

POWERGRID ICTs				
S. NO.	STATION	VOLTAGE	Unit size	MVA
Uttar Pradesh				
1	Meerut	765/400	3*1500	4500
2	Bareilly	765/400	2*1500	3000
3	Balia	765/400	1*1500	1500
4	Fatehpur	765/400	2*1500	3000
5	Lucknow	765/400	2*1500	3000
6	Agra	765/400	2*1500	3000
7	Orai	765/400	2*1000	2000
8	Bulandshahr	765/400	2*1500	3000
9	Varnasi	765/400	2*1000	2000
10	Kanpur	765/400	2*1500	3000
11	Sohawal	400/220	2*315	630
12	Saharanpur	400/220	2*315	630
13	Shahjahanpur	400/220	2*315	630
14	Bagpat(GIS)	400/220	2*500	1000
15	Lucknow	400/220	1*500	500
Uttar Pradesh Total				31390
Haryana				
1	Bhiwani	765/400	2*1000	2000
2	Sonepat	765/400	2*1500	3000
2	Bhiwani	400/220	2*500	1000
3	Manesar	400/220	2*500	1000
4	Panchkula	400/220	2*315	630
5	Bahadurgarh	400/220	1*500	500
6	Jind	400/220	2*315	630
7	Kurukshetra	400/220	2*500	1000
7	Sonepat	400/220	2*315	630
Haryana Total				10390
Rajasthan				
1	Bhiwadi	400/220	1*315	315
2	Neemrana	400/220	2*315	630
3	Kotputli	400/220	2*315	630
4	Sikar	400/220	2*315	630
5	Jaipur(S)	400/220	2*500	1000
Rajasthan Total				3205
Jammu-Kashmir				
1	New Wanpoh	400/220	2*315	630
2	Wagoora	400/220	1*315	315
3	Samba	400/220	2*315	630
Jammu-Kashmir Total				1575
Punjab				
1	Moga	765/400	2*1500	3000
2	Patiala	400/220	1*500	500
3	Malerkotla	400/220	1*500	500
Punjab Total				4000
Uttaranchal				
1	Tehri Pooling point GIS	765/400	3*1500	4500
2	Dehradun	400/220	2*315	630
Uttaranchal Total				5130
Delhi				
1	Maharanibagh	400/220	2*500	1000
2	Jattikra	765/400	4*1500	6000
Delhi Total				7000
Himachal Pradesh				
1	Pooling station near Chamera-II	400/220	2*315	630
2	Hamirpur	400/220	2*315	630
Himachal Pradesh Total				1260
Total Transformation Capacity				63950



NORTH CENTRAL RAILWAY

Office of
Chief Electrical Engineer/Construction
North Central Railway, Allahabad

No.: Dy CEE/C/ALD/NTPC/CNB-ALD/Corres

18/5/10

To,
Executive Director (SEF),
Power Grid Corporation of India Limited
Corporate Centre, Sector -29, Gurgaon-122001

(Kind Attention: Mr Y.K.Sehgal)

Sub: Estimate for extension of 220 KV Bay 3 Phase Double Circuit for 220 KV Railway Supply at Sarangapur Substation, near Naini, of PGCIL.

Ref: (i) Item 7 of Minutes of meeting of 28th meeting of the Standing Committee on Transmission System Planning of Northern Region held on 23rd February, 2010 at NRPC, New Delhi
(ii) BDD/PGCIL letter No. C: BDD: NCR-Allahabad-220 KV bay dtd. 24.9.2009
(iii) This office letter of even no. dt. 5/10/09 & 11/9/09 addressed to ED/BDD

1. North Central Railway vide letters at Reference (iii) had requested for 02 No's of 220 KV bay at Sarangapur Grid Substation of POWERGRID to be commissioned by POWERGRID with cost borne by Railways.

2. POWERGRID vide letter at Reference (ii) had informed that the work could be taken up only after approval from the constituents of Northern Region in the meeting of Standing Committee of Northern Region Transmission Planning .

Accordingly the issue was listed in the agenda for the upcoming meeting of the stated committee.

3. In the meeting of Standing Committee on Transmission System Planning of Northern Region held on 23rd February, 2010 at NRPC, New Delhi the issue was taken up and following was decided and recorded in the minutes of meeting as per Reference (i):-

"Regarding request of Railway for providing 2 nos. of 220 kV bays at Allahabad sub-station of POWERGRID to draw 100 MW power allocated to

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18/5/10
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them from the unallocated quota of NTPC, Member (PS) stated that 220 kV lines from Dadri and Auraiya have already been provided to Railway to draw their share of allocated power. He observed that railways were not willing to sign the TSA for common ISTS elements of NR to be built through private sector participation. Railways are obliged to share the transmission charges for all regional transmission schemes as a long term beneficiary as per CERC regulations on sharing of transmission charges. As such unless Railway gives commitment for sharing the regional transmission charges, their request for access to regional transmission system cannot be considered.
Members agreed for the same."

4. It is to bring to your notice that in accordance with the requirements stated by the committee in the minutes of meeting, as detailed in item 3 above, North Central Railway has complied by the requirement and has signed the TSA on 7/5/10.

5. In view of the requirements of the Standing Committee having been satisfied by the Railways it is requested that the matter may be taken up at the earliest at your end so that the early commissioning of the stated bays can take place.

6. An early communication regarding the decision taken may please be conveyed to this office by return fax at (0532) 2560032.

CIR
18.05.10

(Rajesh Tiwari)
Chief Electrical Engineer/C
North Central Railway

उ०प्र० पावर ट्रांसमिशन कारपोरेशन लिमिटेड

(उत्तर प्रदेश सरकार का उपक्रम)

Office Of The
Chief Engineer (Operation)
11th Floor, Shakti Bhawan Extn.
14-Ashok Marg Lucknow-226001
लखनऊ-226001

कार्यालय
मुख्य अभियन्ता(संचालन)
11वॉ तल, शक्ति भवन विस्तार,
14, अशोक मार्ग,



No. 1505 -CE(O)/TP&PSS/Standing Committee

Dated: 20.07.10

✓ Chief Engineer(SP&PA),
System Planning and Project Appraisal Division,
Central Electricity Authority,
Sewa Bhawan,
R.K. Puram,
New Delhi.

Kindly refer to this office letter no. 1153-CE-CE(T)/SE(TP&PSS)/Standing Committee dated 20-05-2010 (photo copy enclosed) vide which the following were requested, to be approved in the Standing Committee.

- 1- To evacuate power from Parichha TPS Extn. (2x250 MW), 400 KV dc Parichha Orai-Mainpuri line proposed to be terminated at 400 KV Mainpuri (PG), till 765 KV Mainpuri (UP) substation is not commissioned. In this connection, it is to inform that 2 nos. 400 KV bays at 400 KV substation Mainpuri(PG) already approved for 400 KV dc inter connector between Mainpuri(PG) and Mainpuri(UP). In view of above the two no. bays at 400 KV Mainpuri(PG) may kindly be allowed for termination of 400 KV dc Parichha-Orai-Mainpuri line at Mainpuri(PG) substation. In this reference, a request from CE(Transmission South), UPPTCL has already been sent to GM(BDD), PGCIL, Gurgaon vide his letter No. 4162-CE(TW)/AG/E-10 dated 18-06-2010 (Photo copy enclosed).
- 2- 220/132 KV, 2x160 MVA substation at Jhusi (Distt. Allahabad) is on the verge of completion where 220 KV SC Sarangapur (Allahabad(PG)) – Phulpur line is to be LILoed at 220 KV S/s Jhusi. Therefore, it is requested that approval of the same may kindly be given at the earliest.
- 3- 220/132 KV, 2x100 MVA at Bakshi Ka Talab (periphery of Lucknow city) is being constructed. It is to be connected to 400 KV S/s Lucknow (PG) by 220 KV dc line. Approval for the same may kindly be given alongwith 4 nos. of bays (2+2) at 400 KV S/s Lucknow (PG).

Encl.: As above.

(R.S. Panday)

Chief Engineer(Operation)

CC.: Executive Director (Engineering), PGCIL, Saudamini, Plot No. 2, Sector-29, Gurgaon, Haryana-122001 alongwith all the enclosures with the request that the works may be approved at the earliest

777-56A
29/7/10
Re discuss
29/7

P. POWER TRANSMISSION CORPORATION LIMITED

उ. प्र. पावर ट्रांसमिशन कारपोरेशन लिमिटेड

(उत्तर प्रदेश सरकार का उपक्रम)

Office of The
Chief Engineer (Transmission)
11th Floor, Shakti Bhawan Extn.
14, Ashok Marg, Lucknow - 226001



कार्यालय
मुख्य अभियन्ता (पारेषण)
11वां तल, शक्ति भवन विस्तार
14, अशोक मार्ग, लखनऊ-226001
Phone / Fax No. : 0522-2287833
0522-2286476

No. / संख्या : 710

CE(T) / मु.अभि.(पारे.) / ~~STANDING COMMITTEE~~

Date / दिनांक 10-03-2010

Sub : 28th meeting of Standing Committee on Power System Planning of Northern Region.

**CE (SP&PA),
Central Electricity Authority,
Sewa Bhawan, R.K. Puram,
New Delhi.**

During the 28th meeting of Standing Committee held at NRPC New Delhi on 23.2.2010, the comments on the points discussed are as given below :-

I- Enhancing Reliability of Generation at Narora Atomic Power Station :-

Out of the total capacity of Narora Power Station (2x220 MW), at present only 70 MW generation is available with only one machine running. The average generation is even less than 40 MW for most of the period. Enhancing the reliability of generation at NAPP has thus to begin from within NAPP by improving the generation availability. The network constraints as pointed, have already been taken care of UPPTCL and are given below :

(1) Generation availability at Harduaganj Extension:

2x250 MW units are being installed at Harduaganj Extension and are planned to be put into commercial operation by June 2010 and August 2010 with 220 KV DC line from Harduaganj Power Station to 220 KV S/S Jahangirabad.

