

39th

Annex - 11

Transmission Corporation of Telangana Limited

Vidyut Soudha, Hyderabad – 500 082. PABX:23396000
(CIN No:U40102AP2014SGC094248) Website:transco.telangana.gov.in

From
Chairman & Managing Director,
TS TRANSCO,
Vidyut Soudha, Hyderabad

To
The Chairman,
Central Electricity Authority,
New Delhi - 110066

Lr.No.CMD/TSTransco/SE/PS/DE-SS/F-TP/D.No.52 /15, dt.28-04-15.

Sir,

Sub: TS Transco Transmission Plan- Calling for an emergency
Standing Committee Meeting-Requested -Reg.

Post bifurcation, the State of Telangana has faced severe power shortage problems for various reasons. To mitigate the situation various short-term measures were taken. A comfortable power supply situation has been achieved in the State presently. We are very much grateful for the help and support extended by Ministry of power, GoI and CEA during the crucial phase.

To address this issue permanently and make "Telangana a Power Surplus State", an ambitious plan of capacity addition has been taken up. This includes setting up of Kakatiya TPP Stg-II (1X600 MW), Kothagudem TPS Stg-VII (1X800 MW), Manuguru TPP (4X270 MW) & Damercharla TPP (5X800 MW). Apart from this M/s NTPC is also setting up a 4000 MW TPP as mandated by State Reorganization Act. With the support extended by Telangana State Government and lending agencies, most of these projects have already achieved financial closures and the zero date would commence soon. This would also help us in accomplishing the mission of 9hrs daytime Agricultural supply as promised by Hon'ble Chief Minister of Telangana "24X7 Power For All" as envisaged by Government of India and sooner than expected.

112 SP 6 PA
7.5.15

7/5/15
10/5/15

Member (PS)
(E/SP8 PA) 06.05

Stri PJ

2117
6/5/15

To evacuate this huge quantum of power an adequate & robust transmission network must be in place. Transmission Corporation of Telangana together with M/s Power Grid Corporation have prepared a comprehensive transmission plan, which would meet the transmission requirements on account of Capacity Addition as well as anticipated load growth is herewith enclosed.

(Further as per the studies conducted, the 400kV Twin Moose DC lines between Maheshwaram 765 kV PGCIL SS - Maheshwaram 400 kV TS SS and Dichipally 765 kV PGCIL SS - Dichipally 400 kV TS SS needs to be enhanced to "Quad Moose" lines and the same may also please be approved.) ?

We solicit the support of CEA and request to call for an emergency Standing Committee meeting, at the earliest, so as to take up the issue as a "Table Item" in the forthcoming SRPC/TCC meeting scheduled to be held on 11th & 12th May 2015, which would help us in faster implementation of the plan.

