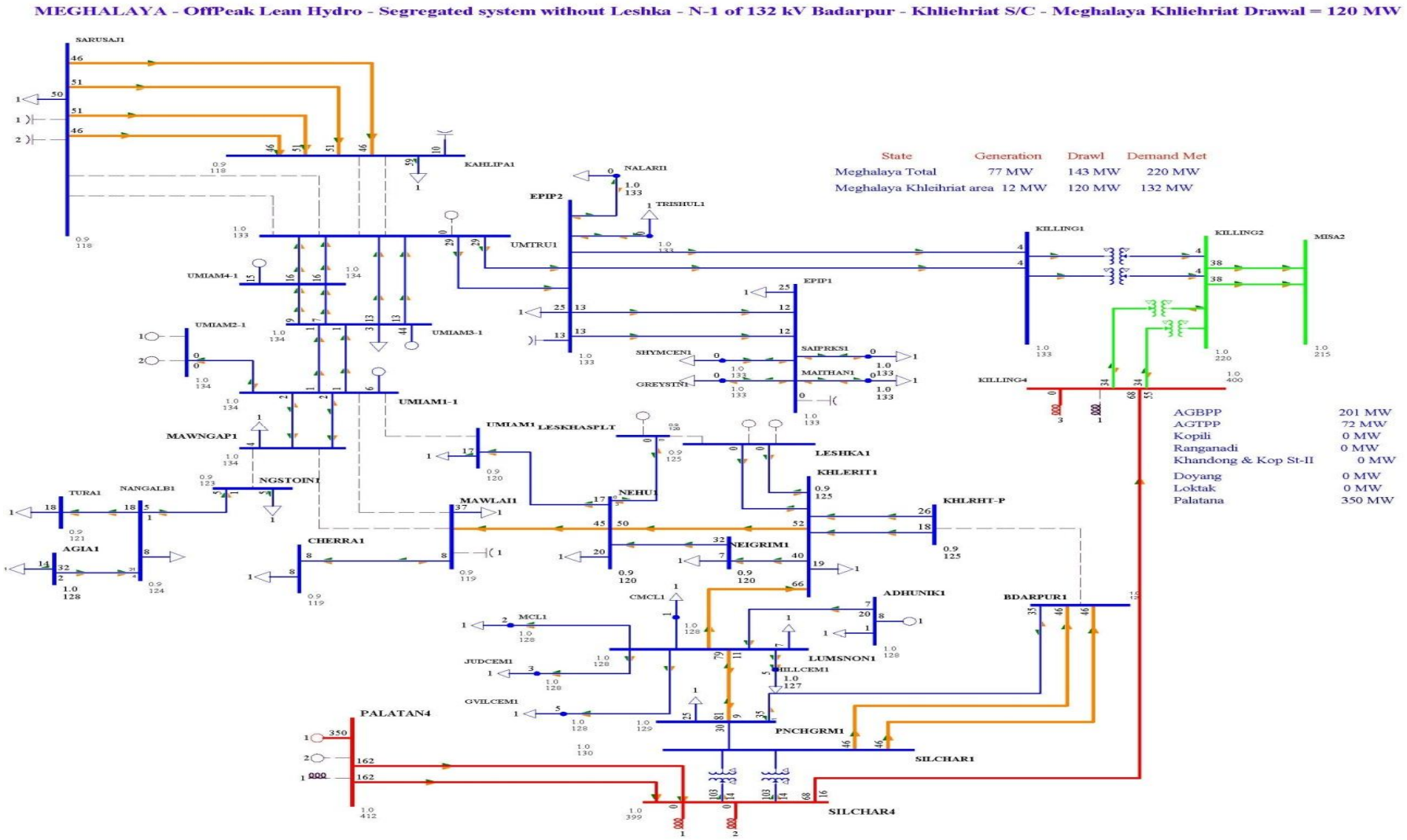
3) Peak Case without Leshka Generation – N-1 of 132 kV Badarpur – Khliehriat S/C
(Khliehriat area drawal = 140 MW)



Lean Hydro Case

a) With 1 Module of Palatana :

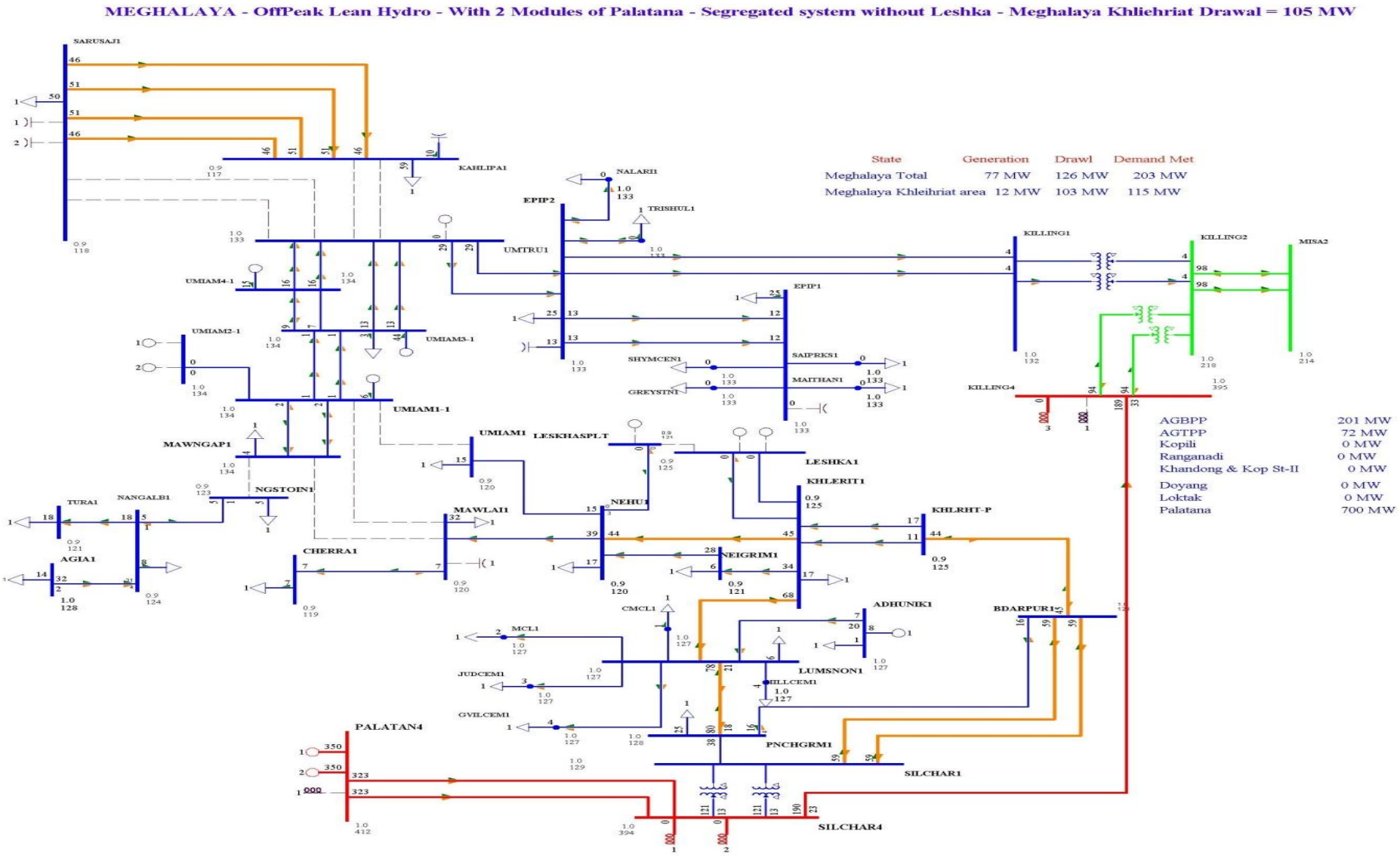
1) OffPeak Case without Leshka Generation
(Khliehriat area drawal = 100 MW)



b) With 2 Modules of Palatana :

2) OffPeak Case without Leshka Generation
(Khliehriat area drawal = 100 MW)

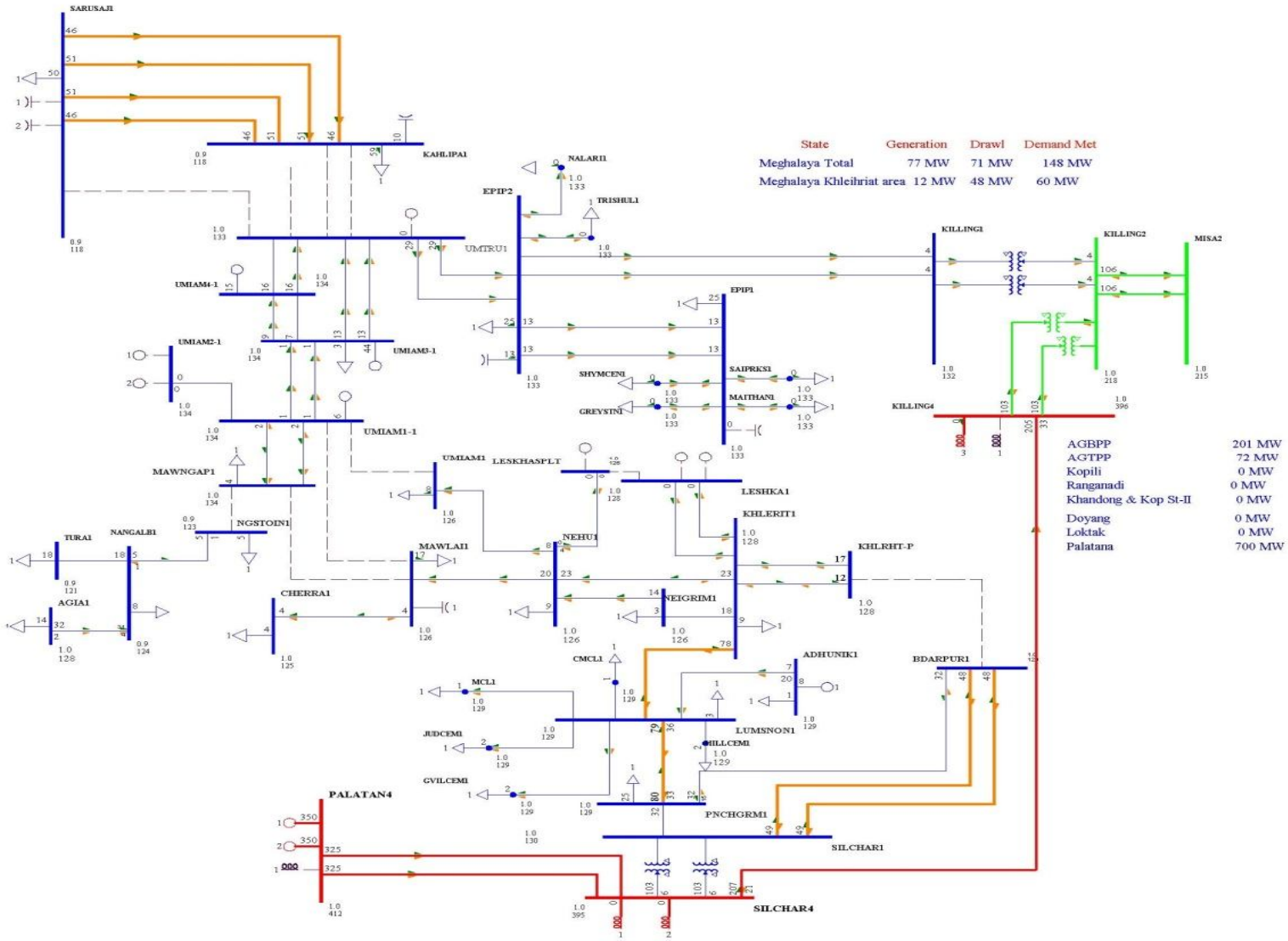
Annexure - D.6



3) OffPeak Case without Leshka Generation – N-1 of 132 kV Badarpur – Khliehriat S/C
(Khliehriat area drawal = 50 MW)

Annexure - D.6

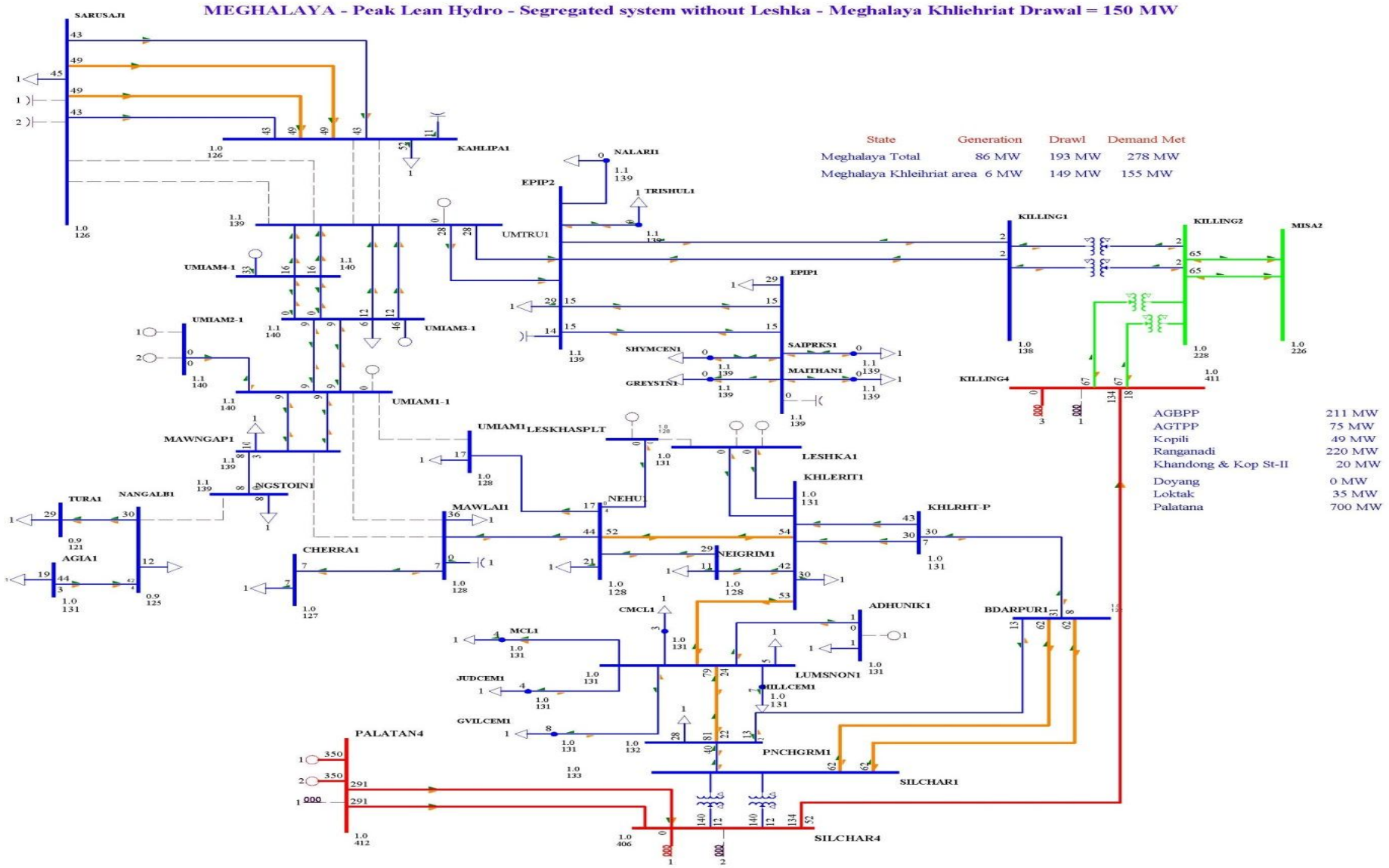
MEGHALAYA - OffPeak Lean Hydro - With 2 Modules of Palatana - Segregated system without Leshka - N-1 of 132 kV Badarpur - Khliehriat S/C - Meghalaya Khliehriat Drawal = 50 MW