(ii) Construction of 400 KV S/S at Aligarh :-

A 400 KV S/S has been planned at Aligarh with capacity of 400/220 KV, 2x500 MW. Land for the sub-station is available and tendering process is in hand. The sub-station should be available by end of XI Plan by LILO of 400 KV Panki-Muradnagar line.

(iii) Augmentation of 400 KV S/S at Agra and Greater Noida from (2x315) MVA to (3x315) MVA have already been done.

(IV) 220 kv Sub-Stations in the vicinity :-

	Capacity(MW)	Exp. COD
a) 220 KV S/S Khair(Aligarh) with 220 KV SC Aligarh-Khair line	2x100	June 2010
b) 220 KV S/S Sambhal(Moradabad) with LILO of 220 KV Moradabad -Narora line	2x160	Aug.2010
c) 220 KV S/S Etah with LILO of one circuit of 220 KV DC Har-duaganj-Mainpuri line	2x100	June 2010
d) 220 KV Shamshabad Road (Agra) with LILO of 220 KV Agra (400)-Firozabad line	2x160	Aug.2011
e) 220 KV Sub-Station Sirsaganj (Firozabad) with LILO of one circuit of 220 KV DC Mainpuri (PG)-Mainpuri line	2x100	Aug.2011

V A 220 KV DC Agra (400)-Hathras and 220 KV SC Gajraula-Sambhal-Badaun lines are also in the pipe line

VI New Capacitors being installed in the vicinity

S.No.	Sub-Station	MVAR	Expected COD
1	220 KV S/S Atrauli	1x40	June 2011
2	220 KV S/S Sikandrabad	1x40	June 2011
3	220 KV S/S Sambhal	1x40	June 2011
4	220 KV S/S Nanauta	1x40	June 2011
5	220 KV S/S Sahupuri	1x40	June 2011
6	220 KV S/S Chibramau	1x40	June 2011
7	220 KV S/S Panki	1x40	June 2011
8	220 KV S/S Naubasta	1x40	June 2011

320 MVAR

In addition to above 36 Numbers 10 MVAR Capacitors viz.360 MVAR are also in the process of installation at various 132 KV Sub-Stations to mitigate the low voltage problems in the area.

VII Revival of Capacitors in the area

S.No.	Sub-Station	Installed MVAR	Revised MVAR
1	220 kv s/s Jahangirabad	80	60
2	220 KV S/S Khurja	80	60

II- 400 KV DC Meja-Rewa Road line :-

It was suggested that 400 KV DC line from Meja to Allahabad (PG)(Sarangapur) may be considered instead of 400 KV DC Meja to Rewa Road Allahabad for evacuation of Power from Meja P/S (2x660 MW). This proposal can not be considered because 400 KV DC Meja-Rewa Road line is included in Package of works to be taken up through PPP route in UPPTCL. The bidding process for selection of developer is already in advanced stage and no change can be done at this stage in scope of works already approved by ETF and in process of approval by UPERC.



(Ashok Kumar)
Executive Director(Transmission)

CC.: 1- Managing Director, UPPTCL, Shakti Bhawan, Lucknow.
2- S.E.(TP &PSS), UPPTCL, 3rd Floor, Shakti Bhawan Extn. Lucknow.



H.P. Power Transmission Corporation Limited
(A State Govt. Undertaking)
Barowalias House, Khalini, Shimla-171002
(Telefax: 0177-2626284)

HPPTCL/CEA/CORR/10-

2317-18

July 22, 2010

To

Chief Engineer (SP & PA),
Central Electricity Authority,
Sewa Bhawan, R.K. Puram,
New Delhi-110066.

Museem
P. D. J. S.

Subject:- **Agenda Items for the next meeting of the Standing Committee on Power System Planning –Northern Region.**

Sir:

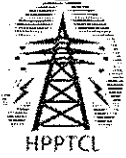
In pursuance of discussions held on 30.6.2010 and 1.7.2010 with CEA and PGCIL, agenda items (5 Nos.) of HP Power Transmission Corporation Limited (STU) for approval of Standing Committee of Power System Planning-Northern Region are enclosed for favour of taking further necessary action please.

Yours faithfully,

Director (Planning & Contracts)

✓ Copy along with Agenda Items (5 Nos) to Executive Director (Engineering) Power Grid Corporation of India Limited, "Saudamini", Plot No. 2, Sector-29, Gurgaon-122001 (Haryana) for information and necessary action please.


Director (Planning & Contracts)



AGENDA ITEM - 2

Subject:- **Requirement of 220 kV Bays along with 220/400 kV ICTs at 400 kV Parvati Pooling station of PGCIL at Banala .**

PGCIL is constructing 400 kV pooling station (GIS) at Banala in Distt. Kullu of Himachal Pradesh for evacuation of power from Parvati-III (520 MW) and Parvati-II (800 MW) HEPs under execution by NHPC. The above arrangement is as per the Transmission plan for Beas Basin projects displayed on the official web site of CEA. In addition to above, several Small Hydel projects (up to 25 MW) and medium/large projects are also at different stages of development in the Beas valley upstream of Banala and shall require evacuation through 400 kV Banala Pooling station due to limited availability of transmission corridors. Details of the projects and the proposed arrangements for evacuation of their generated power are as under:-

1. 220/132/33 kV Pooling station at Naggar with 220 kV connecting Line up to Banala

HPPTCL is constructing 220/132/33 kV Pooling station at Naggar (Upstream of Banala) for evacuation of about 200 MW of power expected from Small Hydel projects through a 220 kV D/C Line (on towers suitable for Quad MOOSE) up to Banala. The 220 kV D/C line shall be converted in to 220 (Quad MOOSE) line in the time frame of projects envisaged in Chenab valley where a 220 kV pooling station with 220 kV (Quad MOOSE) line up to Banala P.S. is proposed in the CEA's Master for Chenab basin projects. The 220 kV line is proposed to be terminated at Naggar instead of Banala to minimise the number of lines running in parallel in the congested valley. **Accordingly, 2 Nos. 220 kV bays at Banala shall be required for use by HPPTCL in the 1st phase. HPPTCL shall pay for transmission charges for 220 kV bays and the 220/400 kV ICT. In the 2nd phase when the projects in Chenab basin also start**

generating (tentatively after 2016-17) additional requirement of ICTs and bays shall be known.

2. Termination of 220 kV D/C (Single ZEBRA) AD Hydro – Nalagarh Line at Banala

Developer of Allain Duhangan HEP (192 MW) is constructing 180 Kms long 220 kV D/c line up to 400/220 kV P.s of PGCIL at Nalagarh. In addition 100 MW of Malana-II and about 50 MW of Small HEPs (located in upper Beas –Manali) shall also be evacuated through this line. In pursuance of directions from Govt. Of HP for conserving the Right of Way in the congested valleys, Developer of Allain Duhangan HEP has agreed and also given an Undertaking to HPPTCL for terminating his project line at Banala. The remaining portion of 220 kV line beyond Banala shall be taken up by HPPTCL for up-gradation/augmentation. For this purpose, **4 Nos. 220 kV bays (2 incoming and 2 outgoing) for terminating 220 kV AD Hydro-Nalagarh D/C line at Banala and 220/400 kV, 1X500 MVA ICT (The capacity of 500 MVA ICT shall evacuate power of Allain Duhangan (192 MW), Malana-II (100 MW) and power from Small HEPs in Naggah area. shall be required.** Respective developers shall pay the applicable transmission charges.

3. Evacuation of power from Tosh Parvati (520 MW) HEP to be built by HP Power corporation Limited (HPPCL)

Power from Tosh Parvati HEP (520 MW), which has been allotted to HPPCL in the Parvati valley, is proposed to be evacuated through a 220 kV line (Twin MOOSE) up to Banala P.S. For this purpose, **2 Nos. 220 kV bays along with 2x315 MVA, 220/400 kV ICTs shall be required at Banala.**

The total requirement of 220 kV bays and 220/400 kV ICTs at Banala is as under:-

Sr.N	Description	Requirement	Remarks
1	220 kV bays for Naggar- Banala 220 kV D/C Line	2	2012-13
	220/400 kV, 500 MVA ICT	1	2016-17*
2	220 kV bays for terminating 220 kV Ad Hydro-Nalagarh Line at Banala	4	2010-11
	220/400 kV, 500 MVA ICT	1	2010-11
3	220 kV D/C Line (Quad MOOSE) from Chenab basin	2	2019-20*
	220/400 kV, 500 MVA ICT	2	2019-20*
4	220 kV D/C Line from Tosh Parvati (520 MW) HE Project	2	2016-17*
	220/400 kV, 315 MVA ICT	2	2016-17*

*These projections are tentative and are subject to review after taking in to account the actual progress on the ground.

It is requested that the above proposed requirements may kindly be examined and included in the Agenda for approval of the Northern Region Standing Committee on Power System planning.



H. P. Power Transmission Corporation Limited
(STATE TRANSMISSION UTILITY)

Barowalia House, Khalini, Shimla-171002. Telefax: 0177-2626284

AGENDA ITEM - 3

Subject:- **Creation of 220/132/33 kV Pooling station at Karian, Distt. Chamba, HP under implementation by HPPTCL with 220 kV connectivity with 400/200 kV Chamera Pooling Station near Chamera-II Power House under construction by PGCIL.**

As per CEA's Master Plan for evacuation of power from Ravi basin projects in HP, a 220/400 kV, 2x315 MVA pooling station near Chamera-II power House with 400 kV (twin MOOSE) D/C connecting line up to Jullundher is being built by PGCIL. The above transmission system stands approved in the 23rd meeting of the standing committee held on 16.2.2008 at Dehradun. In the close vicinity of 400/220 kV pooling station of PGCIL, HPPTCL is implementing 220/132/33 kV pooling station at Karian. For meeting the power requirements of the state, 2 Nos. 220 kV bays are required at 400/220 kV pooling station near Chamera-II for connecting 220 kV pooling station of HPPTCL at Karian.