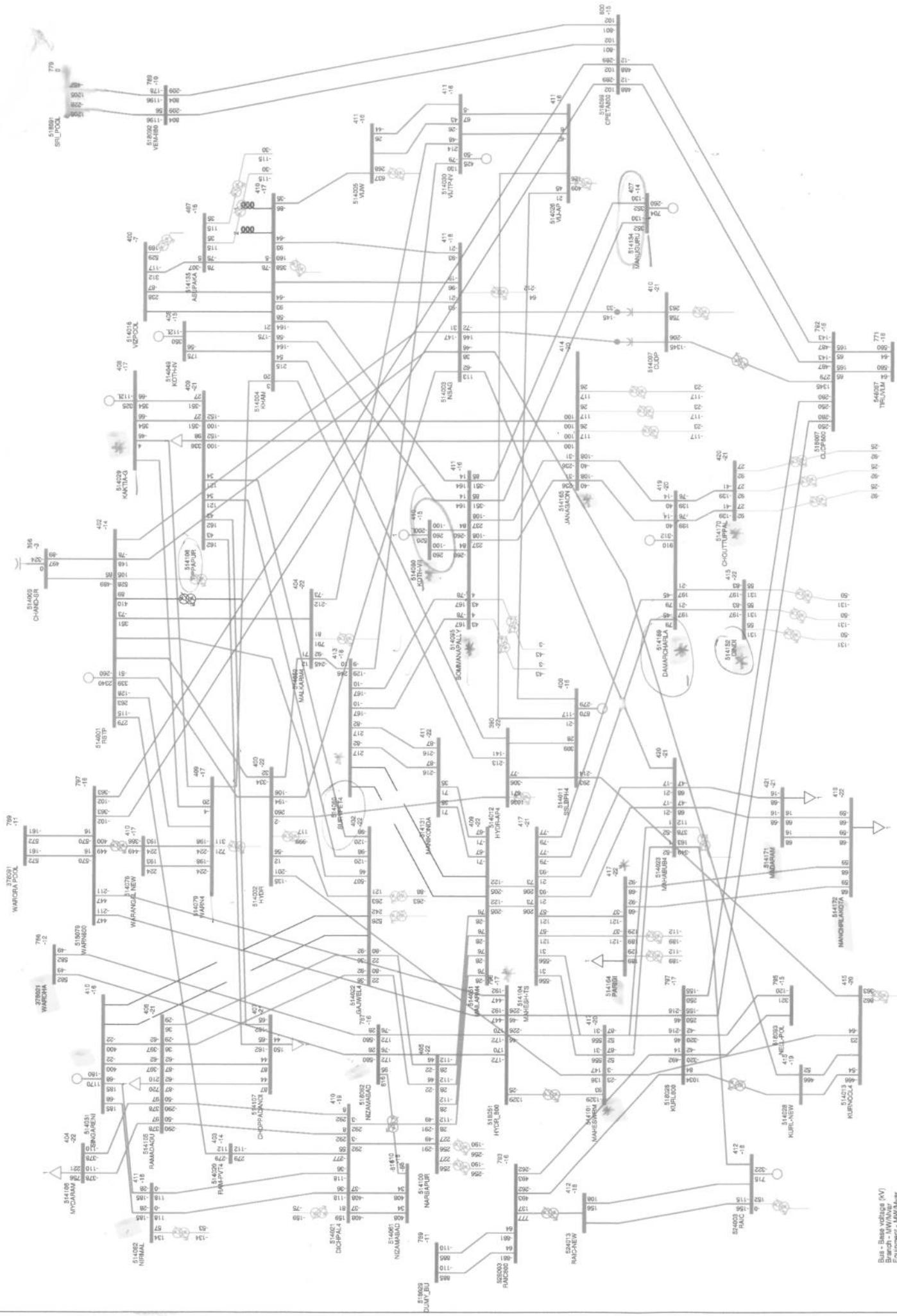
Thanking you,

Yours faithfully,



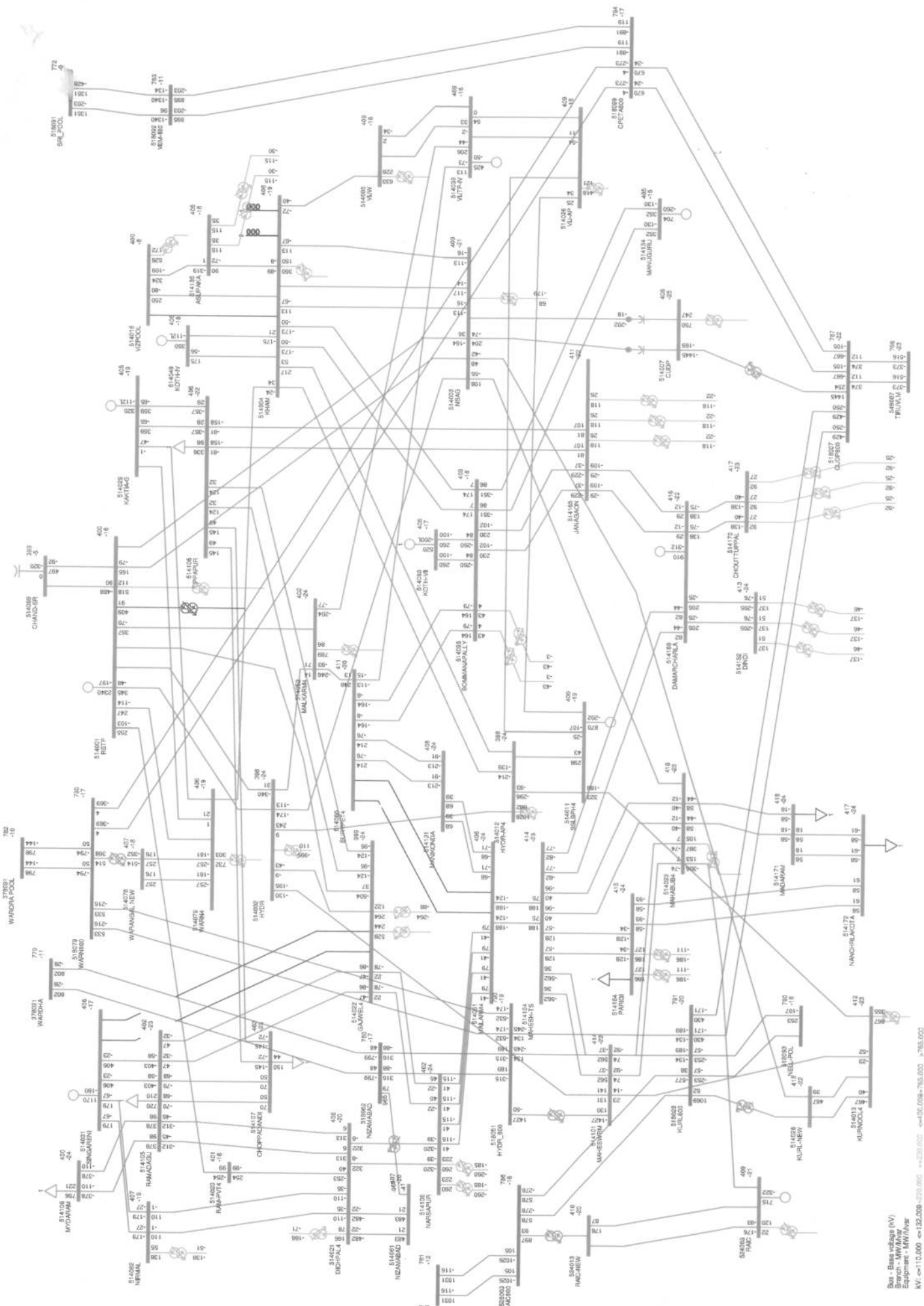
CHAIRMAN AND MANAGING DIRECTOR
TSTRANSCO

TELANGANA SYSTEM STUDIES (2018-19 TIME FRAME)