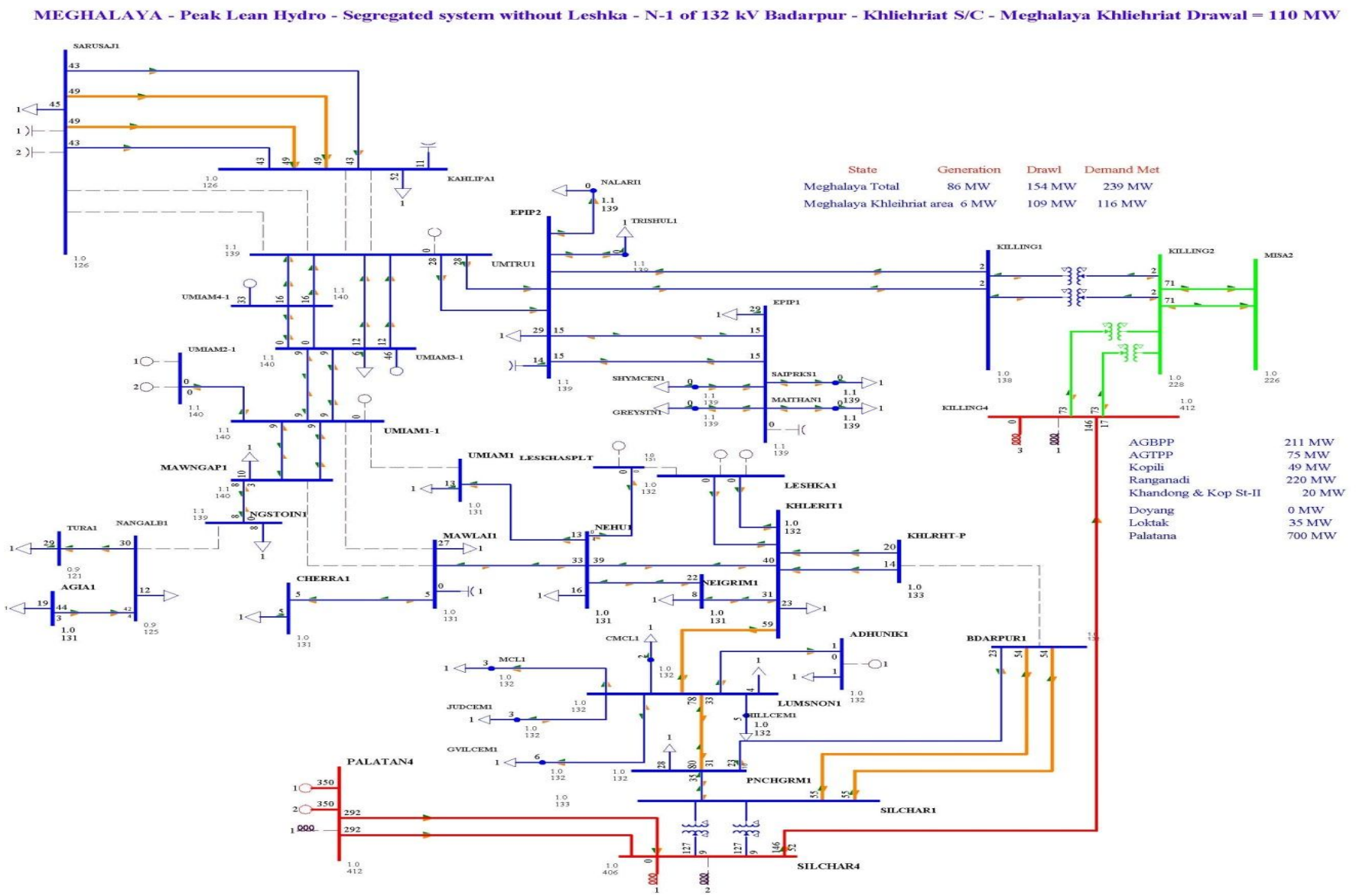
State	Generation	Drawl	Demand Met
Meghalaya Total	77 MW	71 MW	148 MW
Meghalaya Khleihriat area	12 MW	48 MW	60 MW

AGBPP	201 MW
AGTPP	72 MW
Kopili	0 MW
Ranganadi	0 MW
Khandong & Kop St-II	0 MW
Doyang	0 MW
Loktak	0 MW
Palatana	700 MW

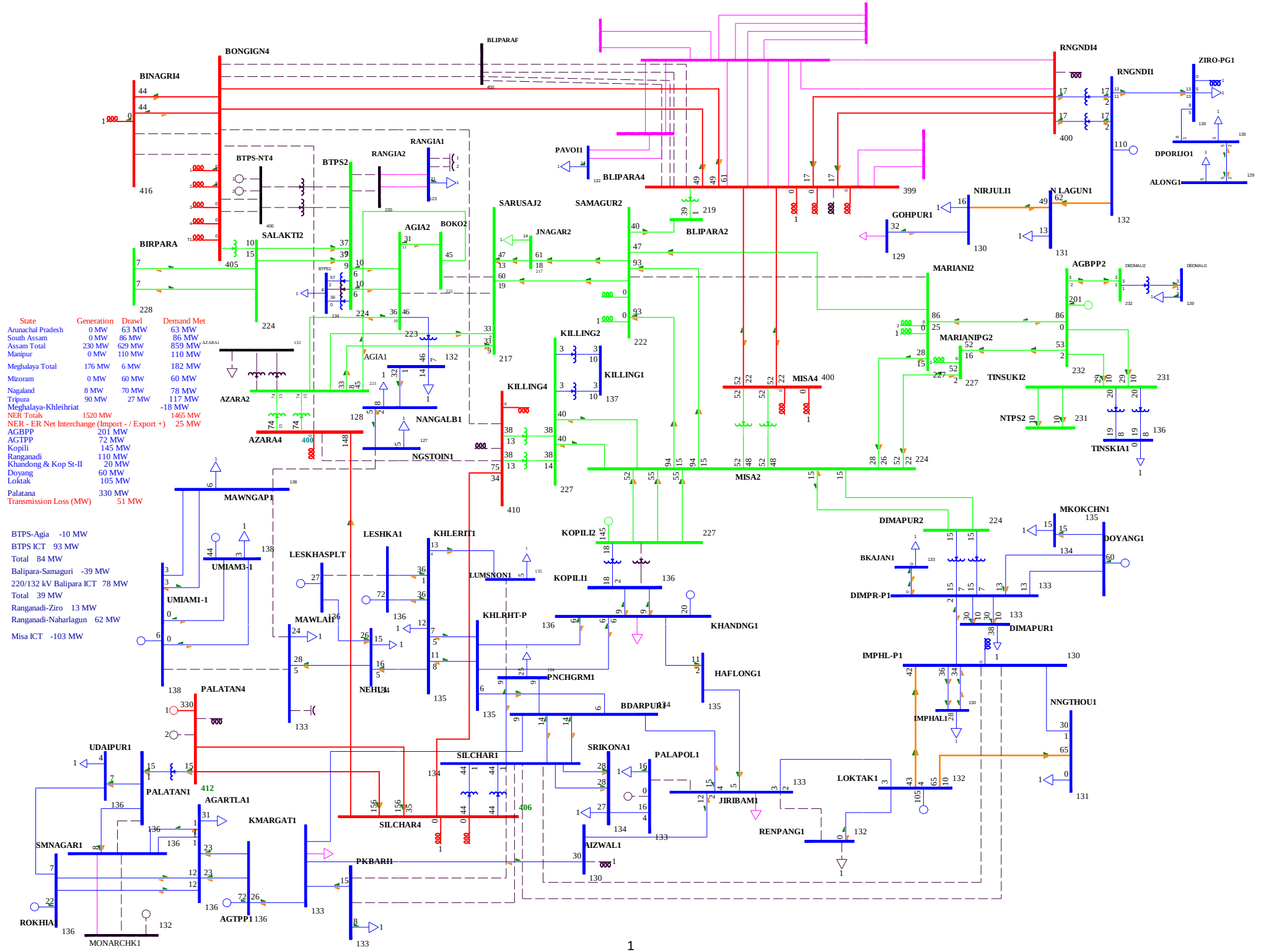
4) Peak Case without Leshka Generation (Khliehriat area drawal = 150 MW)



5) Peak Case without Leshka Generation – N-1 of 132 kV Badarpur – Khiehriat S/C (Khliehriat area drawal = 110 MW)



Off Peak Manipur Import 110 MW with Loktak: 105 MW

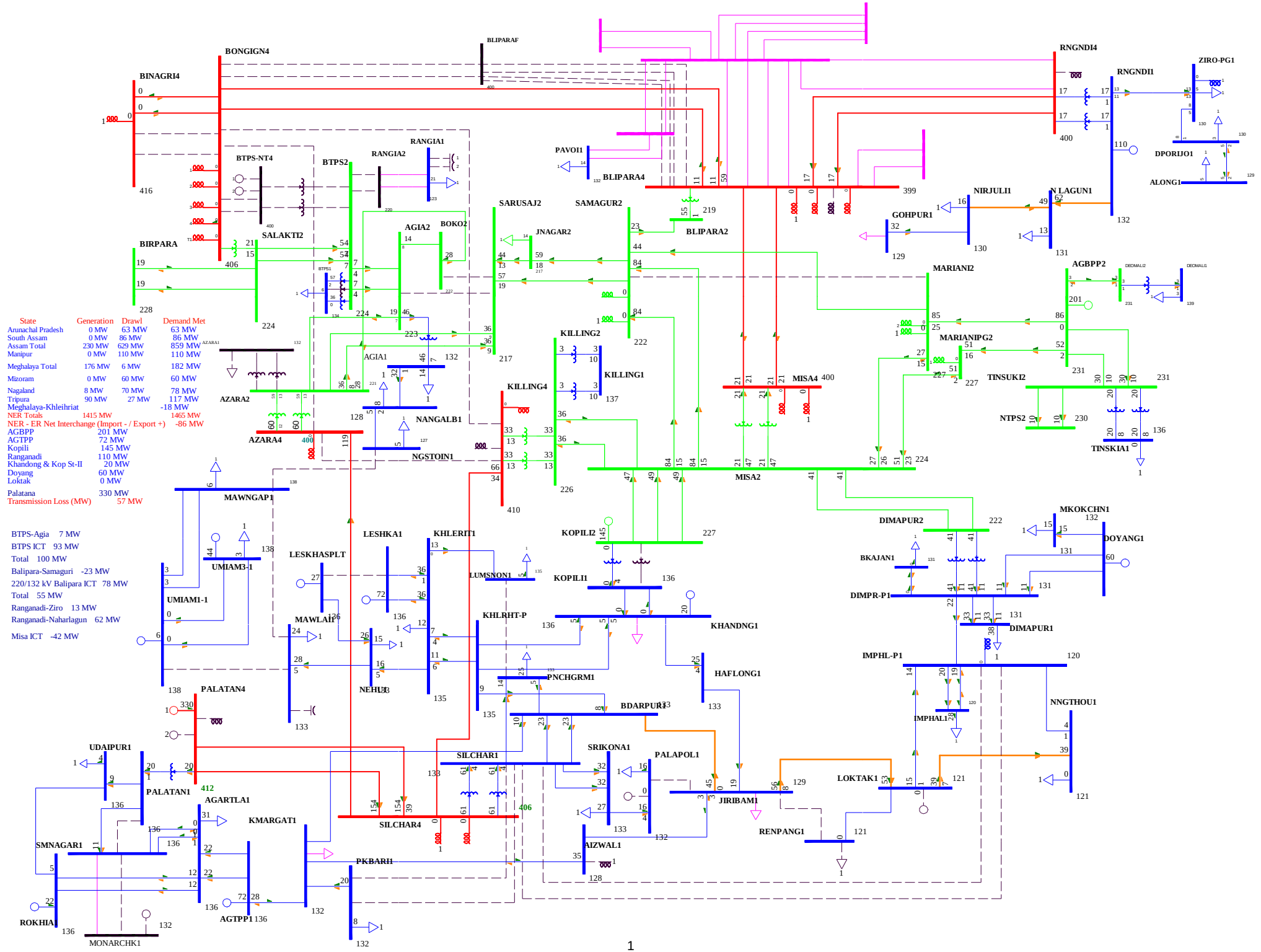


State	Generation	Drawl	Demand Met
Arunachal Pradesh	0 MW	63 MW	63 MW
South Assam	0 MW	86 MW	86 MW
Assam Total	230 MW	629 MW	859 MW
Manipur	0 MW	110 MW	110 MW
Meghalaya Total	176 MW	6 MW	182 MW
Mizoram	0 MW	60 MW	60 MW
Nagaland	8 MW	70 MW	78 MW
Tripura	90 MW	27 MW	117 MW
Meghalaya-Khleihriat			-18 MW
NER Totals	1520 MW		1465 MW
NER - ER Net Interchange (Import - / Export +)			25 MW