The above requirement of HPPTCL for 2x220 kV bays at 400/220 kV pooling station of PGCIL near Chamera-II power House may kindly be included in the agenda for the meeting of standing Committee for approval of the Committee please.



AGENDA ITEM-5

Subject:- **Transmission System for evacuation of power from Sainj HEP (100 MW) in Tirthan valley, Distt. Kullu, HP under implementation by HP Power Corporation Limited (HPPCL) .**

HPPCL is constructing 100 MW Sainj HEP close to the proposed power house of Parvati -II HEP (800 MW) under execution by NHPC. The project is targeted for commissioning in 2013. As per Master Plan displayed on CEA's web site, power of Sainj HEP shall be injected in to Parvati-III HEP through a 132 kV line and 132/400 kV step up station. The evacuation plan for Sainj HEP has already been deliberated upon in the 26th meeting of the Standing Committee held on 13.10.2008 in Chamba (UK). In pursuance of decision taken during the meeting, NHPC has already confirmed that space for 400 kV bay is neither available at the switchyard of Parvati-II nor at III. Accordingly, **it is now proposed to take LILO of 400 kV Parvati-II- Parvati-III Line near Parvati-II power house for injection of Sainj HEP power in to 400 kV line between Parvati-II and Parvati-III HEPs.** It is also proposed to step up Sainj HEP power at 400 kV directly instead of first stepping up to 132 kV and further to 400 kV.

The above proposal may kindly be included in the agenda for the meeting of standing Committee for approval of the Committee please.



H. P. Power Transmission Corporation Limited
(STATE TRANSMISSION UTILITY)

Barowalia House, Khalini, Shimla-171002. Telefax: 0177-2626284

AGENDA ITEM-1

Subject:- **Proposal for Evacuation of power from Hydro Electric Projects in Chenab (Chanderbhaga) Basin in Himachal Pradesh.**

Sir:

CEA has finalized Transmission Plan for Evacuation of power from various projects in Chenab basin in Himachal Pradesh which is also available on CEA's official web site. As per the Plan, a 220 kV Pooling Station is proposed to be built near Khoksar, a 220/400 kV P.S. is proposed at Reoli and 220/400 kV pooling station is planned at Dugar. Reoli, Khoksar and Dugar Pooling Stations are proposed to be connected through a 220 kV (Quad MOOSE) D/C Line. 220 kV Pooling Station near Khoksar is proposed to be connected through 2 Nos. 220 kV (Quad MOOSE) D/C lines with 400 kV Pooling station of PGCIL under construction at Banala. Reoli pooling station is proposed to be connected with Hamirpur/Una through a \pm 300 kV HVDC line and Dugar P.S. shall be connected with J & K through a 400 kV (Twin MOOSE) D/C line.

In addition to above, HPPTCL has also planned following Transmission projects for evacuation of power from Small HEPs (up to 25 MW) in Kullu/ Manali area:-

1. Construction of 33/220 kV (GIS) Pooling station at Palchan (Manali) +220 kV S/C Line on D/C Towers (Single ZEBRA) from Palchan to 220 kV Switch Yard of Allain Dhuangan HEP at Prini (Estimated potential to be evacuated=50 MW)
2. Construction of 33/132 kV, 31.5 MVA+132 /220 kV, 2x50/63 MVA Pooling station at Naggar+220 kV D/C (Quad MOOSE) line up to 400 kV pooling station of PGCIL at Banala (Estimated potential to be evacuated=200 MW)

Agenda for provision of 2 Nos. 220 kV bays and associated 220/400 kV transformation at Banala for providing connectivity to Naggar P.S has already been submitted.

Agenda for termination of 220 kV Prini- Nalagarh of AD Hydro at Banala P.S has also been submitted.

At present, status of various projects in Chenab basin is as tabulated below:-

Sr.N	Name of Project	Capacity (MW)	Status/COD
1	Chhatru	108	2016-17
2	Seli	320	2016-17
3	Miyar	90	2016-17
4	Sach Khas	149	2016-17
5	Bardang	126	2016-17
6	Telling	81	Proposed
7	Khoksar	90	Proposed
8	Gondla	144	Proposed
9	Gyspa	240	Proposed
10	Tandi	150	Proposed
11	Rasil	150	Proposed
12	Tinget	81	Proposed
13	Palam	60	Proposed
14	Reoli	420	Proposed
15	Dugar	380	Proposed
	Total	2589	

M/S Moser baer, the developer of Seli HEP (320 MW) in Chenab basin has already been advised to apply for connectivity and Open Access to PGCIL as per CERC norms.

Schematic Diagram of 220 kV line planned to be constructed between Palchan and Banala are depicted in **Exhibit-I**.

Between Palchan and Prini, 3 Nos. Transmission Corridors shall be required for construction of following 220 kV lines:-

- i. 2 Nos. 220 kV D/C (Quad MOOSE) lines from Khoksar P.S. in Chenab basin up to 400 kV P.S. at Banala.
- ii. 1 No. 220 kV S/C line on D/C towers (Single ZEBRA) from Palchan to Prini.

Between Naggar and Banala, 4 Nos. 220 Transmission Corridors shall be required for construction of following 220 kV lines:

- i. 2 Nos. 220 kV D/C (Quad MOOSE) lines from Khoksar P.S. in Chenab basin up to 400 kV P.S. at Banala.
- ii. 1 No. 220 kV D/C (Single ZEBRA) line from Prini to Nalagarh (under construction by AD Hydro).
- iii. 1 No. 220 kV D/C (Quad MOOSE) line from Naggar to Banala to be constructed by HPPTCL.

In order to reduce the requirement of transmission corridors in the congested upper and lower Manali valleys, it is proposed that:

- i. One of 220 kV D/C lines planned from Khoksar P.S. in Chenab basin be terminated at 220 kV P.S of HPPTCL at Palchan.
- ii. 220 kV S/C line on D/C towers between Palchan and Prini (10 Kms) be augmented to 220 kV D/C (Quad MOOSE) through ERS and extended up to Naggar.

The revised arrangement is as per **Exhibit-II**.

It is requested that the Modified Transmission arrangement as per **Exhibit-II** for evacuation of power from Chenab basin projects may kindly be examined and included in the Agenda for approval of the Northern Region Standing Committee on Power System planning for forming part of the Regional System.