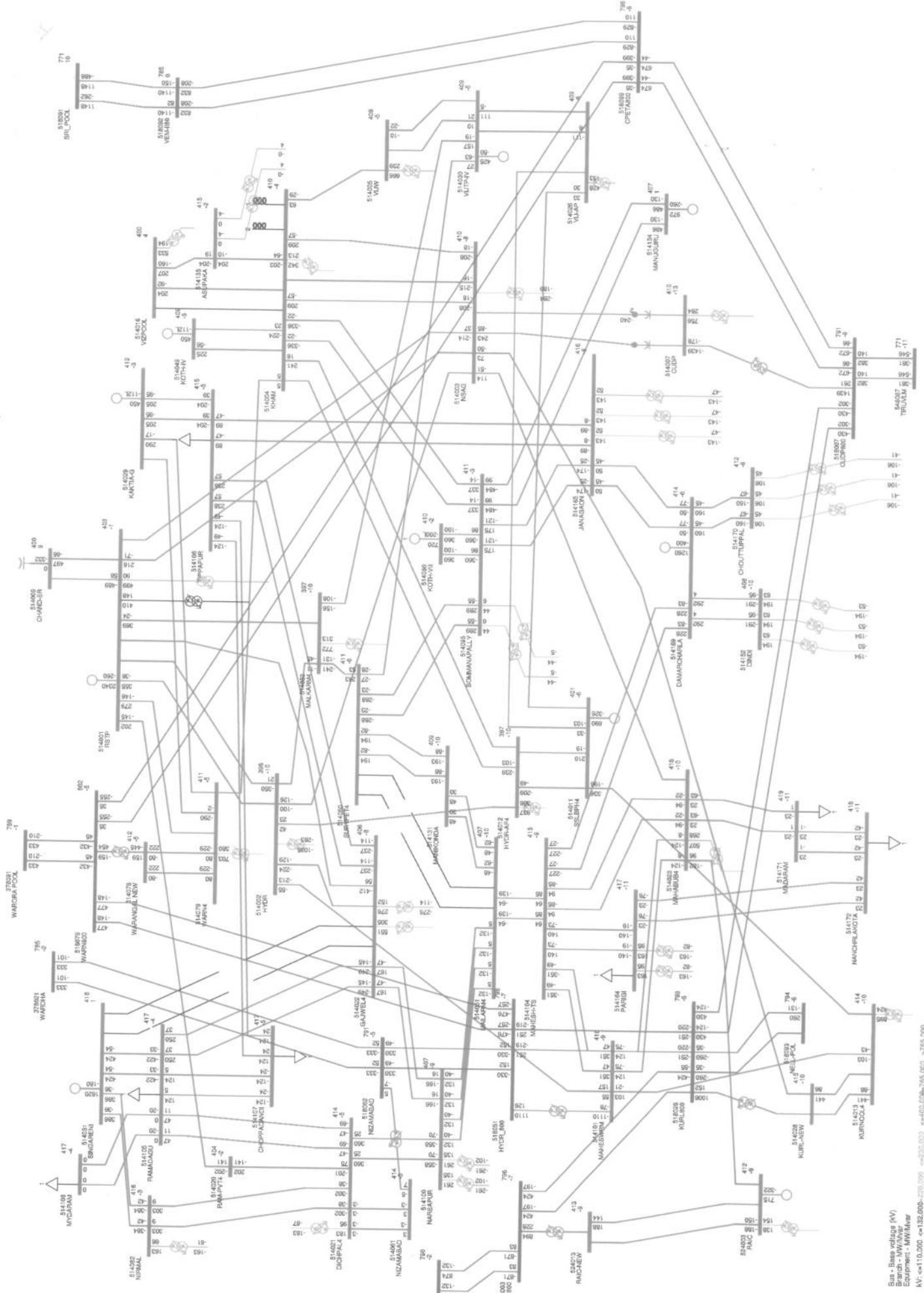
Bat - Base Elevation (AV)
 Branch - MW/Mar
 Equipment - MW/Mar
 NY: c=110.000 c=132.000 c=160.000 c=180.000 c=200.000 c=220.000 c=240.000 c=260.000 c=280.000 c=300.000 c=320.000 c=340.000 c=360.000 c=380.000 c=400.000 c=420.000 c=440.000 c=460.000 c=480.000 c=500.000 c=520.000 c=540.000 c=560.000 c=580.000 c=600.000 c=620.000 c=640.000 c=660.000 c=680.000 c=700.000 c=720.000 c=740.000 c=760.000 c=780.000 c=800.000 c=820.000 c=840.000 c=860.000 c=880.000 c=900.000 c=920.000 c=940.000 c=960.000 c=980.000 c=1000.000