AGBPP	201 MW
AGTPP	72 MW
Kopili	145 MW
Ranganadi	110 MW
Khandong & Kop St-II	20 MW
Doyang	60 MW
Loktak	105 MW
Palatana	330 MW
Transmission Loss (MW)	51 MW

BTPS-Agia -10 MW
BTPS ICT 93 MW
Total 84 MW
Balipara-Samaguri -39 MW
220/132 kV Balipara ICT 78 MW
Total 39 MW
Ranganadi-Ziro 13 MW
Ranganadi-Naharlagun 62 MW
Misa ICT -103 MW

Off Peak Manipur Import 110 MW with Loktak: 0 MW

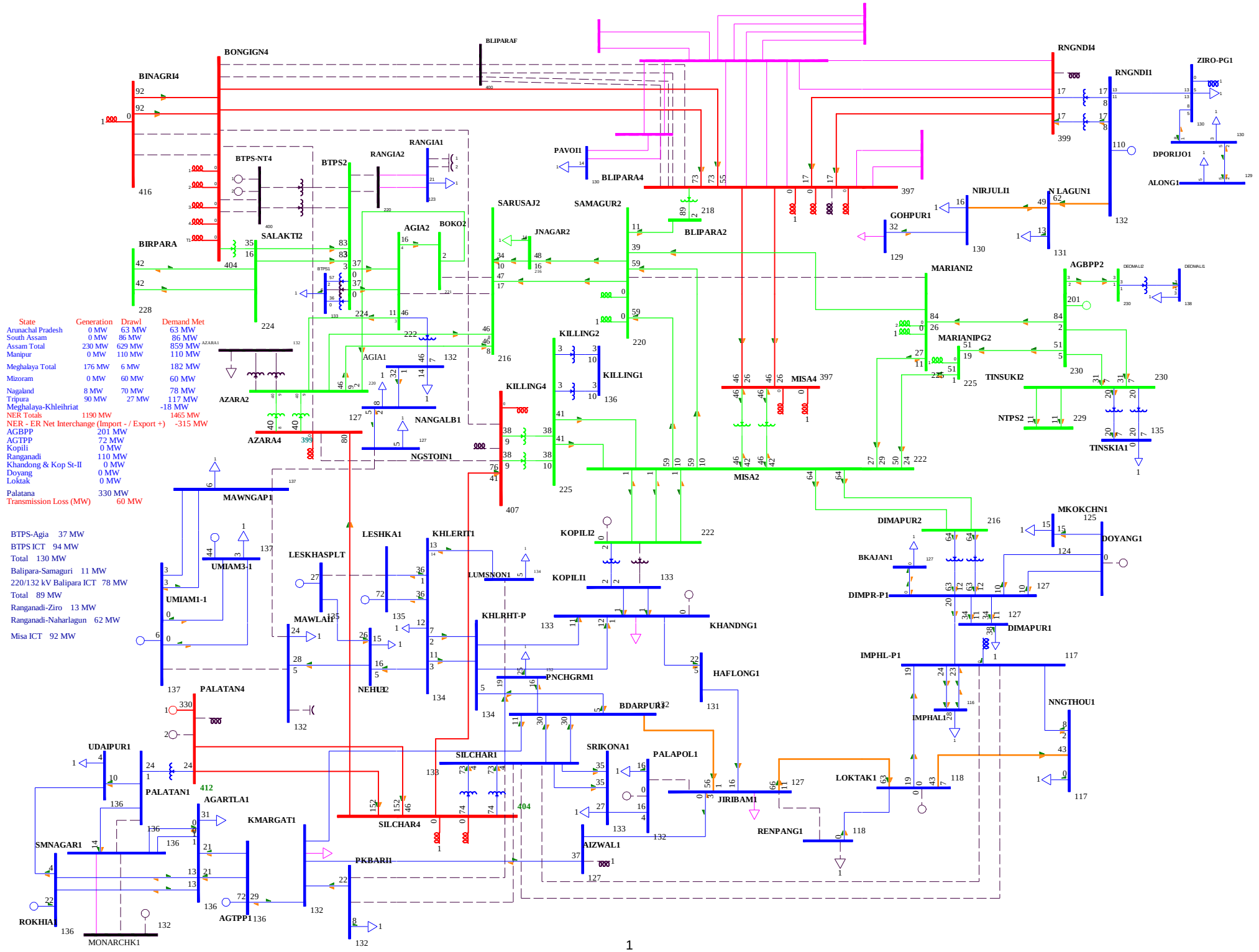


State	Generation	Drawl	Demand Met
Arunachal Pradesh	0 MW	63 MW	63 MW
South Assam	0 MW	86 MW	86 MW
Assam Total	230 MW	629 MW	859 MW
Manipur	0 MW	110 MW	110 MW
Meghalaya Total	176 MW	6 MW	182 MW
Mizoram	0 MW	60 MW	60 MW
Nagaland	8 MW	70 MW	78 MW
Tripura	90 MW	27 MW	117 MW
Meghalaya-Khleihriat			-18 MW
NER Totals	1415 MW		1465 MW
NER - ER Net Interchange (Import - / Export +)			-86 MW

AGBPP	201 MW
AGTPP	72 MW
Kopili	145 MW
Ranganadi	110 MW
Khandong & Kop St-II	20 MW
Doyang	60 MW
Loktak	0 MW
Palatana	330 MW
Transmission Loss (MW)	57 MW

BTPS-Agia 7 MW
BTPS ICT 93 MW
Total 100 MW
Balipara-Samaguri -23 MW
220/132 kV Balipara ICT 78 MW
Total 55 MW
Ranganadi-Ziro 13 MW
Ranganadi-Naharlagun 62 MW
Misa ICT -42 MW

Off Peak Manipur Import 110 MW with Hydro Generation (132 kV) 0 MW



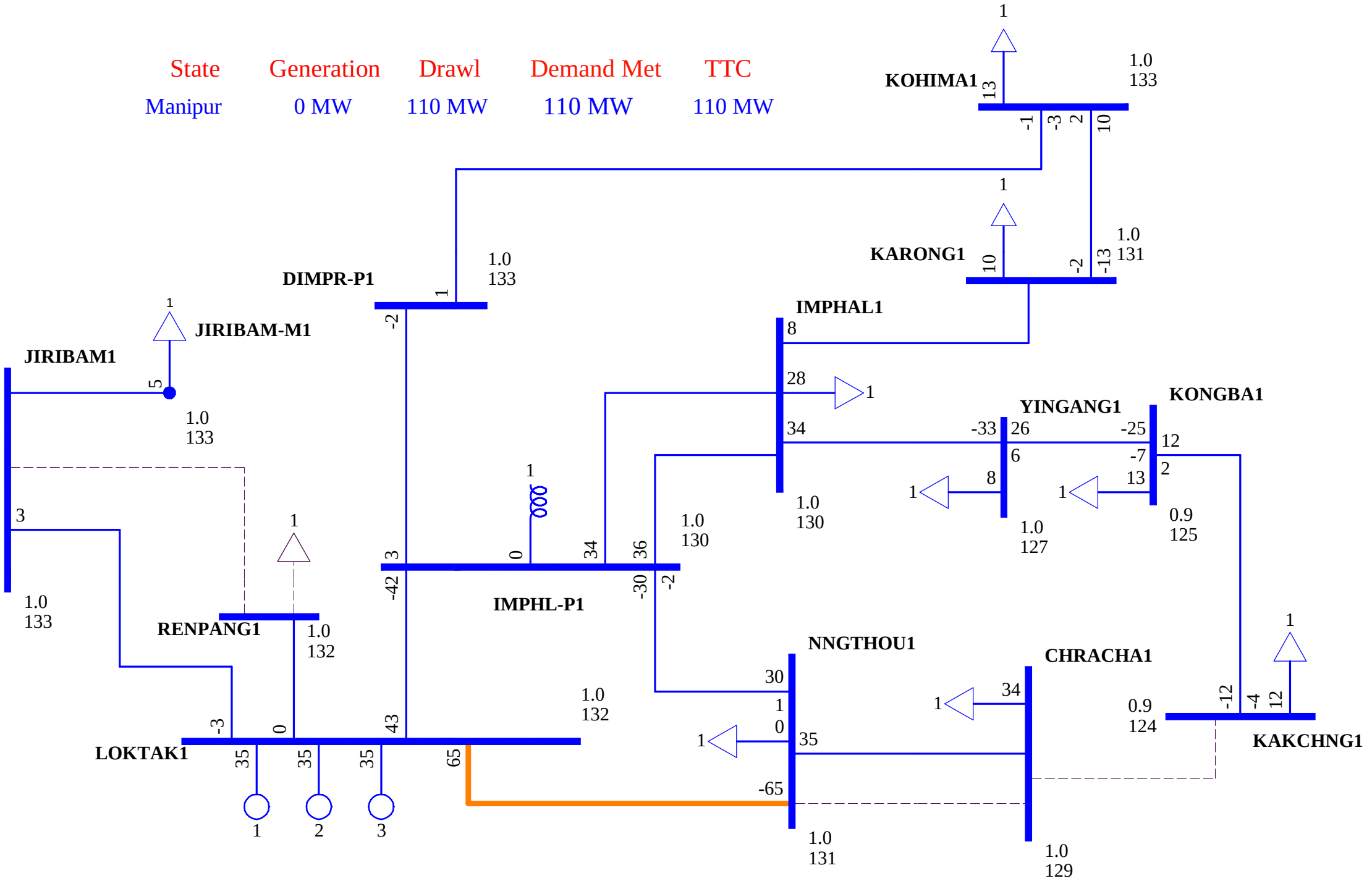
State	Generation	Drawl	Demand Met
Arunachal Pradesh	0 MW	63 MW	63 MW
South Assam	0 MW	86 MW	86 MW
Assam Total	230 MW	629 MW	859 MW
Manipur	0 MW	110 MW	110 MW
Meghalaya Total	176 MW	6 MW	182 MW
Mizoram	0 MW	60 MW	60 MW
Nagaland	8 MW	70 MW	78 MW
Tripura	90 MW	27 MW	117 MW
Meghalaya-Khleihriat			-18 MW
NER Totals	1190 MW		1465 MW
NER - ER Net Interchange (Import - / Export +)			-315 MW

AGBPP	201 MW
AGTPP	72 MW
Kopili	0 MW
Ranganadi	110 MW
Khandong & Kop St-II	0 MW
Doyang	0 MW
Loktak	0 MW
Palatana	330 MW
Transmission Loss (MW)	60 MW

BTPS-Agia	37 MW
BTPS ICT	94 MW
Total	130 MW
Balipara-Samaguri	11 MW
220/132 kV Balipara ICT	78 MW
Total	89 MW
Ranganadi-Ziro	13 MW
Ranganadi-Naharlagun	62 MW
Misa ICT	92 MW

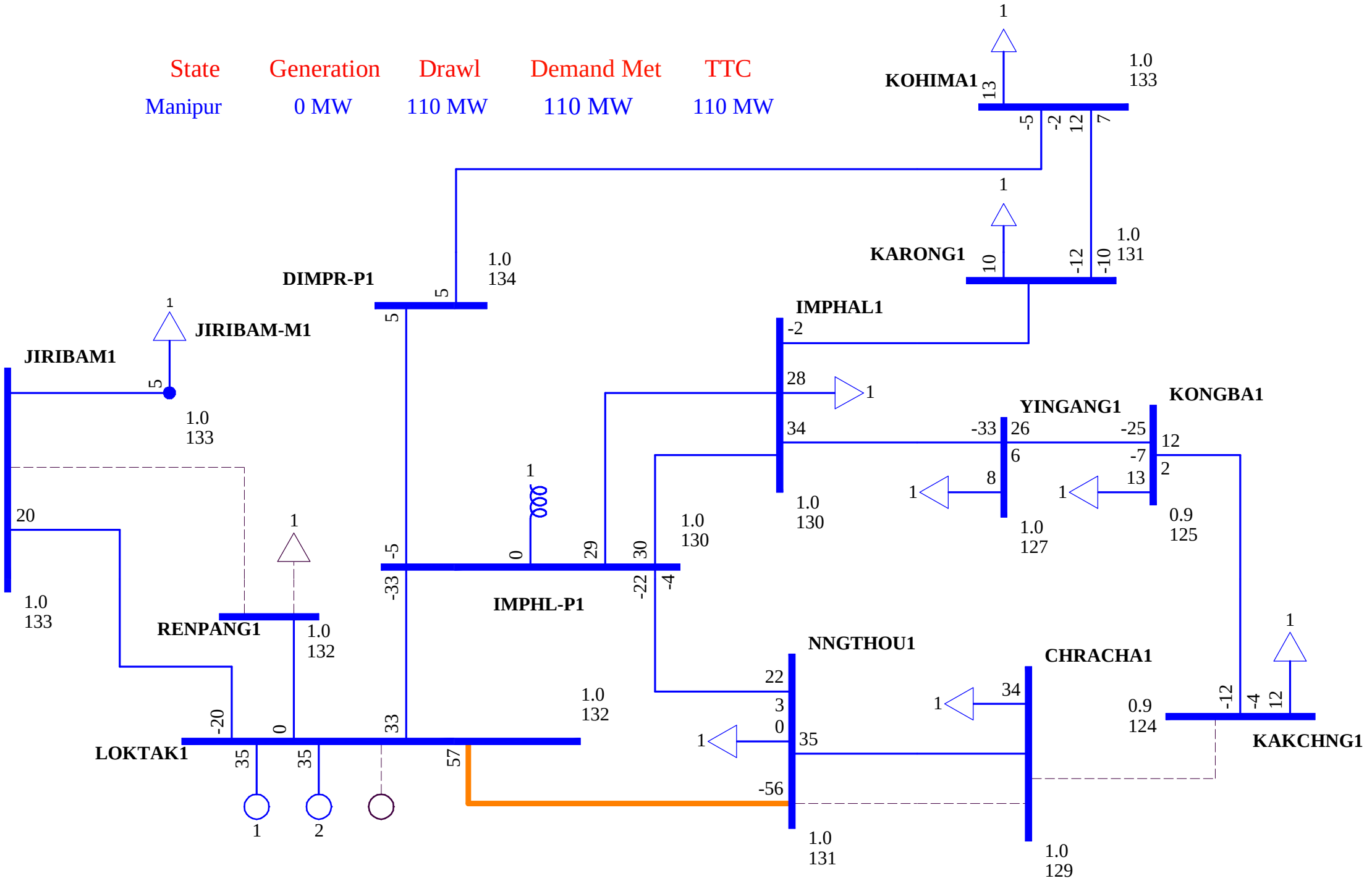
Off Peak Manipur Import 110 MW with Loktak: 105 MW