Yours faithfully,

~~General Manager,~~

EXHIBIT-I

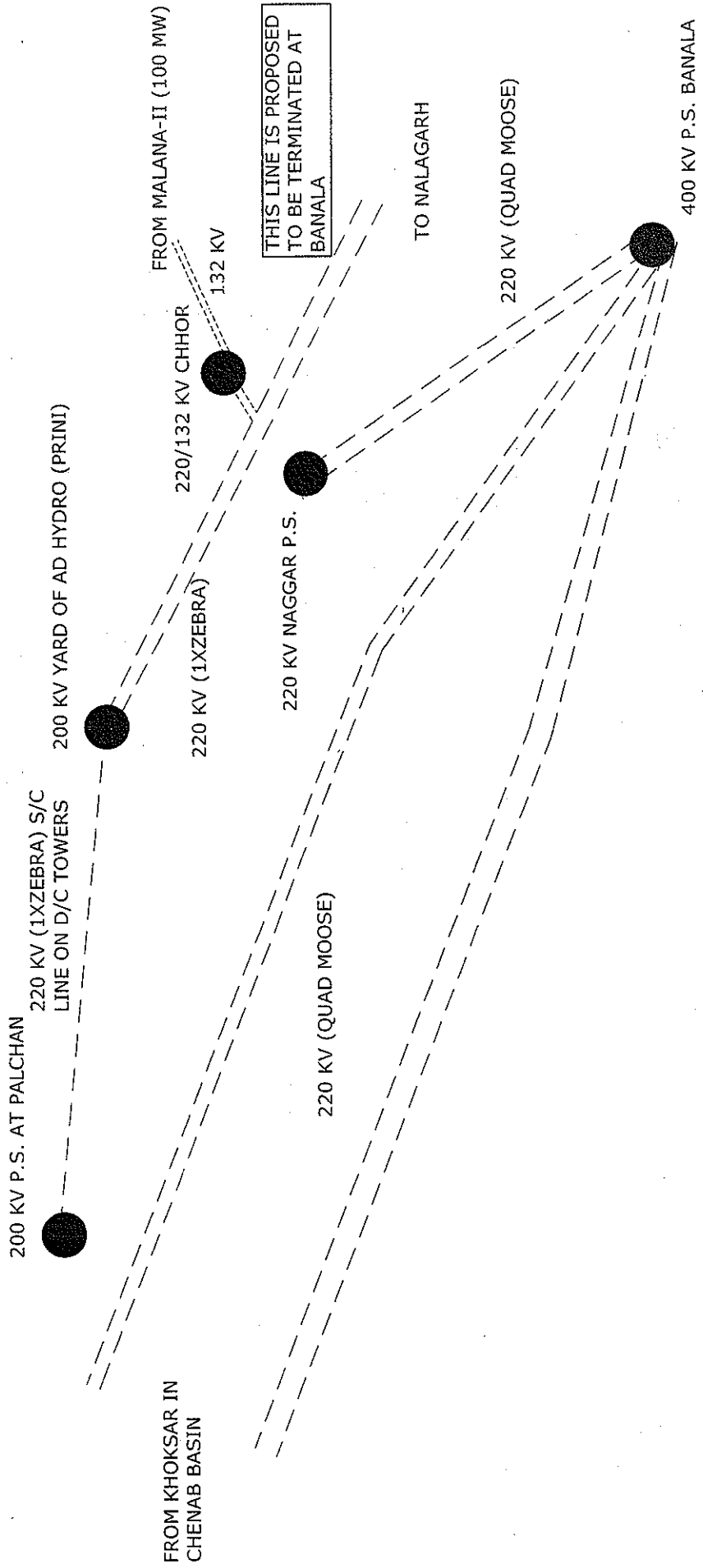
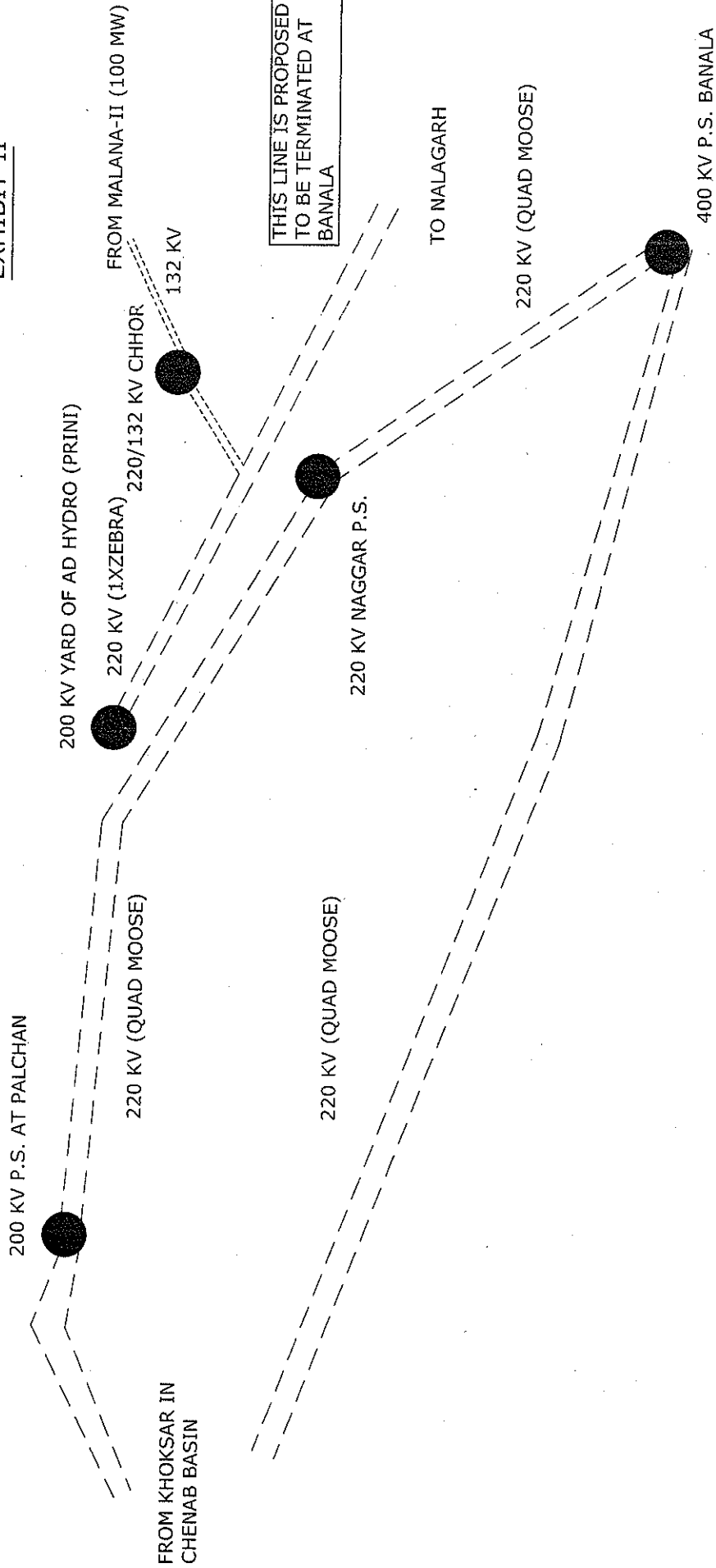


EXHIBIT-II





AGENDA ITEM-2

Subject:- Transmission Plan for Evacuation of power from Hydro Electric Projects in Satluj Basin (Spiti valley) in Himachal Pradesh.

Sir:

CEA has finalized Transmission Plan for Evacuation of power from various projects in Satluj basin (Spiti valley) in Himachal Pradesh which is also available on CEA's official web site. As per the Plan, a 220 kV Pooling Station is proposed to be built near Yangthang (Ka Dogri) in Spiti valley which shall be connected with 220/400 kV P.S. proposed at Jangi through 2 Nos. 220 kV (Twin MOOSE) D/C Lines. 220/400 kV Pooling Station at Jangi is further proposed to be connected through 2 Nos. 400 kV (Triple Snowbird) D/C lines with 400 kV Pooling station at Sherpa Colony. 400 kV Pooling station at Sherpa Colony shall be created by LILO of Baspa- Jhakri 400 kV D/C line and re-LILO of Karcham Wangtoo LILO line. For evacuation of power from Upper Kinnaur (Spiti valley) projects, a 400 kV D/C (Quad MOOSE) line is planned from Sherpa Colony to Sonepat via Kunihar. In addition, 220 kV Kashang- Bhaba line of STU and 400 kV D/C line between Wangtoo and Abdullapur are also planned to be LILOed at Sherpa Colony.

Agenda for approval of Standing Committee for LILO of 400 kV Wangtoo- Abdullapur Interstate Line at Sherpa Colony has already been submitted.

At present, status of various projects in Satluj basin (Spiti Valley) is as tabulated below:-

Sr.N	Name of Project	Capacity (MW)	Status/COD
1	Chango Yangthang *	140	2016-17
2	Yangthang Khab	261	2016-17
3	Kuling Lara	40	Proposed

4	Lara	60	Proposed
5	Mane Nadang	70	Proposed
6	Lara Sumte	104	Proposed
7	Sumte Kathang	130	Proposed
	Total	805	

➔ M/S Malana Power Company, the developer of Chango Yangthang HEP (140 MW) has already applied for Open Access to PGCIL.

Between Powari and Sherpa Colony, 3 Nos. Transmission Corridors shall be required for construction of following 400 kV lines:-

- i. 2 Nos. 400 kV D/C (Triple Snowbird) lines from Jangi P.S. and Sherpa Colony.
- ii. LILO of one circuit of 400 kV Baspa-II- Jhakri D/C line at Powari.

It is submitted that due to congestion in the valley between Powari and Sherpa colony, only 2 Nos. 400 kV lines can be built. Accordingly, proposal to construct 3 Nos. 400 kV lines between Powari and Sherpa Colony may kindly be subjected to review and the Transmission arrangement for evacuation of power from Satluj basin (Spiti valley) projects may kindly be included in the Agenda for approval of the Northern Region Standing Committee on Power System planning for forming part of the Regional System.

Yours faithfully,


General Manager,



Satluj Jal Vidyut Nigam Limited

सतलुज जल विद्युत निगम लिमिटेड

(A Joint Venture of Govt. of India & Govt. of H.P.)

विद्युत अभिकल्प विभाग, मेहता निवास, न्यू शिमला-171 009-

Electrical Design Department,
Mehta Niwas, New Shimla-171 009.

Ph. : 0091-177-2670833

Fax : 0091-177-2671095

No. SJVNL/ED/LHEP/2009- 1920-22
To

Dated: 25/2/09

Mr. D.Chaudhary,
Executive Director (Engineering),
Power Grid Corporation of India Limited,
Saudamini, Plot No.2, Sector-29,
Gurgoan, Haryana
Fax No. 0124 2571760

Sub: Power evacuation of (775MW) Luhri HEP. " Location Map of LHEP".

Dear Sir,

With reference to discussions held in your office on 16.2.2009 on the subject of power evacuation of Luhri HEP. As desired during the discussions a map showing approximate location of Luhri Power House is being enclosed herewith for your reference.

It is requested that proposed transmission line network for Luhri HEP may please be intimated to us at the earliest so that the same can be mentioned accordingly in different reports / presentations connected with Luhri HEP. As mentioned during our previous communication, Luhri HEP shall be central sector project of Northern Region. Shares of different states shall be as per annexure enclosed.

Thanking you,

Yours faithfully,

Encl: As above.

[Signature]
24/02/09
Addl. General Manager,
Elect. Design Deptt.,
SJVNL, Mehta Niwas,
[Signature]

N.O.O

CC:

1. Director (Elect.) for kind informatio please.
2. Sh. Satish Sharma, AGM, Luhri HEP. .

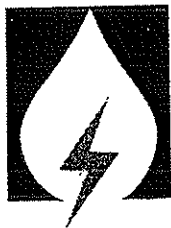
SATLUJ JAL VIDYUT NIGAM LIMITED

Commercial & System Operation Deptt.

Expected Allocation of LUHRI-HEP			
S.No.	State	% Allocation	MW
1	H.P. (including 1 % for LAD*)	57.76	447.64
2	Haryana	2.84	22.01
3	J&K	4.65	36.04
4	Punjab	5.05	39.14
5	Rajasthan	4.97	38.52
6	U.P.	9.79	75.87
7	Uttaranchal	1.68	13.02
8	Chandigarh	0.35	2.70
9	Delhi	6.3	48.83
10	Unallocated	6.61	51.23
11	Total	100	775

* LAD- Local Area Development

(53)



Satluj Jal Vidyut Nigam Limited

सतलुज जल विद्युत निगम लिमिटेड

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विद्युत अभिकल्प विभाग, मेहता निवास, न्यू शिमला-171 009-

Electrical Design Department,

Mehta Niwas, New Shimla-171 009.