TELANGANA SYSTEM STUDIES (2018-19 TIME FRAME)



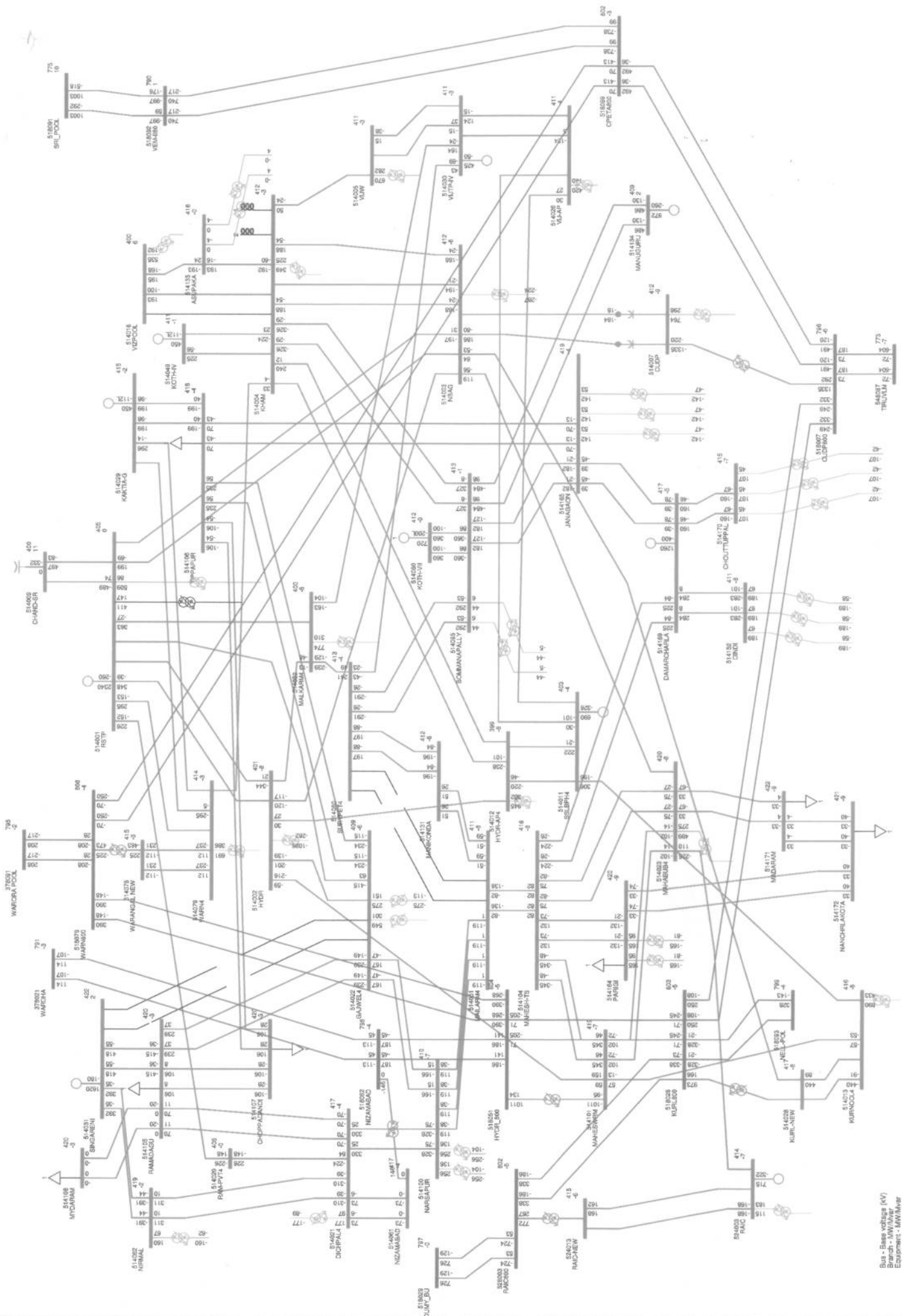
Bus - Bus voltage (kV)
 Equipment - MW/MVA
 KV = 110.000 <- 132.000 <- 220.000 *** 230.000 *** <- 400.000 = 765.000 >= 765.000

TELANGANA SYSTEM STUDIES (2018-19 TIME FRAME)