State	Generation	Drawl	Demand Met	TTC
Manipur	0 MW	110 MW	110 MW	110 MW



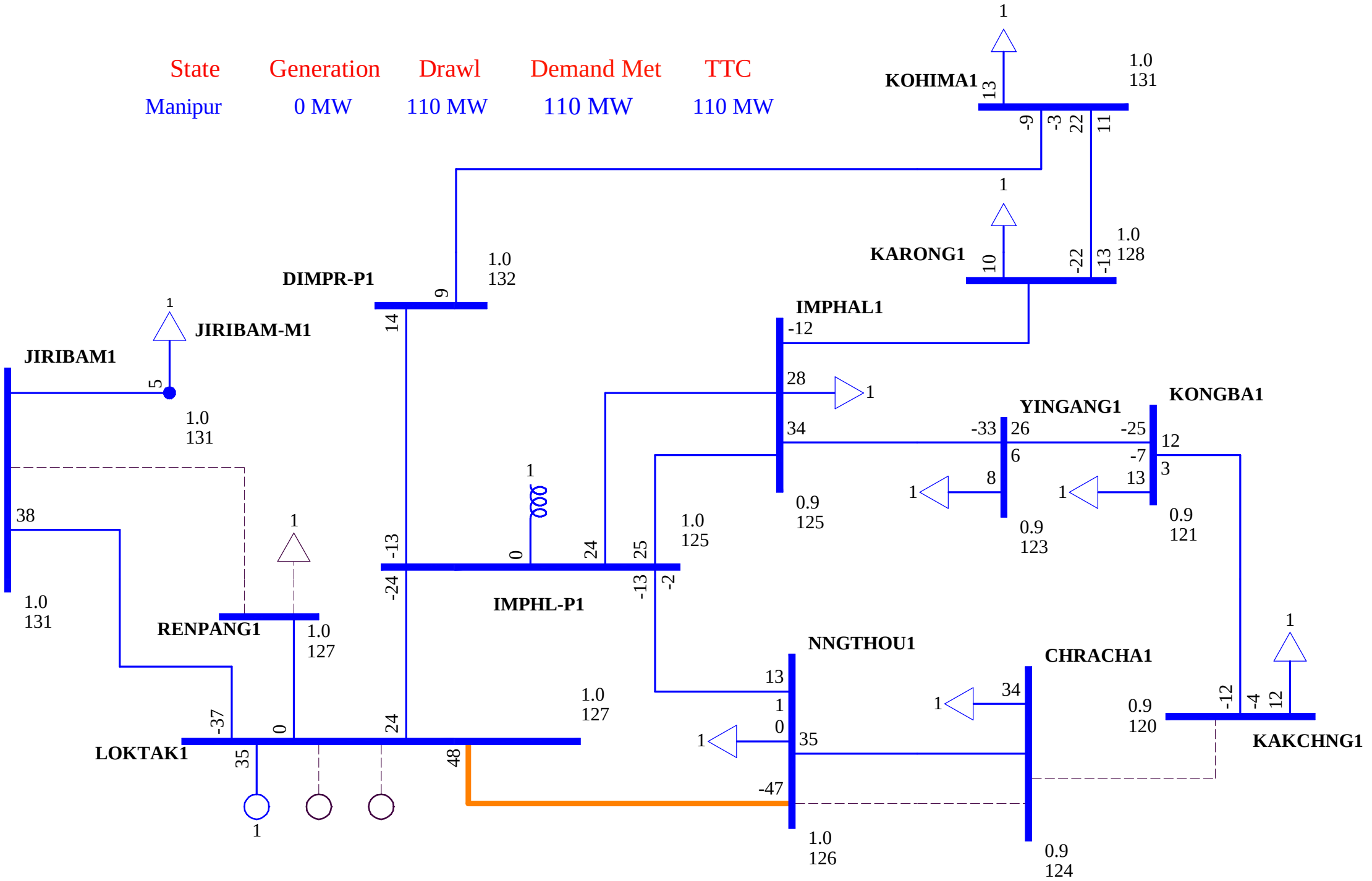
Off Peak Manipur Import 110 MW with Loktak: 70 MW

State	Generation	Drawl	Demand Met	TTC
Manipur	0 MW	110 MW	110 MW	110 MW



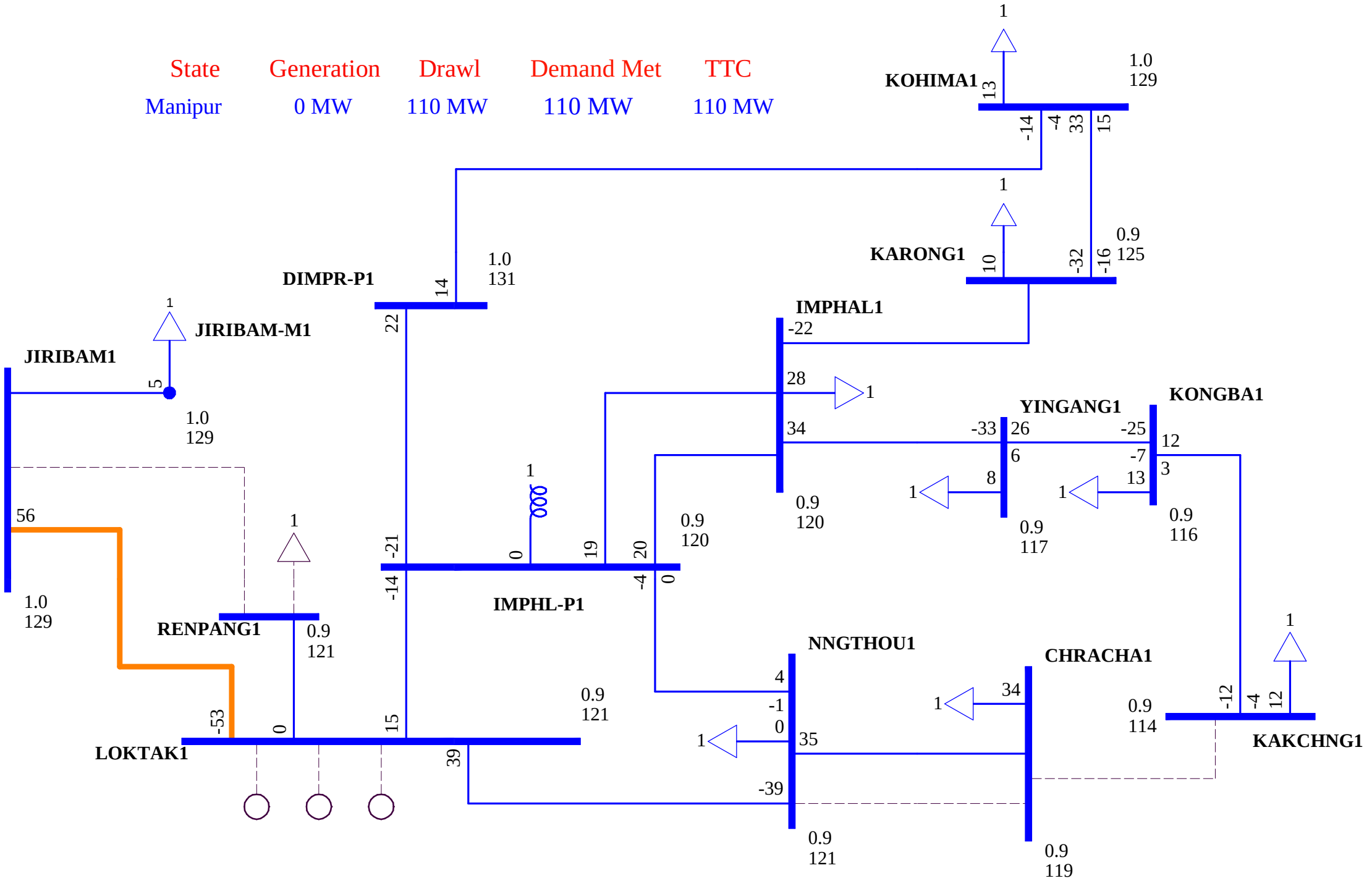
Off Peak Manipur Import 110 MW with Loktak: 35 MW

State	Generation	Drawl	Demand Met	TTC
Manipur	0 MW	110 MW	110 MW	110 MW



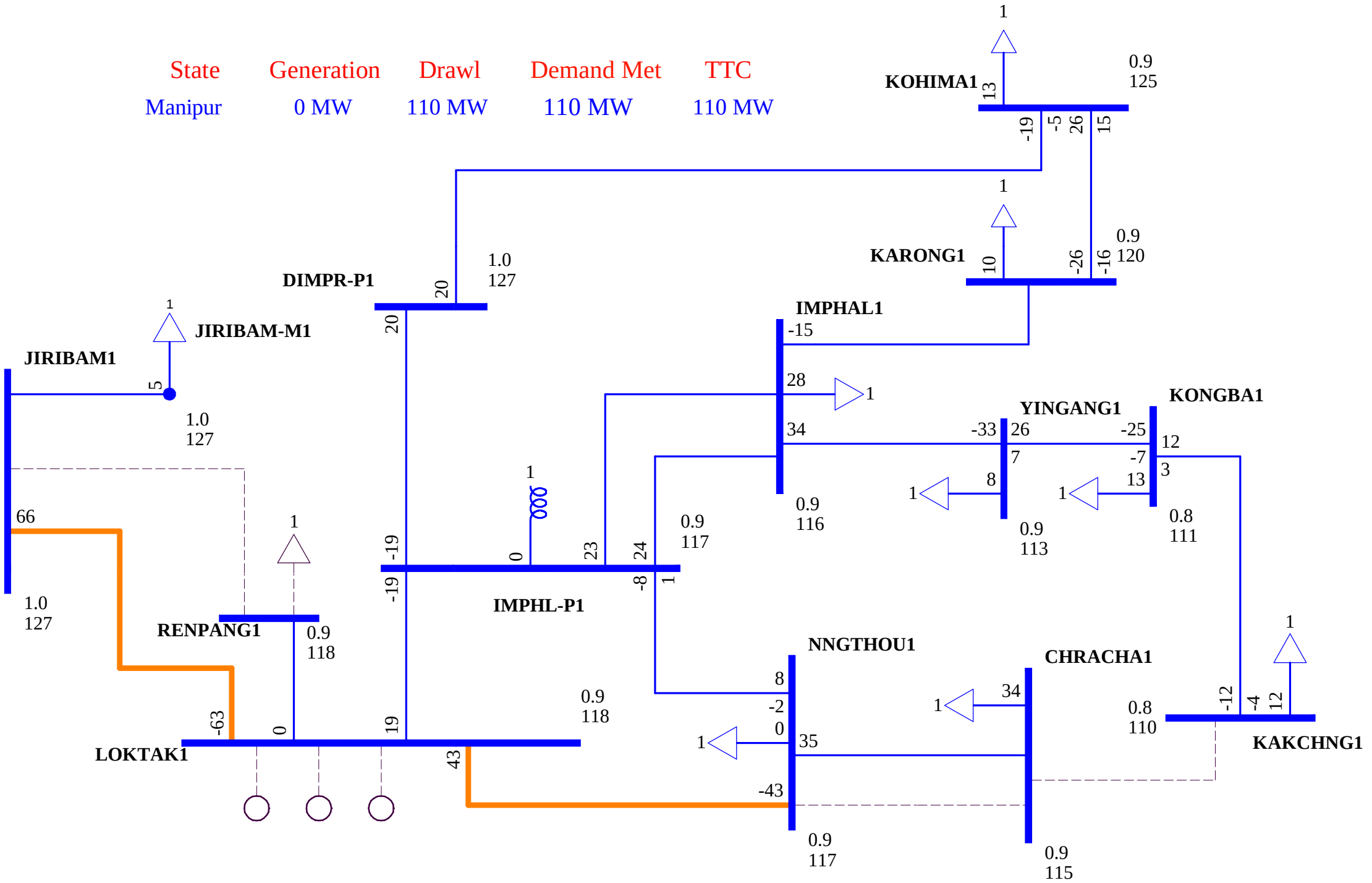
Off Peak Manipur Import 110 MW with Loktak: 0 MW