Ph. : 0091-177-2670833

Fax : 0091-177-2671095

No. SJVNL/ED/LHEP/2009- 1826

February 11, 2009

Mr. D. Chaudhary,

Executive Director (Engineering),

Power Grid Corporation of India Limited,

Saudamini, Plot No.2, Sector-29,

Gurgoan, Haryana

Fax No. 0124 2571760 / 2578109 / 2571401

**Sub: Planning for execution of evacuation of Power from 775 MW
Luhri HEP.**

Dear Sir,

It is brought into your attention that MOU for execution of 775MW Luhri HEP has been signed between SJVNL and H.P. Govt. The following information is attached for your ready reference to plan and execute power evacuation system for this project, which is likely to be commissioned by February, 2017:-

- 1) Copy of MOU.
- 2) Inception & commissioning date.

Further, it is pointed out that beneficiaries for this project will be the states of Northern Region as per prevalent practice for Central Sector Hydro Projects.

The issue shall also be discussed during the meeting of our Director (E) with you on 16/02/2009 at Gurgoan along with Power evacuation arrangement for ARUN-III HEP (Please refer our letter dated 29.1.2009).

Thanking you,

Yours faithfully,

(S.P. Pathak), 11/02

Addl. General Manager,

Encl: As above.

Annexure-II

Sr. No.	Activity	Actual/Target Date
1.	Signing of MOU with GOHP.	27.10.08
2.	Techno-Economic Clearance From CEA	30.06.08 09
3.	CCEA approval	28.02.10
4.	Award of works	28.02.10
5.	Commissioning of project	28.02.17



एन टी पी सी लिमिटेड
(भारत सरकार का उद्यम)

NTPC Limited
(A Govt. of India Enterprise)

केन्द्रीय कार्यालय/Corporate Centre

01/CP/1.100
January 12, 2010

Shri Pankaj Kumar
General Manager (SEF)
Power Grid Corporation of India Ltd.
Plot No.02, Sector-29
Near IFFCO Chowk
Gurgaon (Haryana) – 122001
Fax: 0124-2571809.

Sub: Evacuation System for Singrauli STPP Stage-III (1x500 MW)

Dear Sir,

NTPC is implementing Singrauli STPP Stage-III (1x500 MW) in Uttar Pradesh for the benefit of Northern Region beneficiaries which is scheduled for commissioning in early XII Plan Period. The Feasibility Report (FR) for the project has been approved in August 2009 and various clearances are in advance stage. The EPC contract is targeted to be awarded by March 2010.

The details required for planning the Associated Transmission System (ATS) for the above project are given below:

- | | | |
|---|----------------|--|
| 1 | Capacity: | 500 MW (1x500 MW) |
| 2 | Location: | District: Sonebhadra in Uttar Pradesh |
| 3 | Schedule: | The unit is likely to be commissioned in 2013-14. |
| 4 | Beneficiaries: | Singrauli STPP (1x500 MW) is being developed for the benefit of the Northern Region beneficiaries. Indicative Power to be supplied to different states is given below: |

Sl. No.	Beneficiaries	(MW)
1	Uttar Pradesh	188
2	Uttaranchal	24
3	Delhi	76
4	Haryana	33
5	Punjab	48
6	Rajasthan	68
7	Himachal Pradesh	20
8	Jammu & Kashmir (J&K)	39
9	U.T. of Chandigarh	04
	Total	500

It is requested that based on above inputs Associated Transmission System (ATS) for the above project may be planned to match the timeframe of the generation project.

Thanking you,

Yours faithfully,



(A.K. Sharma)
General Manager (CP)

Copy to:

Shri Ravinder Kumar
Chief Engineer (SP&PS)
Central Electricity Authority
Sewa Bhawan, R.K. Puram
New Delhi - 110 066.

Rajasthan Rajya Vidyut Prasaran Nigam Ltd.
Regd. Office: Vidyut Bhawan, Jyoti Nagar, Janpath, Jaipur

Phone Number: 2740373

Fax No.: 0141-2740794

E-MAIL: ppmrvpn@sancharnet.in

No. RVPN/SE(P&P)/PSS/D. 401

Jaipur, Dt: 4.6.10

Chief Engineer (SP&PA),
System Planning & Project Appraisal Division,
Central Electricity Authority,
Sewa Bhawan, R.K. Puram,
New Delhi- 110066

Fax No: 011-26171042/26102045

Sub: Agenda for 29th Standing Committee meeting on Power System Planning of Northern Region.

Sir,

Kindly find enclosed herewith agenda item for consideration and approval in the 29th Standing Committee meeting. The issue is regarding connectivity of 765/400 kV Sub-station Anta & 400 kV Sub-station Kota(PG) at 400 kV voltage level. The cost of proposed 400 kV S/C Anta(765 kV GSS)-Kota(PG) line, 400 kV feeder bay at PGCIL's 400/220 kV Kota GSS and it's maintenance would be borne by RVPNL.

Encl: as above

Your's faithfully,



2.6.10
(B.N.SAINI)


CHIEF ENGINEER (PP&M)

Copy to the Director (Projects), PowerGrid, Saudamini, Plot No. 2, Sector 29, Gurgaon-122 001. Fax No: 0124-2571760 / 2571761

Encl: as above

~~D (mj) 02~~
~~ED (SEE)~~

Mukesh
3/1/2010



3.6.10
CHIEF ENGINEER (PP&M)

**Agenda for 29th Standing Committee meeting on Power System
Planning of Northern Region.**

Agenda Item: Proposal of 400 kV interconnection between proposed RVPN's 765 kV GSS Anta & 400 kV GSS Kota(PG)

Background:

The following evacuation system had been approved for **Chhabra TPS Stage I Phase I (2x250 MW)**:

1. 400 kV S/C Chhabra TPS-Hindaun line with 1x 315 MVA, 400/220 kV GSS at Hindaun (20 km 400 kV D/C line exist at Chhabra TPS end).
2. 400 kV S/C line Chhabra TPS - Bhilwara line with 1x315 MVA, 400/220 kV GSS at Bhilwara (130 kms 400 kV D/C line from Chhabra TPS to a location at Dahra/Anta and one circuit is extended upto Bhilwara).
3. 220 kV S/C Chhabra TPS- Jhalawar line.
4. 220 kV S/C Chhabra TPS-Kawai-Baran -Dahra line with 1x100 MVA, 220/132 kV GSS at Baran.

The following evacuation system had been approved for **Chhabra TPS Stage I Phase II (2x250 MW)**:

1. Second circuit of above 400 kV D/C Chhabra TPS - Dahra/Anta line would be extended to 400/765 kV GSS at Dahra/Anta (400/765 kV GSS at Dahra/Anta has been approved under composite evacuation system of Chhabra super critical TPS. (2x660 MW) and Kalisindh TPS (2x600 MW).

Proposal:

The tie line(s) are very essential to inter-connect two generating complexes for transfer of bulk generated power, especially when the units are under maintenance, shut down or outages at either of the generating complexes. Therefore, it is proposed to connect 400 kV GSS Kota(PG) & 765/400 kV GSS Anta through 100 km long 400 kV S/C line. This would facilitate inter-connection between RAPP_C (2x220 MW) generating complex and Rajasthan's State owned Chhabra TPS Stage-I (4x250 MW).

The cost of 400 kV feeder bay at 400 kV GSS Kota (PG) and it's maintenance would be borne by RVPNL.

Technical Evaluation:

For technical evaluation, the load flow studies have been conducted considering following two alternatives for a system peak load of 13250 MW (Revised) corresponding to financial year 2013-14:

S.No.	Case Description	Exhibit No.
Base Case	Load flow study for the condition corresponding to 2013-14	1
Proposed Case	100 kM 400 kV S/C Anta (765 kV GSS)-Kota(PG) line	2

Benefit of the Proposal:

- The total system losses would be less in Proposed Case i.e. 508 MW vis-à-vis 511 MW in Base Case.
- The inter-connection of proposed 765/400 kV GSS Anta to PGCIL's 400/220 kV Kota GSS would facilitate inter connection between RAPP-C power plant and Chhabra Power Plant, which would enable bulk power transfer between generators under maintenance / shut down/ power outages of the units at either of the generating complexes.
- The power flow of 550 MW under proposed case from 765/400 kV GSS Anta to PGCIL's 400/220 kV Kota GSS indicates that it would provide reliability and benefit to Northern Region as a whole.

Conclusion:

The following proposal be considered for discussions and approval in 29th Standing Committee meeting:

- 100 kM 400 kV S/C Anta (765 kV GSS)-Kota(PG) line
- The cost of proposed 400 kV S/C line, 400 kV feeder bay PGCIL's 400/220 kV Kota GSS and it's maintenance would be borne by RVPNL.



SPEED POST.

एन टी पी सी लिमिटेड

(भारत सरकार का उद्यम)

NTPC Limited

(A Govt. of India Enterprise)

(Formerly National Thermal Power Corporation Ltd.)

Ref. No: CC: PEB: 1240/270/1

केन्द्रीय कार्यालय/Corporate Centre

Date: 22.04.10

*Panwar
Muller
P. D. W. C.*

ED (ENGG-SEF),
Power Grid Corporation of India Limited,
"Saudamini", Plot No. 2, Sector-29,
Gurgaon.-122 001

Sub: Provision of 400 kV Bus Reactor at Rihand Generating Station Switchyard

Dear Sir,

This is with reference to minutes of meeting of 28th SCM held on 23rd Feb'10 at NRPC New Delhi. As per point no.6 of the above MOM it is stated that 400 kV ,1x125 MVAR bus reactor would be provided at Rihand Generating Station switchyard by Generating company.

Presently 80 MVAR bus reactors are being procured by NTPC under Rihand-III & Vindhyaachal -IV. PGCIL is requested to examine the possibility of installing 80 MVAR Bus Reactor in place of 125 MVAR for ease of procurement through the power transformer packages under Rihand-III.