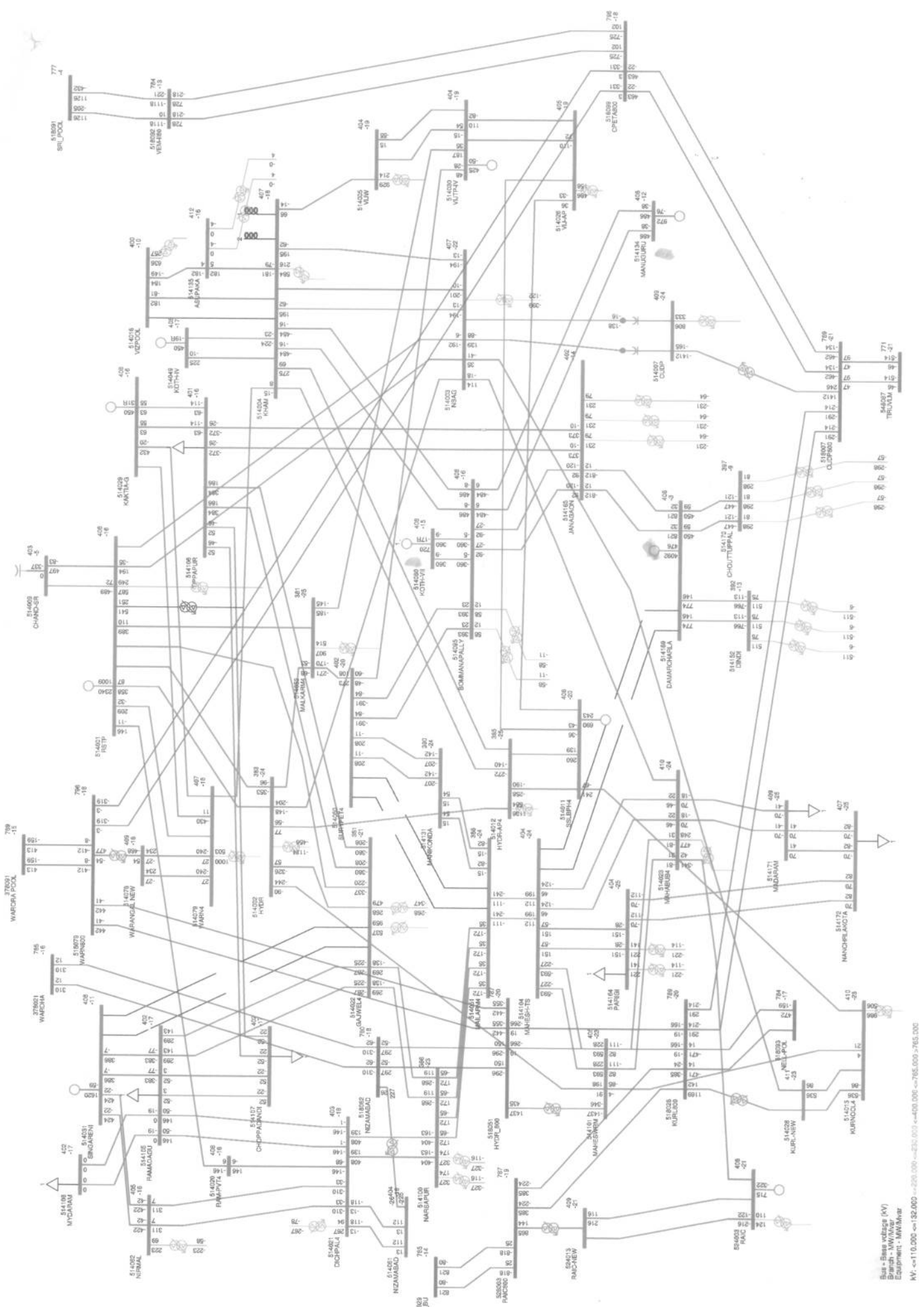
Bus - Base voltage (KV)
 Branch - MW/Mvar
 Equipment - MW/Mvar
 KV - c=110.000 e=132.000 -c=230.000 -e=410.000-765.000 -s=765.000

TELANGANA SYSTEM STUDIES (2018-19 TIME FRAME)