State	Generation	Drawl	Demand Met	TTC
Manipur	0 MW	110 MW	110 MW	110 MW

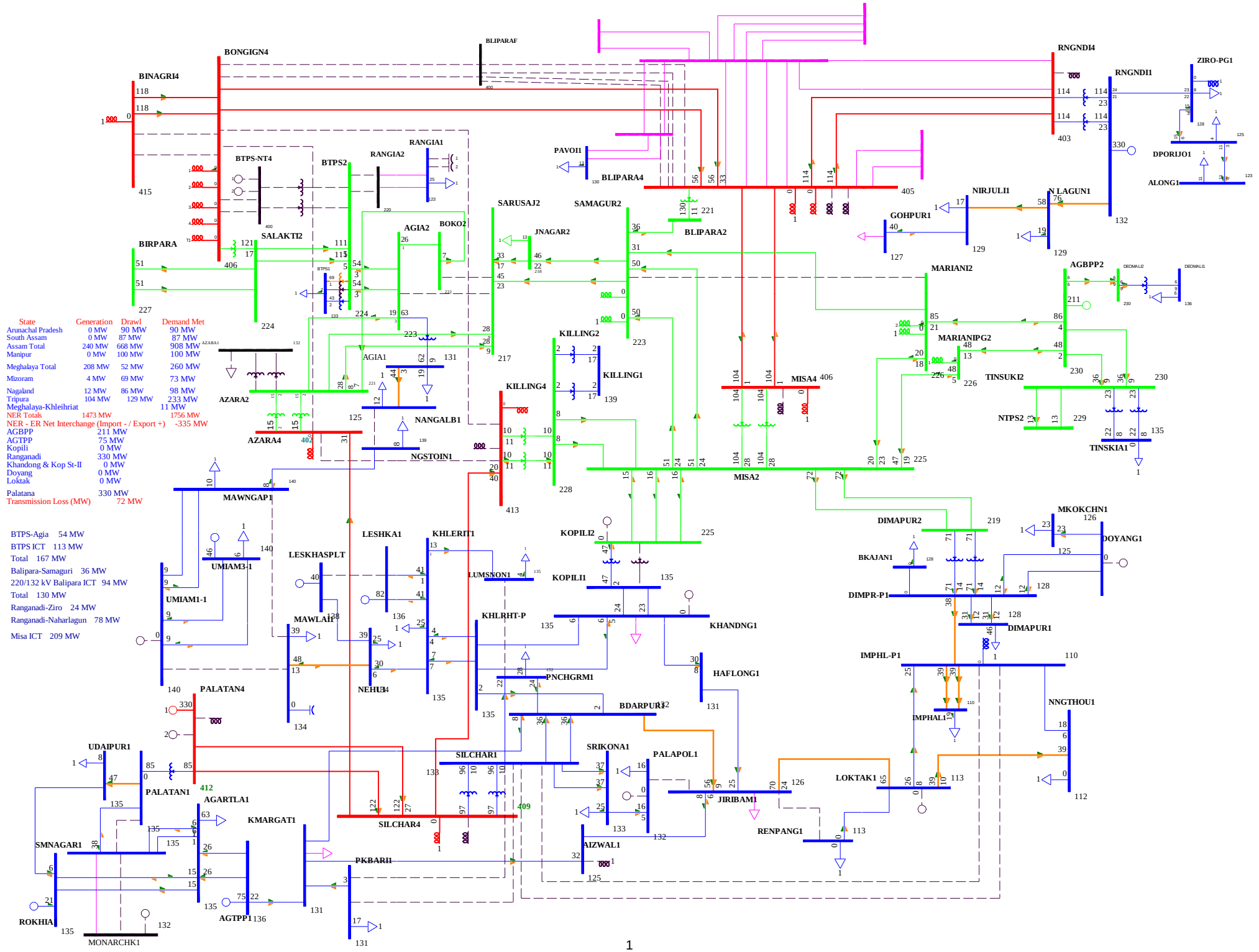


Off Peak Manipur Import 110 MW with Hydro Generation (132kV) 0 MW

State	Generation	Drawl	Demand Met	TTC
Manipur	0 MW	110 MW	110 MW	110 MW



Peak Manipur Import 100 MW with Hydro Generation (132kV) 0 MW



State	Generation	Drawl	Demand Met
Arunachal Pradesh	0 MW	90 MW	90 MW
South Assam	0 MW	87 MW	87 MW
Assam Total	240 MW	668 MW	908 MW
Manipur	0 MW	100 MW	100 MW
Meghalaya Total	208 MW	52 MW	260 MW
Mizoram	4 MW	69 MW	73 MW
Nagaland	12 MW	86 MW	98 MW
Tripura	104 MW	129 MW	233 MW
Meghalaya-Khleihriat			11 MW
NER Totals	1473 MW		1756 MW

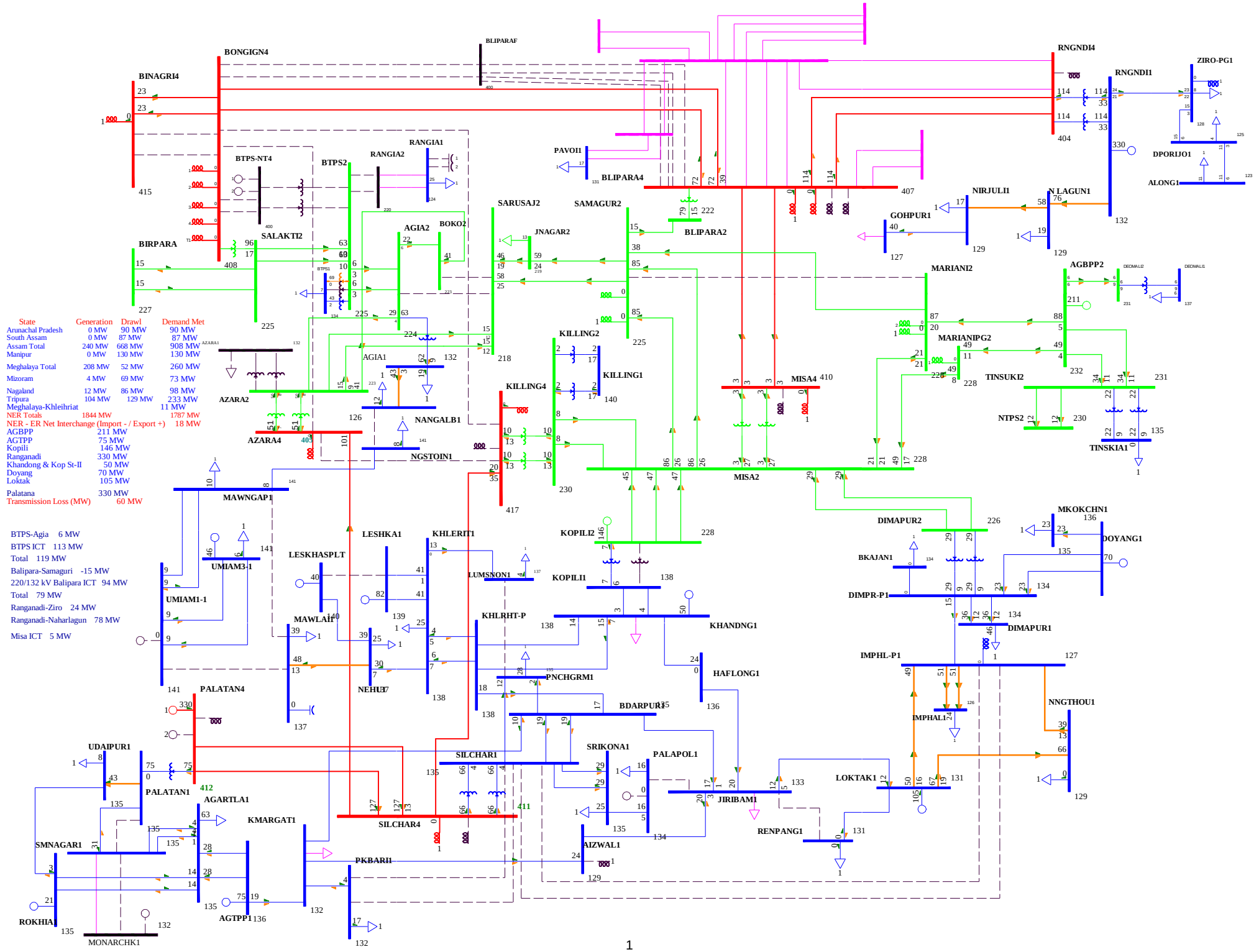
NER - ER Net Interchange (Import - / Export +) -335 MW

AGBPP 211 MW
AGTPP 75 MW
Kopili 0 MW
Ranganadi 330 MW
Khandong & Kop St-II 0 MW
Doyang 0 MW
Loktak 0 MW

Palatana 330 MW
Transmission Loss (MW) 72 MW

BTPS-Agia 54 MW
BTPS ICT 113 MW
Total 167 MW
Balipara-Samaguri 36 MW
220/132 kV Balipara ICT 94 MW
Total 130 MW
Ranganadi-Ziro 24 MW
Ranganadi-Naharlagun 78 MW
Misa ICT 209 MW

Peak Manipur Import 130 MW with Loktak 105 MW



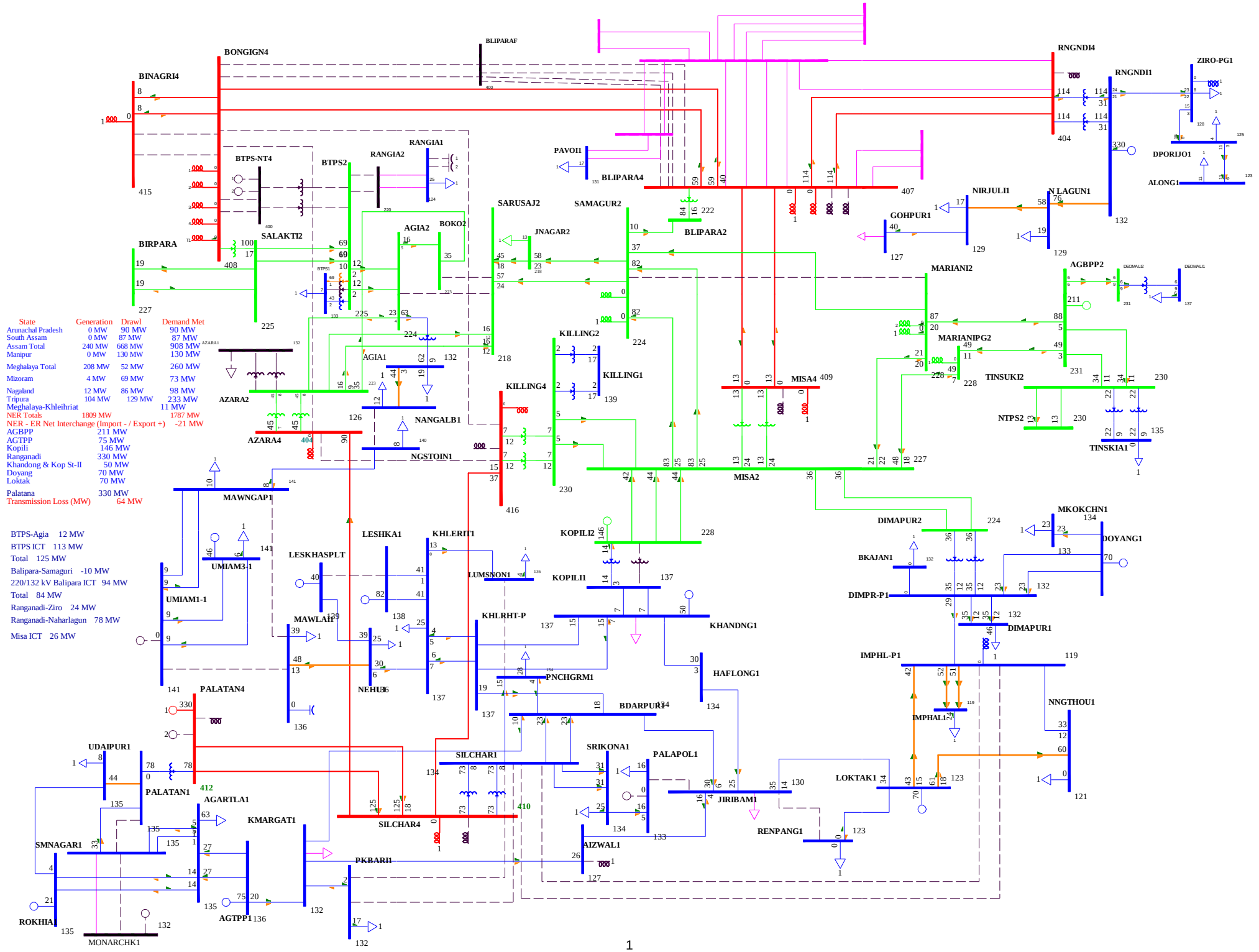
State	Generation	Drawl	Demand Met
Arunachal Pradesh	0 MW	90 MW	90 MW
South Assam	0 MW	87 MW	87 MW
Assam Total	240 MW	668 MW	908 MW
Manipur	0 MW	130 MW	130 MW
Meghalaya Total	208 MW	52 MW	260 MW
Mizoram	4 MW	69 MW	73 MW
Nagaland	12 MW	86 MW	98 MW
Tripura	104 MW	129 MW	233 MW
Meghalaya-Khleihriat			11 MW
NER Totals	1844 MW		1787 MW
NER - ER Net Interchange (Import - / Export +)			18 MW

AGBPP 211 MW
AGTPP 75 MW
Kopili 146 MW
Ranganadi 330 MW
Khandong & Kop St-II 50 MW
Doyang 70 MW
Loktak 105 MW

Palatana 330 MW
Transmission Loss (MW) 60 MW

BTPS-Agia 6 MW
BTPS ICT 113 MW
Total 119 MW
Balipara-Samaguri -15 MW
220/132 kV Balipara ICT 94 MW
Total 79 MW
Ranganadi-Ziro 24 MW
Ranganadi-Naharlagun 78 MW
Misa ICT 5 MW