As per our previous experience procurement through separate packages invite s very low response from manufacturer /supplier due to low value contract.

You are therefore requested to examine the above and confirm the size of Bus reactor to be installed at Rihand Generating Station so that necessary approvals in this regard can be obtained at our end for further implementation.

Thanking you.

Yours faithfully,

(A. K. Gupta)

General Manager (PE-ELECT & C&I)

S.No.	Description	Details
1.	Name the Applicant	NTPC Limited
2.	Address for correspondence	AGM(PE-Elect),NTPC LTD. Engineering Office Complex,A-8A,Sector-24,NOIDA - 201301(U.P)
3.	Contact Details	
	Prime Contact Person	Shri Abhijit Sen
	Designation	AGM(PE-Elect)
	Phone No. (Landline)	0120-2410441
	Phone No. (Mobile)	09650992601
	Fax	0120-2410108
	E Mail	aksen@ntpceoc.co.in
	Alternate Contact Person	Shri S.S.Mishra
	Designation	DGM(PE-Elect)
	Phone No. (Landline)	0120-2410729
	Phone No. (Mobile)	09650991145
	Fax	0120-2410108
	E Mail	ssmishra@ntpceoc.co.in
4.	Nature of Application	
	Generator (other than captive)	Generator
	Captive Generator	
	Bulk Consumer	
5.	Details of Connectivity	
5 a.	Capacity (MW) for which connectivity is required	500 MW
5 b.	Date from which connectivity is required	2014-15
6.	Location of the Generating Station/Bulk consumer	In the premises of Singrauli STPS of NTPC on Northern Bank of Rihand Reservoir near Shakti Nagar
	Nearest Village/Town	Sonebhadra
	District	Uttar Pradesh
	State	24° - 06' 04" (N)
	Latitude	82° - 42' - 00" (E)
	Longitude	In the premises of Singrauli STPS of NTPC on Northern Bank of Rihand Reservoir near Shakti Nagar

7.	Installed Capacity of the Generating station	
	Unit- 1-5	100 0MW(5x 200 MW)
	Unit-6-7	1000 MW(2x 500 MW)
8.	Commissioning Schedule of the Generating Station (new)	
	Unit-1	2014-15
9.	Details of the Generation Station	
	Name of the Power Plant	SSTPS
	Promoter	NTPC Ltd.
	Fuel	Coal
	Source of Fuel	Already applied to MOC for coal linkage. CEA/MOP has recommended. To be linked by MOC in next SLC (LT) meeting.
	Generation Voltage	21 kV
	Step-up voltage	400 kV
	Is it an identified project by CEA	yes
	Base Load/Peak load	Base Load
10.	Details of Nearest 400/220/132kV Substations	Existing 400 kV Singrauli Generation switchyard
	Owner	NTPC Limited
11.	Details of DD/e-transaction (Application Fee)	
	Amount (in Rs.)	3,00000/- (Three lakh only)
	DD/Transaction No	
	Date	
	Bank Name	
	Branch Name	

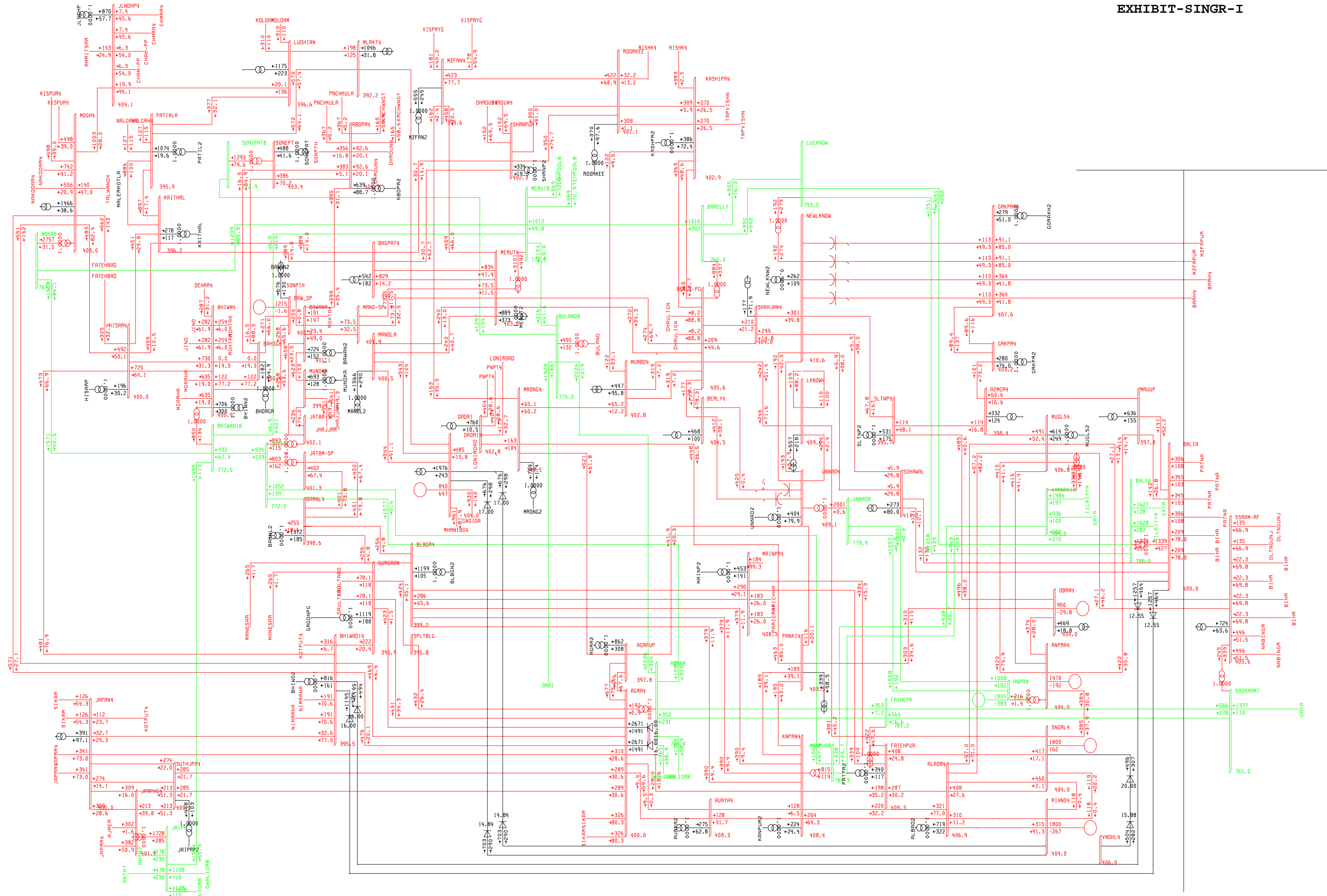
Application for grant of Connectivity (RAPP-7&8)

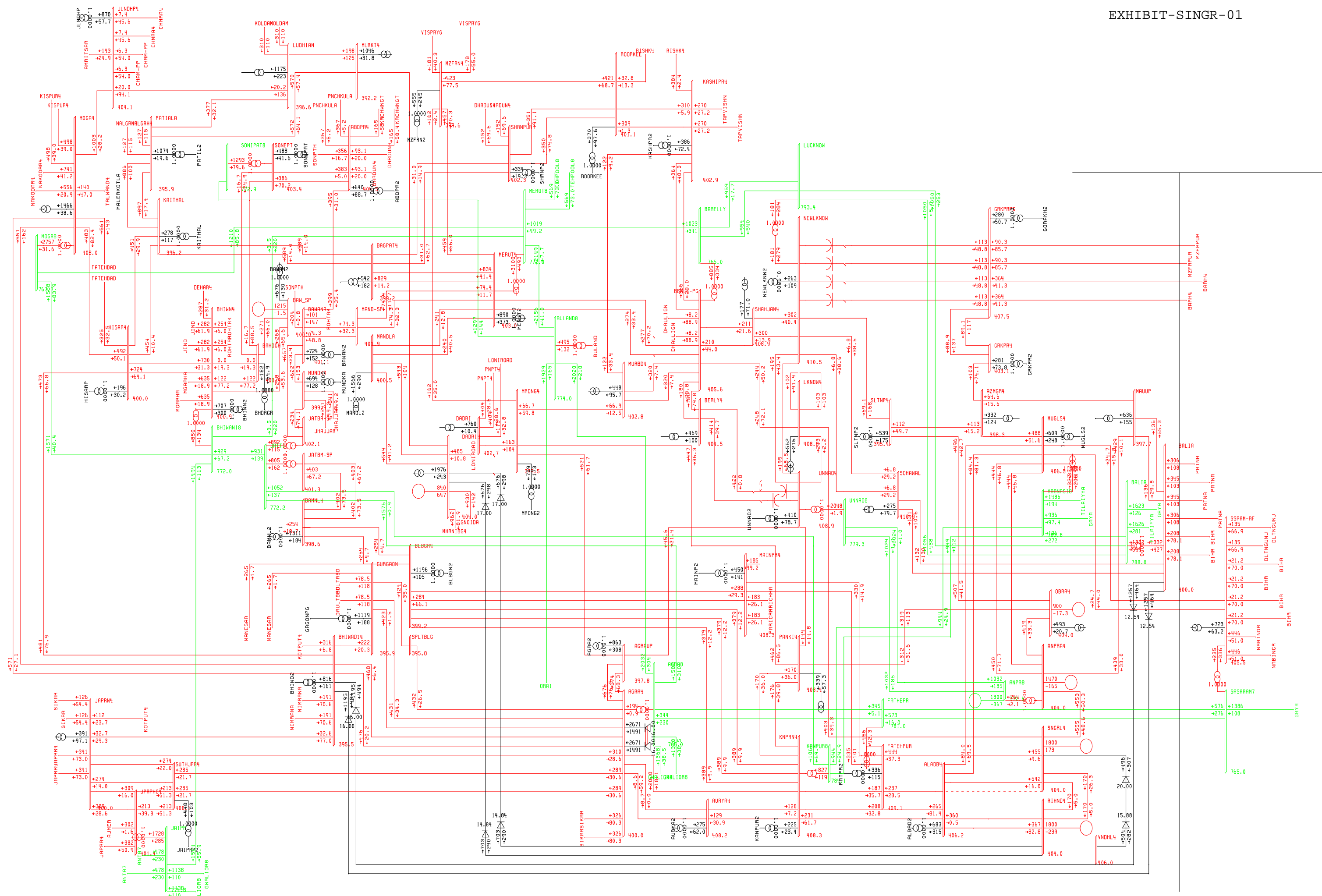
1	Name of the Applicant	Nuclear Power Corporation of India Ltd.
2	Address for Correspondence	V.S.Bhavan Anushaktinagar Mumbai-400094
3	Contact Details	
	Prime contact person	Shri M.L. Jadhav
	Designation	Chief Engineer (Transmission)
	Phone No. (Landline)	022 - 25501937/25992911
	Phone No.(Mobile)	09969062123
	Fax	022 - 25993570
	E-Mail	mljadhav@npcil.co.in
	Alternate contact person	Shri K.P. Singh
	Designation	Additional Chief Engineer (Transmission)
	Phone No.(Landline)	022 - 25992913
	Phone No. (Mobile)	09423373248
	Fax	022 - 25993570
	E-Mail	kpsingh@npcil.co.in
4	Nature of applicant	
	Generator(other than captive)	Generator
	Captive Generator	-
	Bulk Consumer	-
5	Details For Connectivity	
5a	Capacity (MW) For Which Connectivity is required	2x700 MW
5b	Date From Which Connectivity is required	December 2015 (Criticality date of RAPP-7)
6	Location of the Generating Station /Bulk Consumer	
	Nearest Village / Town	Rawatbhata
	District	Chittorgarh
	State	Rajasthan
	Latitude	24°52'N
	Longitude	75°37'E
7	Installed Capacity of the Generating Station	
	Unit-2	200 MWe
	Unit-3	220 MWe
	Unit-4	220 MWe
	Unit-5	220 MWe
	Unit-6	220 MWe