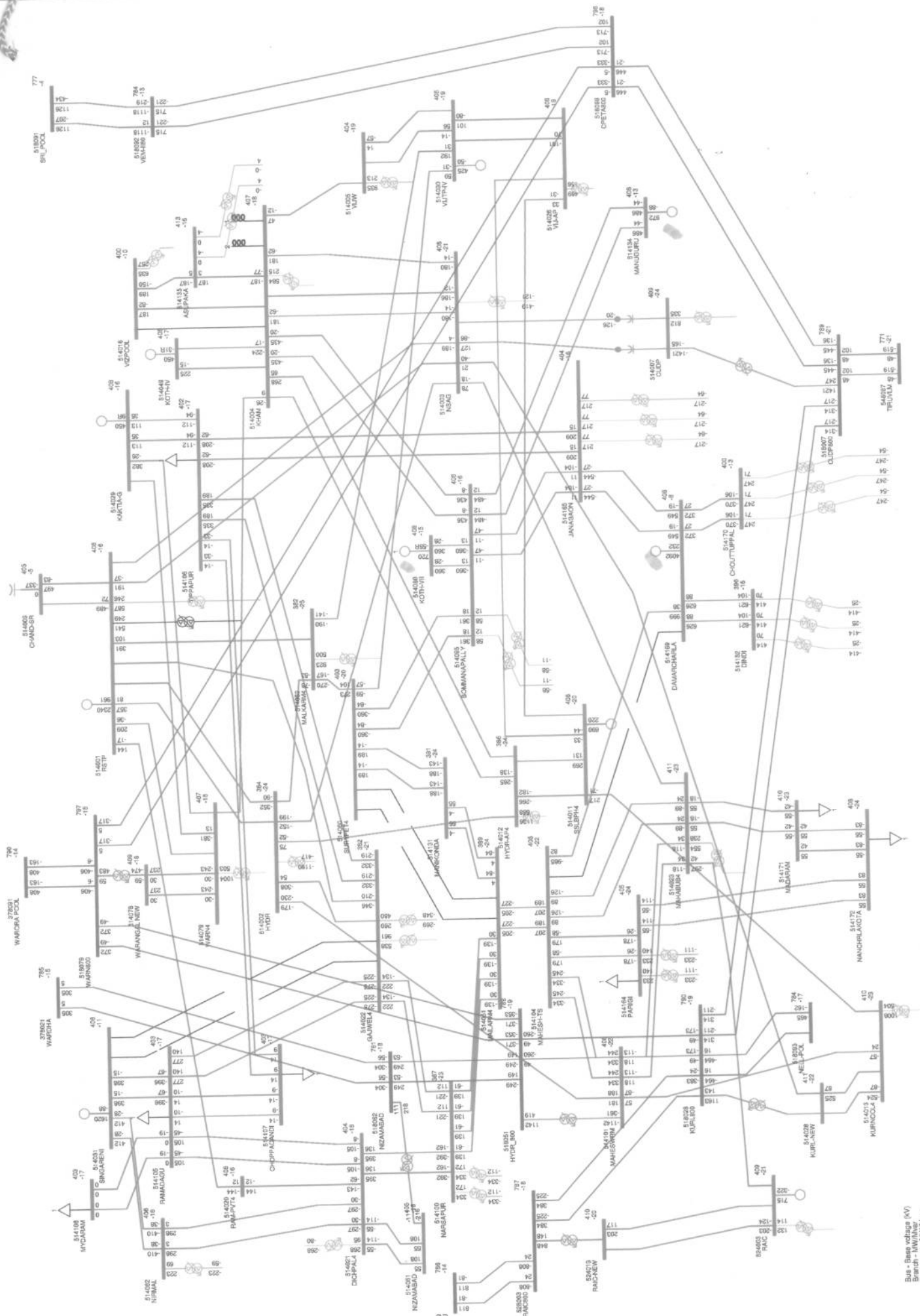
Bus - Base MVA (KV)
 Bus - Base MVA (KV)
 Equipment - MW/Mvar
 KV: <=110.000 <-132.000-220.000 <-400.000-765.000 >765.000

TELANGANA SYSTEM STUDIES (2021-22 TIME FRAME)



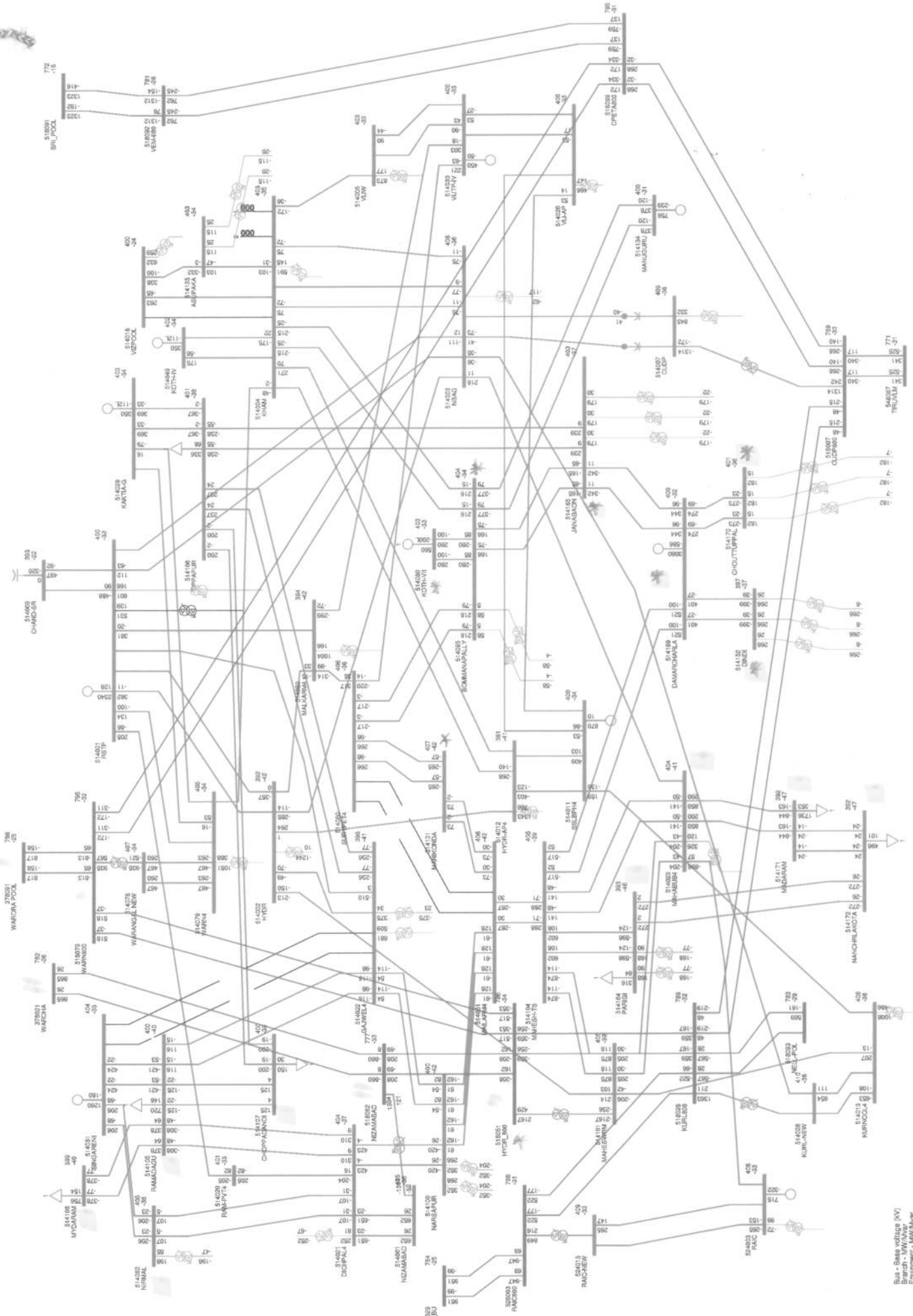
Bus - Blue
 Branch - Yellow
 Equipment - MW/Mvar
 KV - on 110.000 ← 132.000 → 220.000 ← 252.000 ← 400.000 ← 765.000 → 765.000