Peak Manipur Import 130 MW with Loktak 70 MW



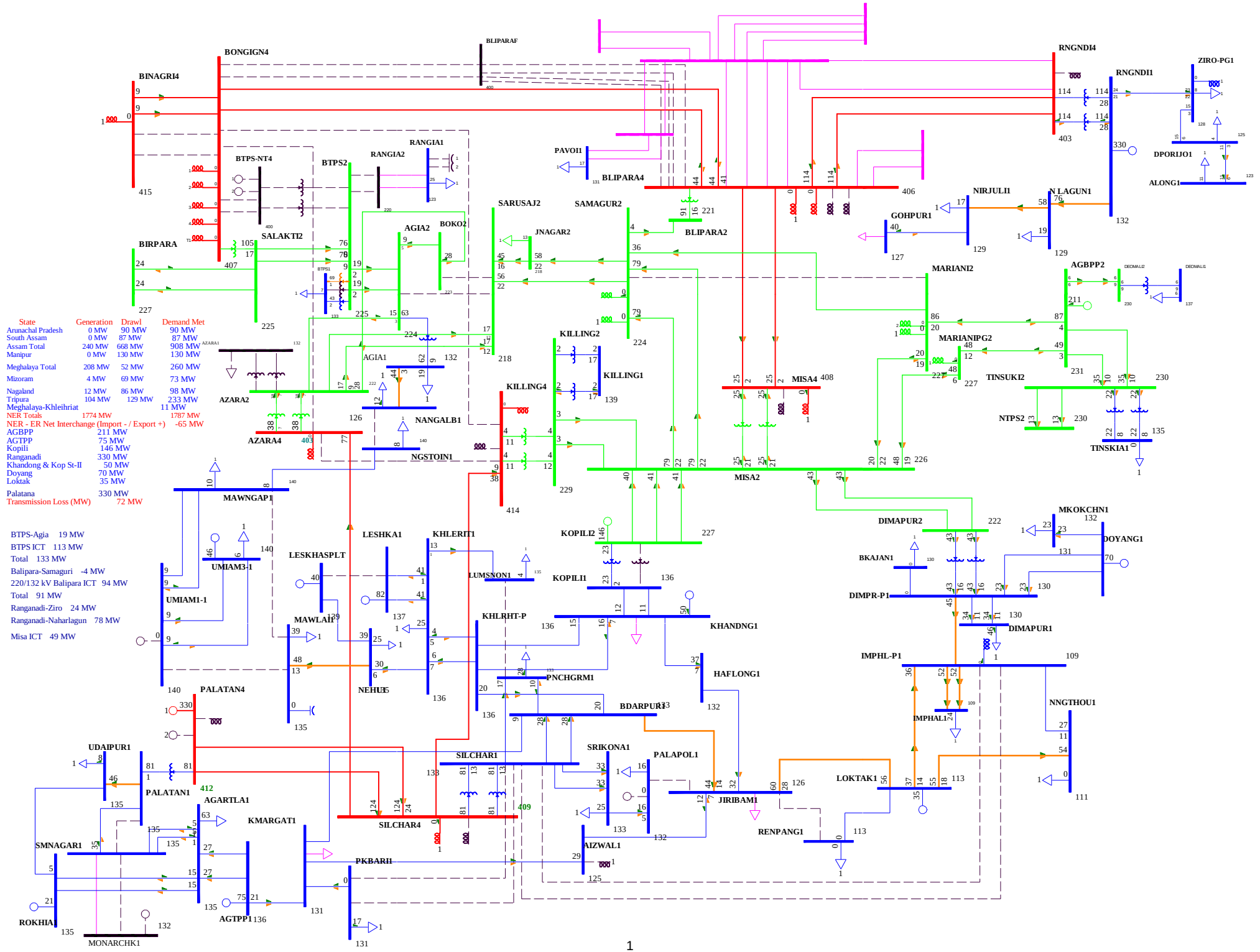
State	Generation	Drawl	Demand Met
Arunachal Pradesh	0 MW	90 MW	90 MW
South Assam	0 MW	87 MW	87 MW
Assam Total	240 MW	668 MW	908 MW
Manipur	0 MW	130 MW	130 MW
Meghalaya Total	208 MW	52 MW	260 MW
Mizoram	4 MW	69 MW	73 MW
Nagaland	12 MW	86 MW	98 MW
Tripura	104 MW	129 MW	233 MW
Meghalaya-Khleihriat			11 MW
NER Totals	1809 MW		1787 MW
NER - ER Net Interchange (Import - / Export +)			-21 MW

AGBPP 211 MW
AGTPP 75 MW
Kopili 146 MW
Ranganadi 330 MW
Khandong & Kop St-II 50 MW
Doyang 70 MW
Loktak 70 MW

Palatana 330 MW
Transmission Loss (MW) 64 MW

BTPS-Agia 12 MW
BTPS ICT 113 MW
Total 125 MW
Balipara-Samaguri -10 MW
220/132 kV Balipara ICT 94 MW
Total 84 MW
Ranganadi-Ziro 24 MW
Ranganadi-Naharlagun 78 MW
Misa ICT 26 MW

Peak Manipur Import 130 MW with Loktak 35 MW

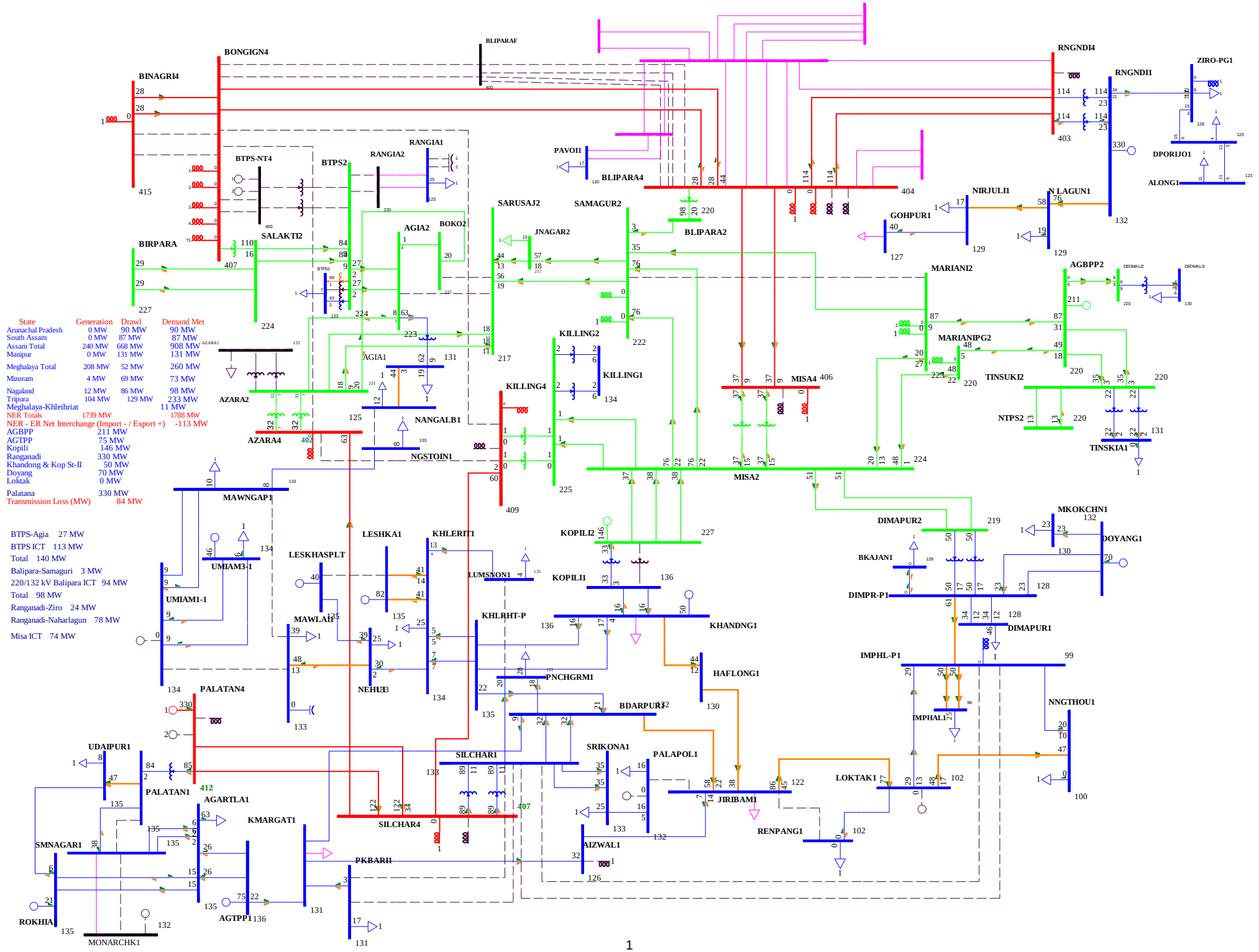


State	Generation	Drawl	Demand Met
Arunachal Pradesh	0 MW	90 MW	90 MW
South Assam	0 MW	87 MW	87 MW
Assam Total	240 MW	668 MW	908 MW
Manipur	0 MW	130 MW	130 MW
Meghalaya Total	208 MW	52 MW	260 MW
Mizoram	4 MW	69 MW	73 MW
Nagaland	12 MW	86 MW	98 MW
Tripura	104 MW	129 MW	233 MW
Meghalaya-Khleihriat			11 MW
NER Totals	1774 MW		1787 MW
NER - ER Net Interchange (Import - / Export +)			-65 MW

AGBPP	211 MW
AGTPP	75 MW
Kopili	146 MW
Ranganadi	330 MW
Khandong & Kop St-II	50 MW
Doyang	70 MW
Loktak	35 MW
Palatana	330 MW
Transmission Loss (MW)	72 MW

BTPS-Agia	19 MW
BTPS ICT	113 MW
Total	133 MW
Balipara-Samaguri	-4 MW
220/132 kV Balipara ICT	94 MW
Total	91 MW
Ranganadi-Ziro	24 MW
Ranganadi-Naharlagun	78 MW
Misa ICT	49 MW

Peak Manipur Import 130 MW with Loktak 0MW

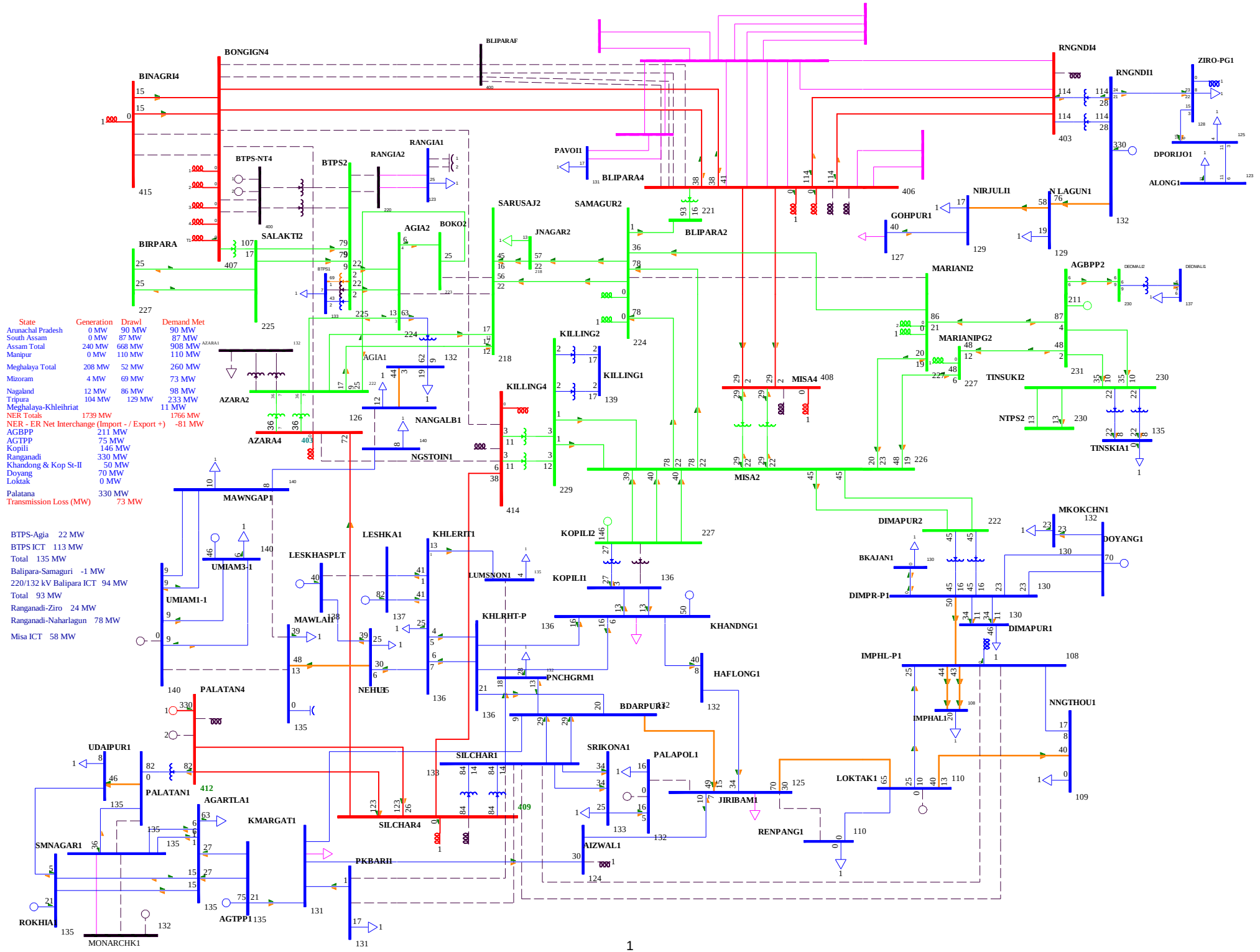


State	Generation	Drawl	Demand Met
Arunachal Pradesh	0 MW	90 MW	90 MW
South Assam	0 MW	87 MW	87 MW
Assam Total	240 MW	668 MW	908 MW
Manipur	0 MW	131 MW	131 MW
Meghalaya Total	208 MW	52 MW	260 MW
Mizoram	4 MW	69 MW	73 MW
Nagaland	12 MW	86 MW	98 MW
Tripura	104 MW	129 MW	233 MW
Meghalaya-Khleihriat			11 MW
NER Totals	1739 MW		1788 MW
NER - ER Net Interchange (Import - / Export +)			-113 MW

AGBPP	211 MW
AGTPP	75 MW
Kopili	146 MW
Ranganadi	330 MW
Khandong & Kop St-II	50 MW
Doyang	70 MW
Loktak	0 MW
Palatana	330 MW
Transmission Loss (MW)	84 MW

BTPS-Agia 27 MW
BTPS ICT 113 MW
Total 140 MW
Balipara-Samaguri 3 MW
220/132 kV Balipara ICT 94 MW
Total 98 MW
Ranganadi-Ziro 24 MW
Ranganadi-Naharlagun 78 MW
Misa ICT 74 MW