Ujjwalan
13.07.2010

8	Commissioning Schedule of the Generating Station (new)	
	RAPP-7	June 2016 (COD)
	RAPP-8	December 2016
9	Details of the Generating Station (new)	
	Name of the Power Plant	Rajasthan Atomic Power Project (RAPP-7&8)
	Promoter	NPCIL
	Fuel	Nuclear
	Source of Fuel	Indigenous
	Generation Voltage	21 kV
	Step-up Voltage	400 kV
	Is it an identified Project of CEA	Yes
	Base Load /Peaking	Base Load
10	Details of Nearest 400/220/132 kV Sub-Station	
	Sub- Station -1	Kota
	Voltage levels available	400 kV
	Owner	POWERGRID
	Distance (Km)	50 Km
	Sub-Station-2	Chhitorgarh
	Voltage levels available	220 kV
	Owner	POWERGRID
	Distance (Km)	125 Km
	Sub-Station-3	
	Voltage levels available	
	Owner	
	Distance(Km)	
11	Details of DD/e-transaction (Application Fee)	
	Amount (in Rs.)	8,10,000/(Eight Lakh Ten Thousand)
	DD/Transaction No.	UTR No-SBINH10183344504
	Date	2 nd July 2010
	Bank Name	State Bank of Hyderabad
	Branch Name	Nehru Place ,New Delhi 110019