TELANGANA SYSTEM STUDIES (2021-22 TIME FRAME)



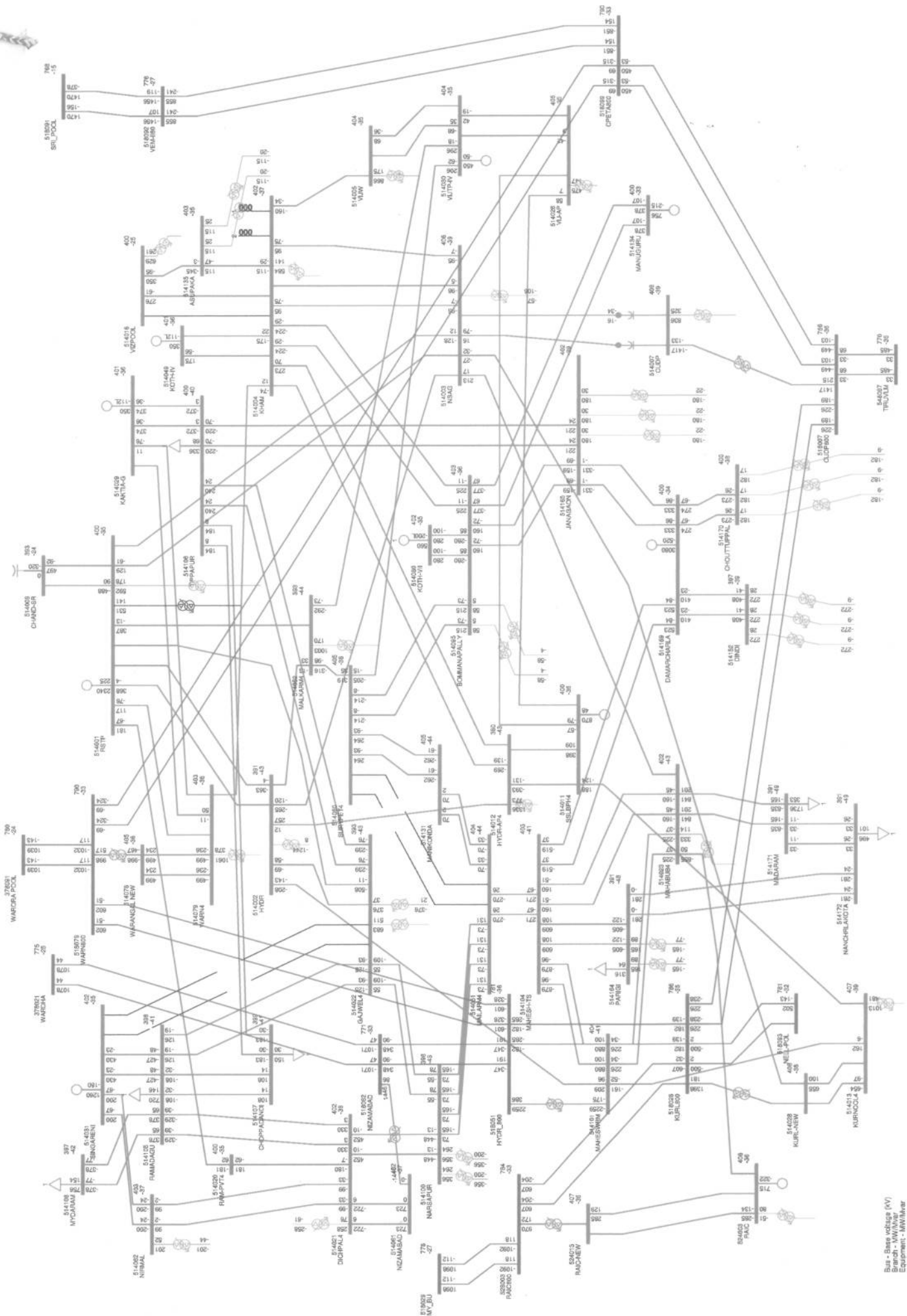
Bus - Base voltage (KV)
 Branch - MW/Mvar
 Equipment - MW/Mvar
 KV - 110.000 - 32.000 - 220.000 - 400.000 - 765.000