Peak Manipur Import 110 MW with Loktak 0 MW



State	Generation	Drawl	Demand Met
Arunachal Pradesh	0 MW	90 MW	90 MW
South Assam	0 MW	87 MW	87 MW
Assam Total	240 MW	668 MW	908 MW
Manipur	0 MW	110 MW	110 MW
Meghalaya Total	208 MW	52 MW	260 MW
Mizoram	4 MW	69 MW	73 MW
Nagaland	12 MW	86 MW	98 MW
Tripura	104 MW	129 MW	233 MW
Meghalaya-Khleihriat			11 MW
NER Totals	1739 MW		1766 MW
NER - ER Net Interchange (Import - / Export +)			-81 MW

AGBPP 211 MW
AGTPP 75 MW
Kopili 146 MW
Ranganadi 330 MW
Khandong & Kop St-II 50 MW
Doyang 70 MW
Loktak 0 MW

Palatana 330 MW
Transmission Loss (MW) 73 MW

BTPS-Agia 22 MW
BTPS ICT 113 MW
Total 135 MW

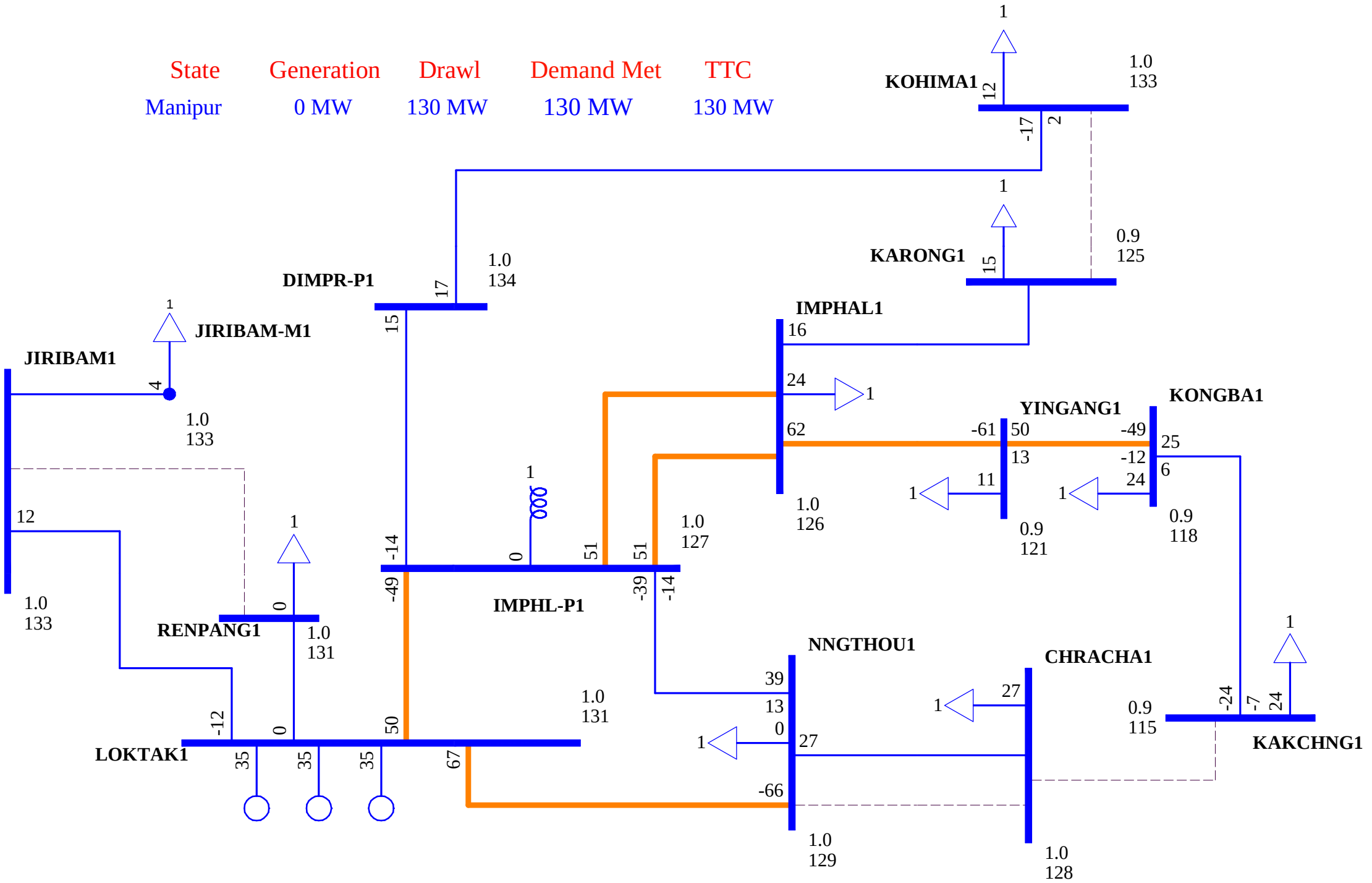
Balipara-Samaguri -1 MW
220/132 kV Balipara ICT 94 MW
Total 93 MW

Ranganadi-Ziro 24 MW
Ranganadi-Naharlagun 78 MW

Misa ICT 58 MW

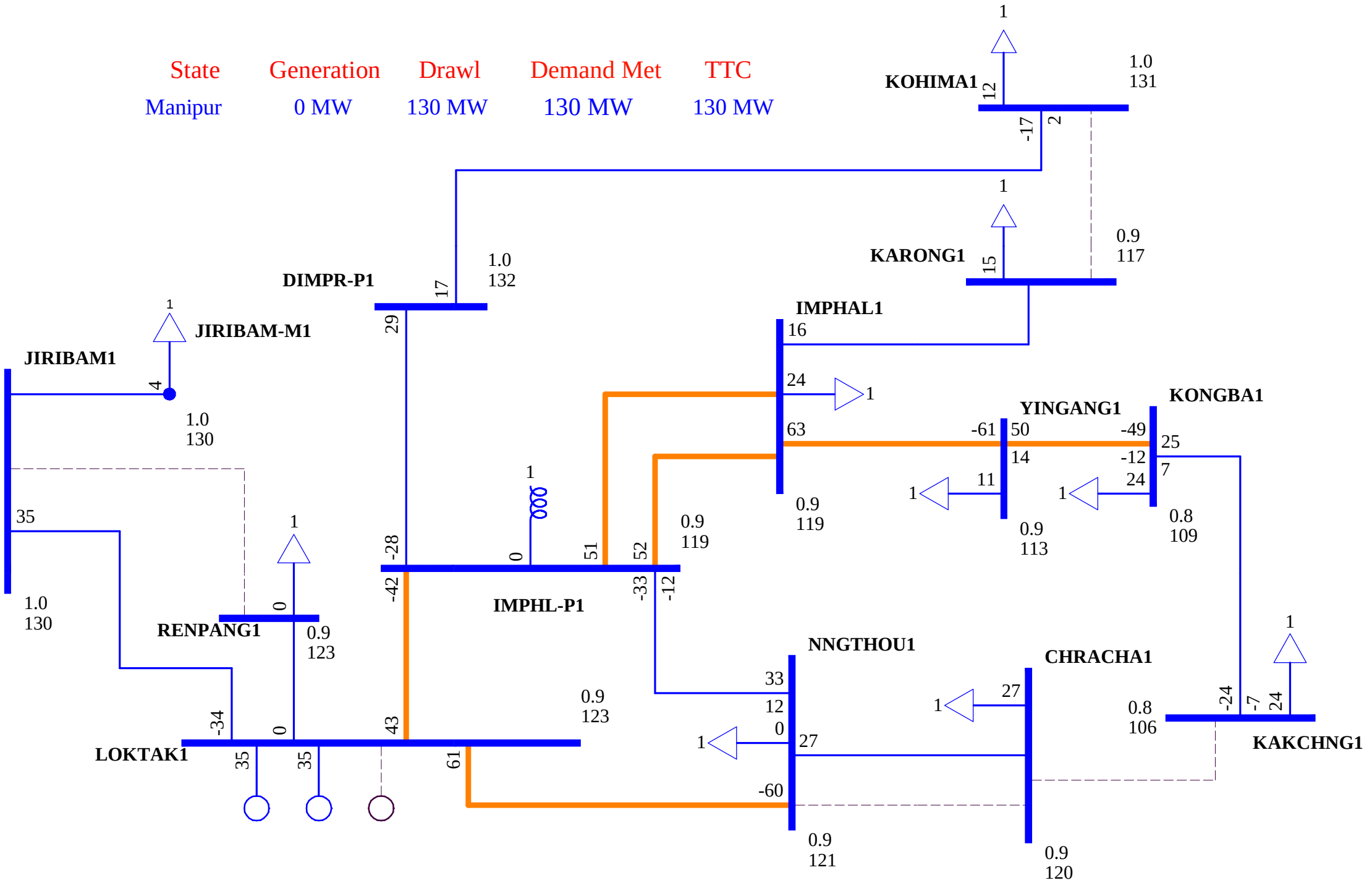
Peak Manipur Import 130 MW with Lokatk 105 MW

State	Generation	Drawl	Demand Met	TTC
Manipur	0 MW	130 MW	130 MW	130 MW



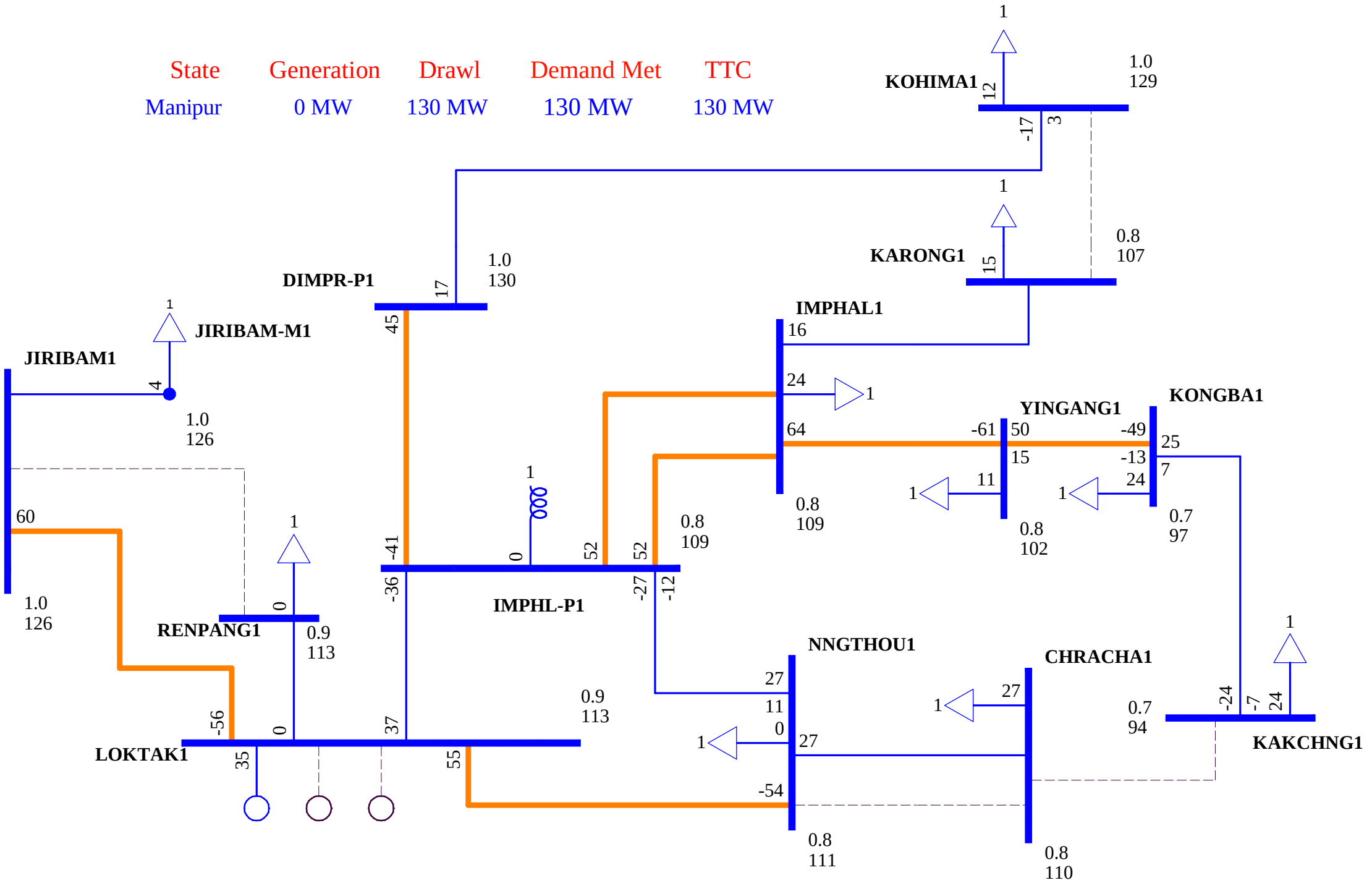
Peak Manipur Import 130 MW with Lokatk 70 MW