Uyana Law
13-07-2010

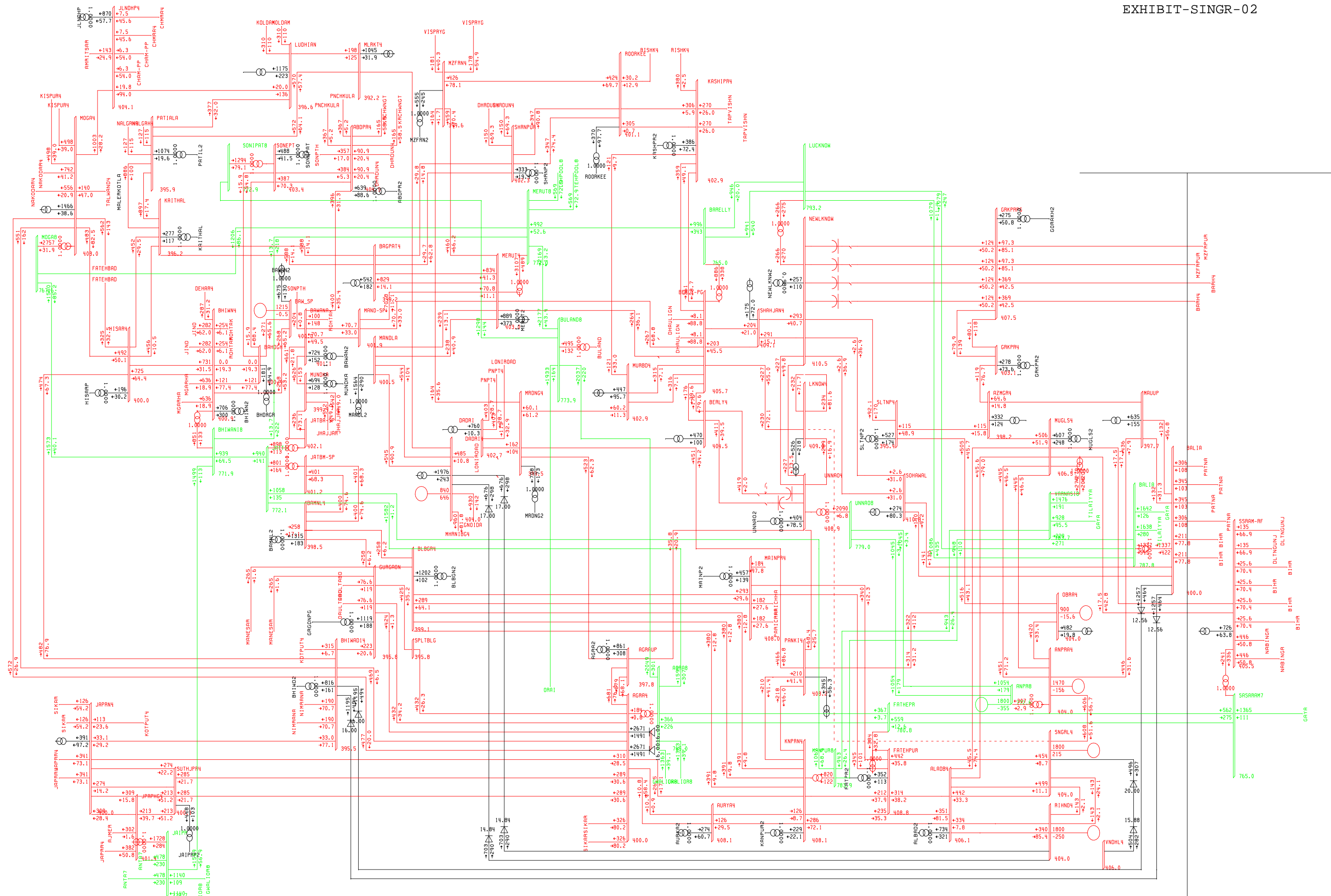


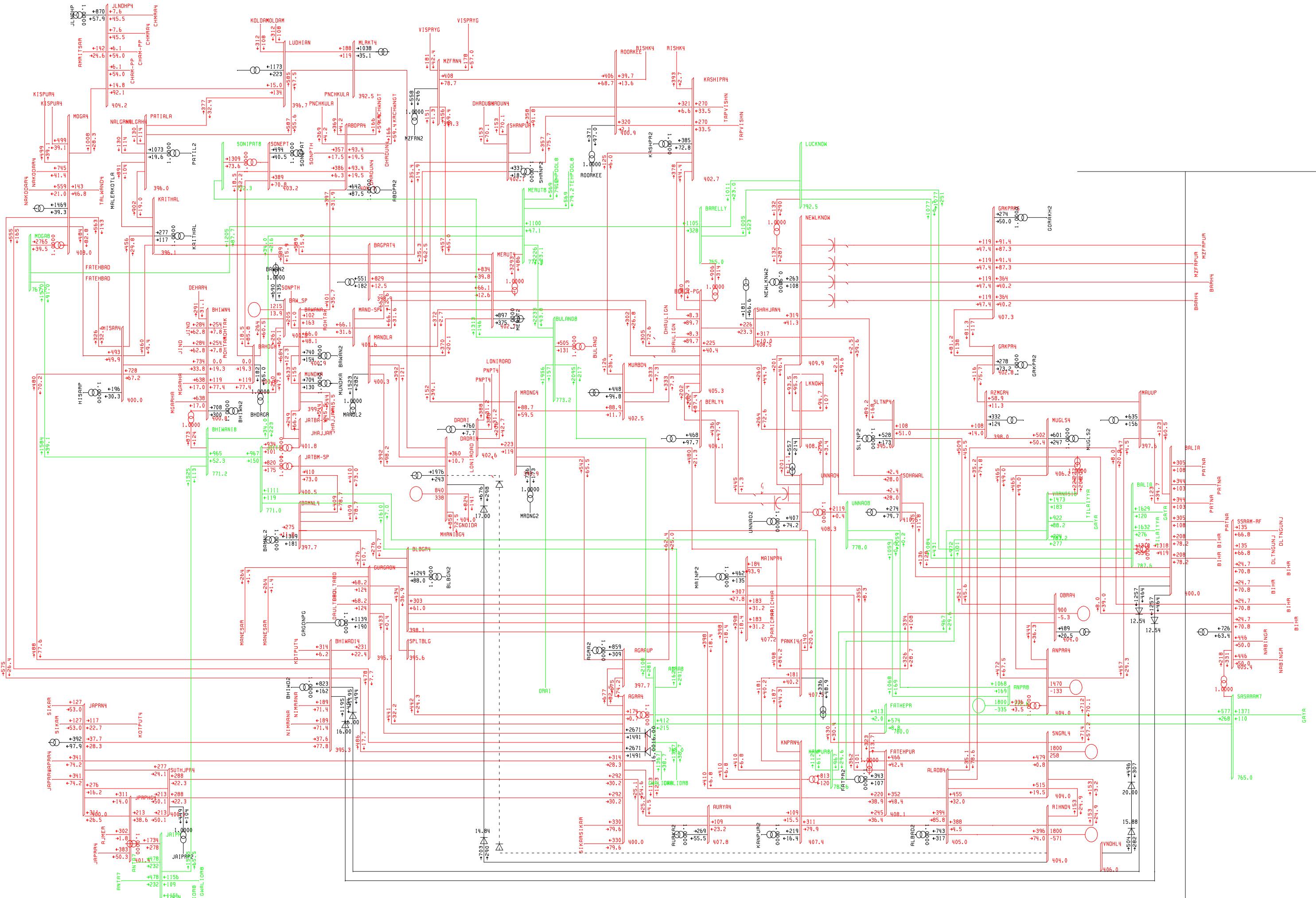


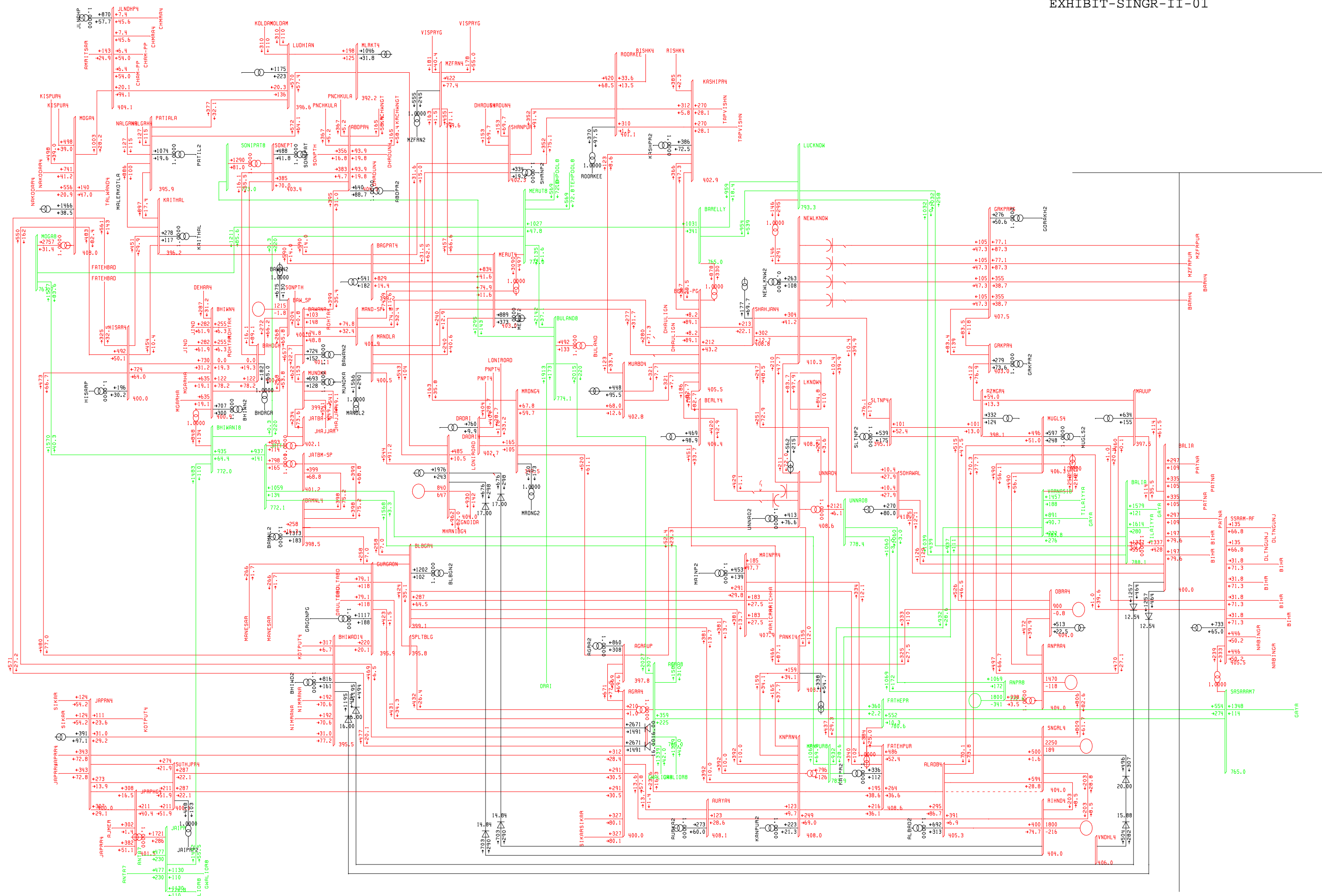
BUS - VOLTAGE (KV)
 BRANCH - MW/MVAR
 EQUIPMENT - MW/MVAR

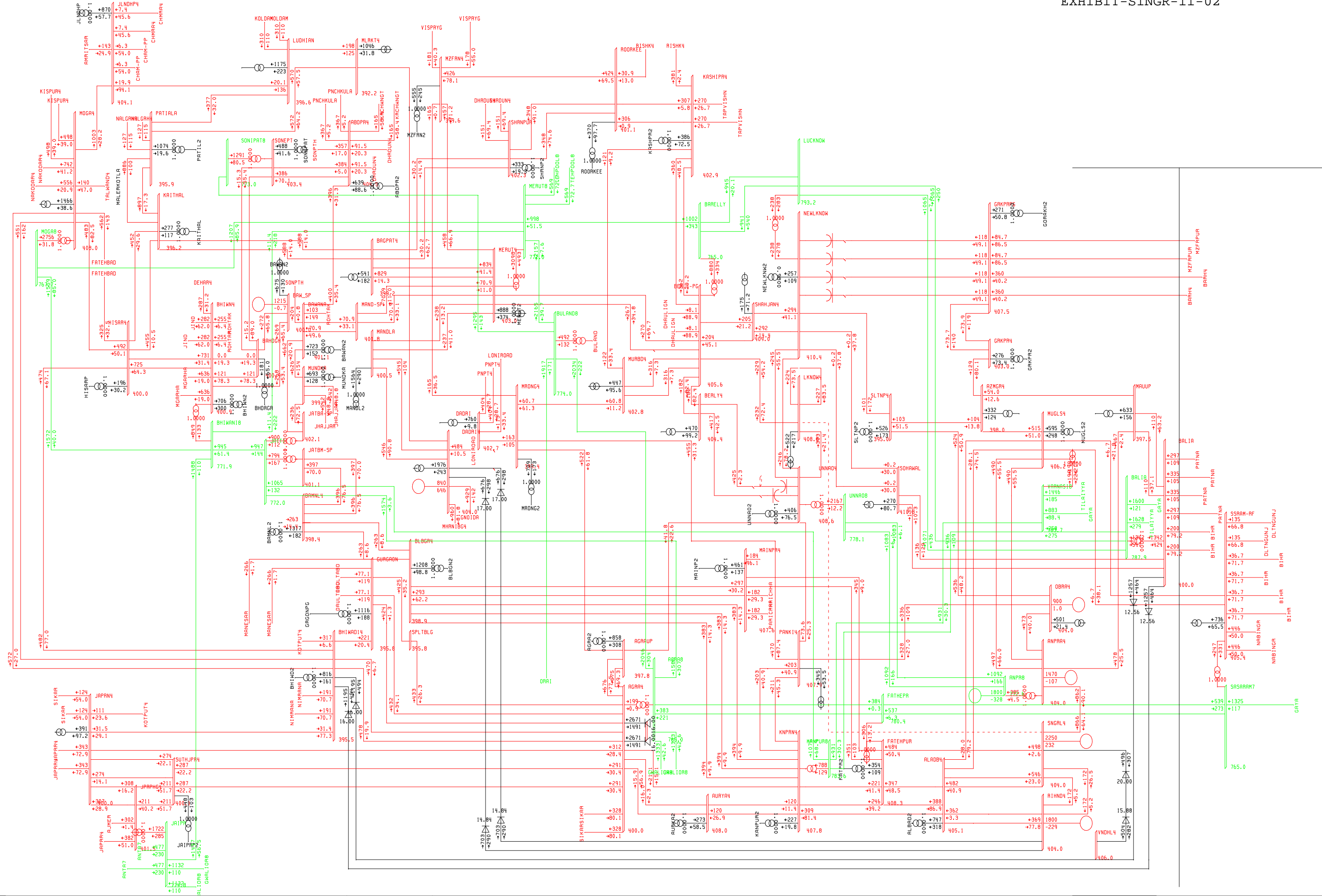
KV: <220, <400, <765

OUTAGE OF ONE CIRCUIT OF SINGRAULI-ALLAHABAD









A-10 + T-6
 TUE, NOV 16 2010 10:40

kv: <220, <400, <765
 BUS - VOLTAGE (KV)
 BRANCH - MW/MVAR
 EQUIPMENT - MW/MVAR

OUTAGE OF SINGRAULI-LUCKNOW 400KV LINE