State	Generation	Drawl	Demand Met	TTC
Manipur	0 MW	130 MW	130 MW	130 MW



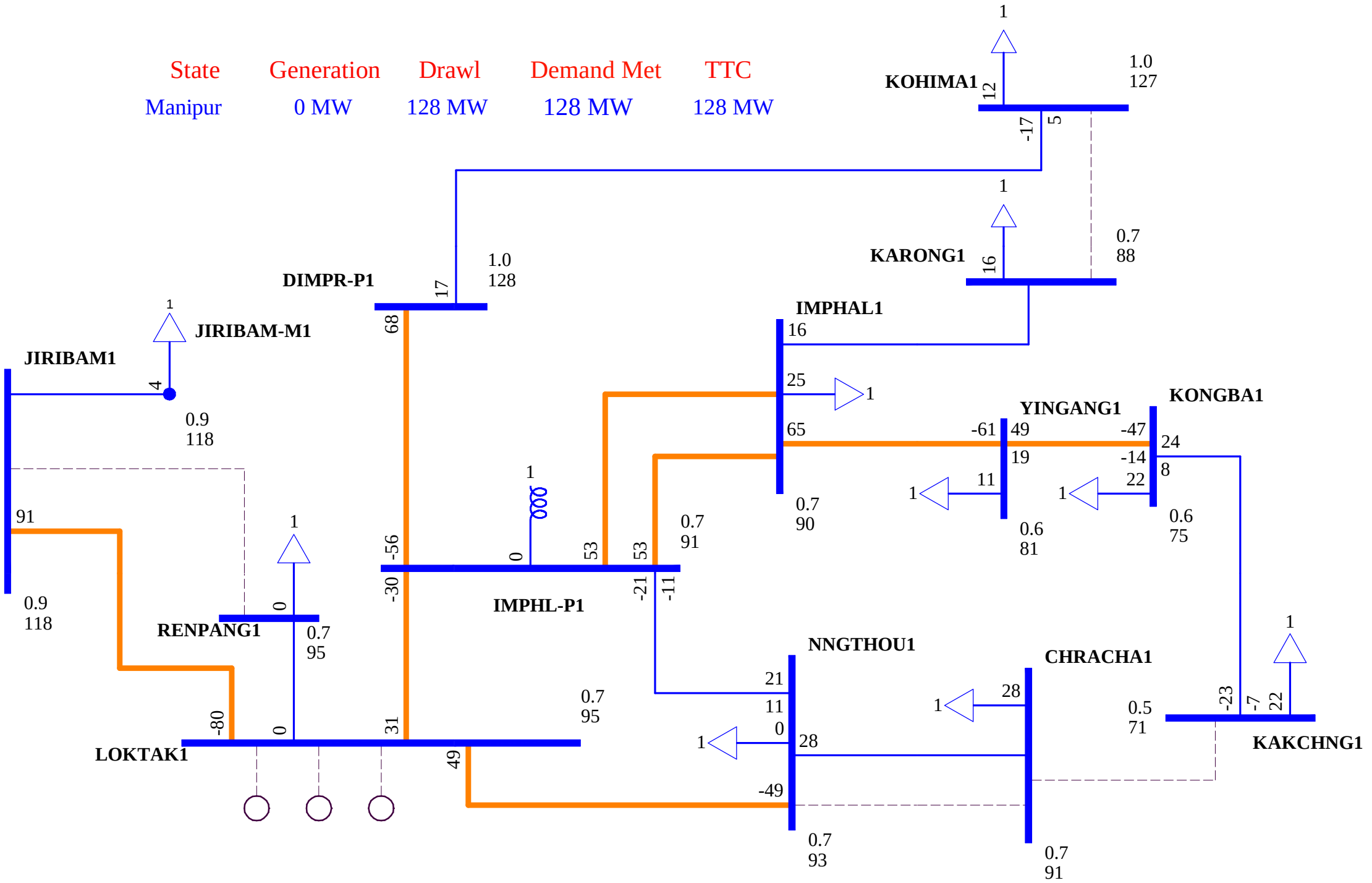
Peak Manipur Import 130 MW with Lokatk 35 MW

State	Generation	Drawl	Demand Met	TTC
Manipur	0 MW	130 MW	130 MW	130 MW



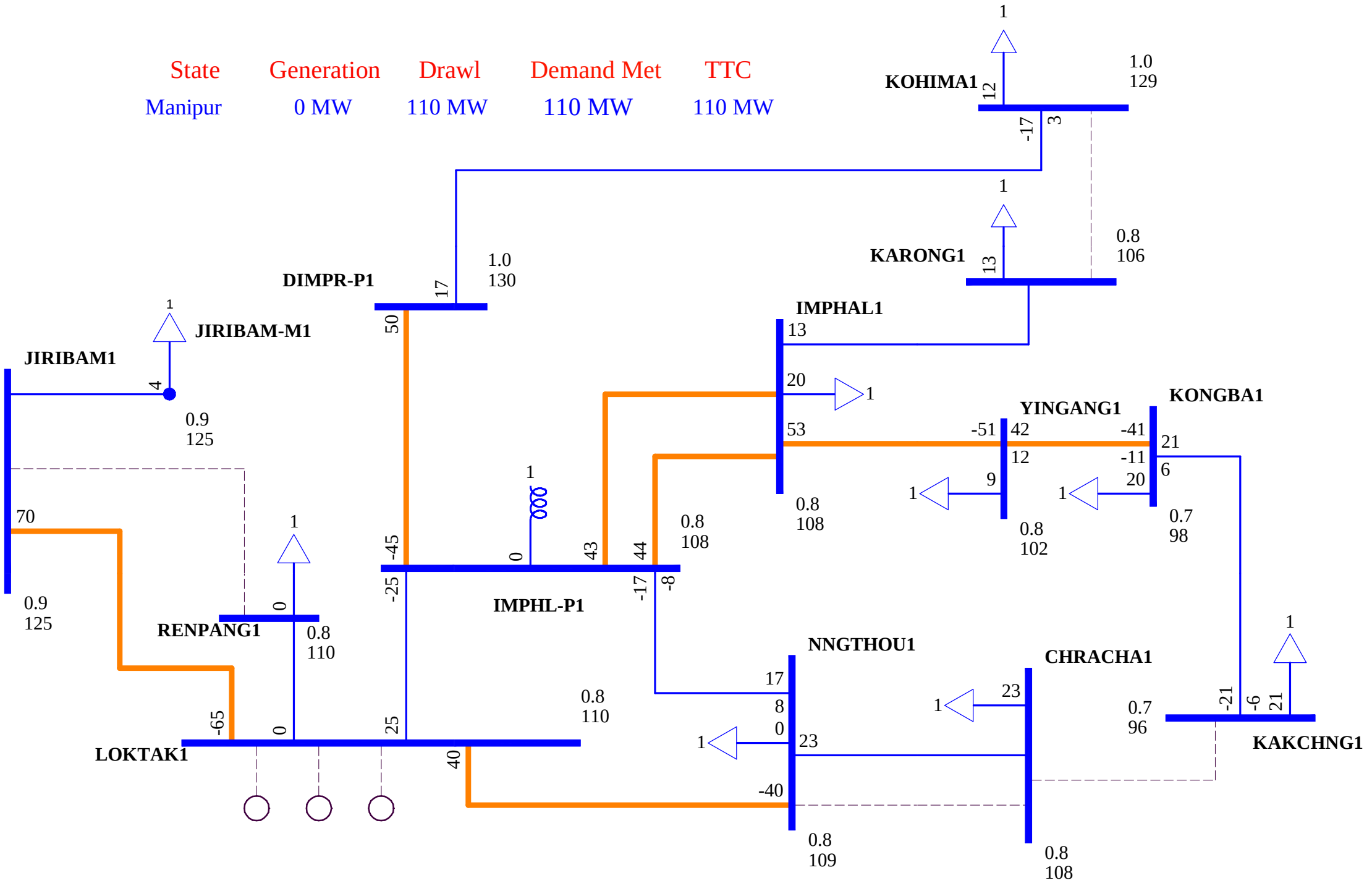
Peak Manipur Import 130 MW with Lokatk 0 MW

State	Generation	Drawl	Demand Met	TTC
Manipur	0 MW	128 MW	128 MW	128 MW



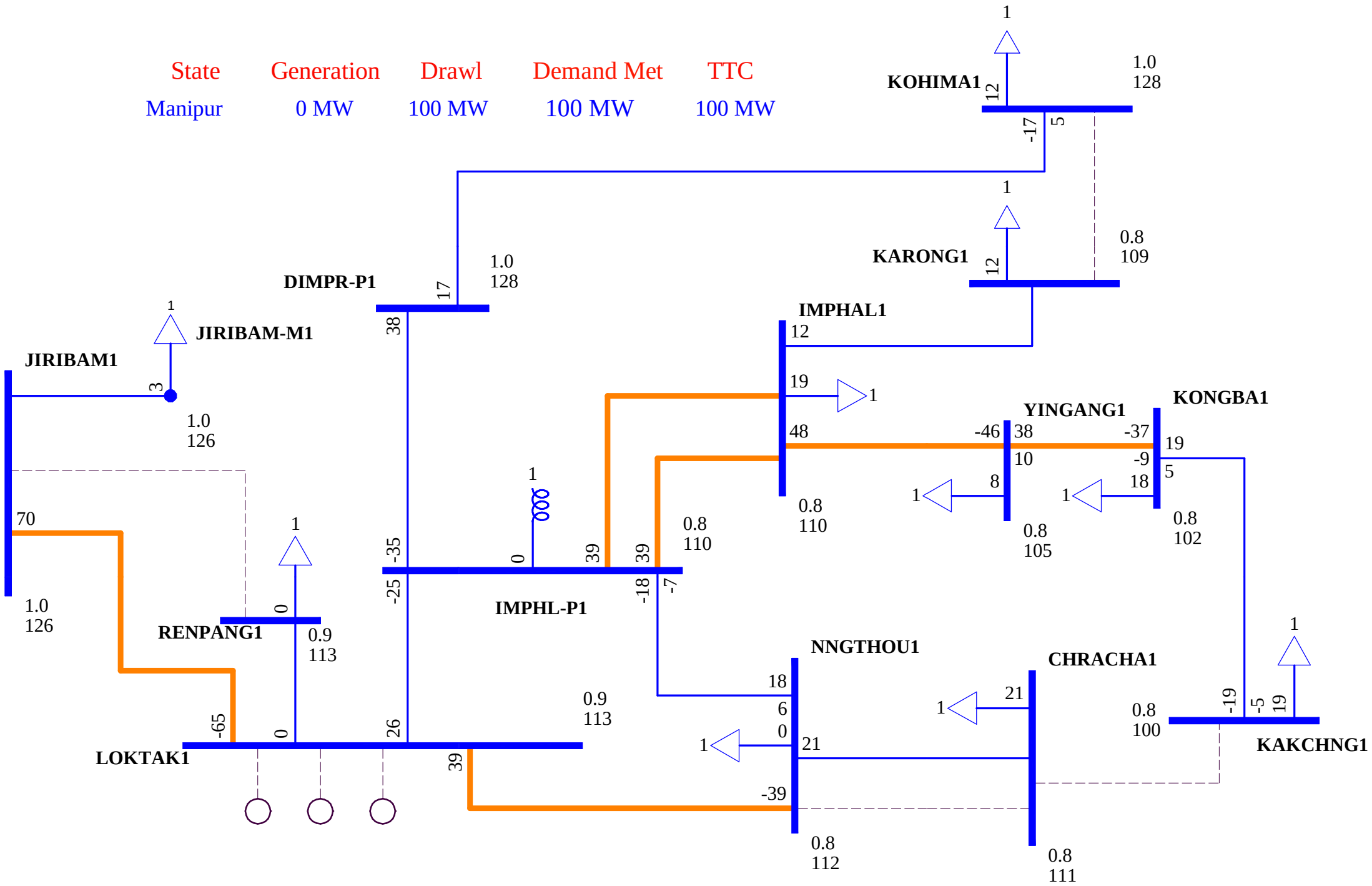
Peak Manipur Import 110 MW with Lokatk 0 MW

State	Generation	Drawl	Demand Met	TTC
Manipur	0 MW	110 MW	110 MW	110 MW



Peak Manipur Import 100 MW with Hydro Generation (132kV) 0 MW

State	Generation	Drawl	Demand Met	TTC
Manipur	0 MW	100 MW	100 MW	100 MW



Annexure - D.14

Transmission system availability verification by NERLDC

Presentation in 102nd. OCC meeting at Guwahati

Power System Operation Corporation Ltd
North Eastern Regional Load Despatch Centre
Shillong

Transmission system availability

As per Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 :

Transmission system availability factor for a calendar month (TAFM) shall be calculated by the respective transmission licensee, ***got verified by the concerned RLDC*** and certified by the Member-Secretary, Regional Power Committee of the region concerned

Annexure - D.14

Transmission system availability

References:

Discussions in 101st. OCC meeting of NERPC

Discussions in 22nd. Commercial Committee meeting of NERPC

Furnishing data by Transmission Licensee

Data is to be submitted to RLDC preferably on monthly basis by 1st. Week of next month (month2) for the month to be verified(month 1).

1. **Details of element-wise outage with reason and evidence for verification by RLDC.**

2. **Cumulative number of tripping of each element since beginning of Financial year and number attributable to the licensee.**

Furnishing data by Transmission Licensee

Present status :

Data submission by transmission licensee is irregular.

Generally data is submitted on quarterly basis which is not desirable.

Proposed procedure

Data submission to NERLDC by each transmission licensee by 1st week of a month (month 2) for the month to be verified (month 1).

Same data is to be submitted provisionally to NERPC Secretariat also for inclusion in OCC agenda / minutes of month 2 (along with tripping numbers).

Proposed procedure

Constituents will get one month time to comment on the list and furnish views to NERPC backed-up by requisite data by end of the month (month 2).

NERPC will forward comments of Constituents, if any, to NERLDC by 1st. Week of month 3 for using while verification.

Proposed procedure

NERLDC will verify the following:

1. **Outage duration of elements**
2. **Verify cases not-attributable to licensee based on evidence submitted by licensee and comments of Constituents.**
3. **Cases which cannot be verified will be marked with comments (NERPC can take a decision).**
4. **NERLDC will update cumulative numbers of tripping accordingly.**
5. **NERLDC will also list out the cases of outages which has affected evacuation of power from a generating station (as per CERC Regulations).**

Proposed procedure

Verified data will be forwarded by NERLDC to NERPC Secretariat by 10th. of month 3.

NERPC Secretariat will certify availability and inform NERLDC the final figures pertaining to 4 and 5 to enable NERLDC to update its database.

Proposed procedure

The process is likely to be completed by 15th. Of month 3.

If transmission licensee fails to adhere to schedule, process will be delayed by one month.

Strict compliance of time schedule is desirable.

Annexure - D.14

Proposed procedure

April-June'14 availability already certified by NERPC.

This procedure is to commence from July'14. July to Sept'14 data to be submitted by the licensees now. To be included in 103rd. OCC of Nov'14.

Oct'14 and Nov'14 data to be submitted by 1st. Week of Dec'14 ; to be part of Dec'14 OCC.

Monthly system to be followed Dec'14 onwards.