TELANGANA SYSTEM STUDIES (2021-22 TIME FRAME)



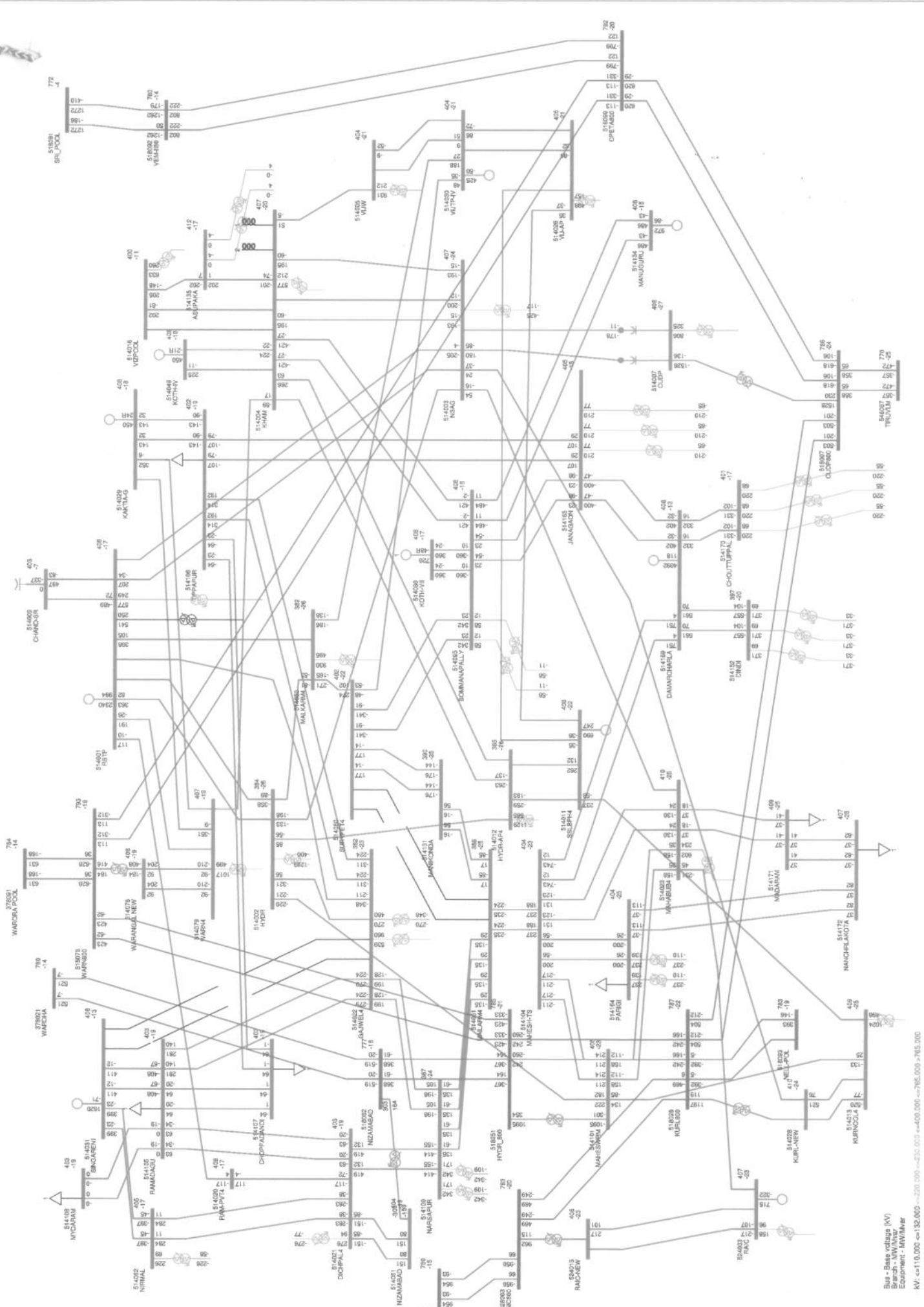
Bus - Same voltage (KV)
 Equipment - MW/Mvar
 NY: <110.000 <132.000 <230.000 <400.000 <765.000 <1100.000

TELANGANA SYSTEM STUDIES (2021-22 TIME FRAME)



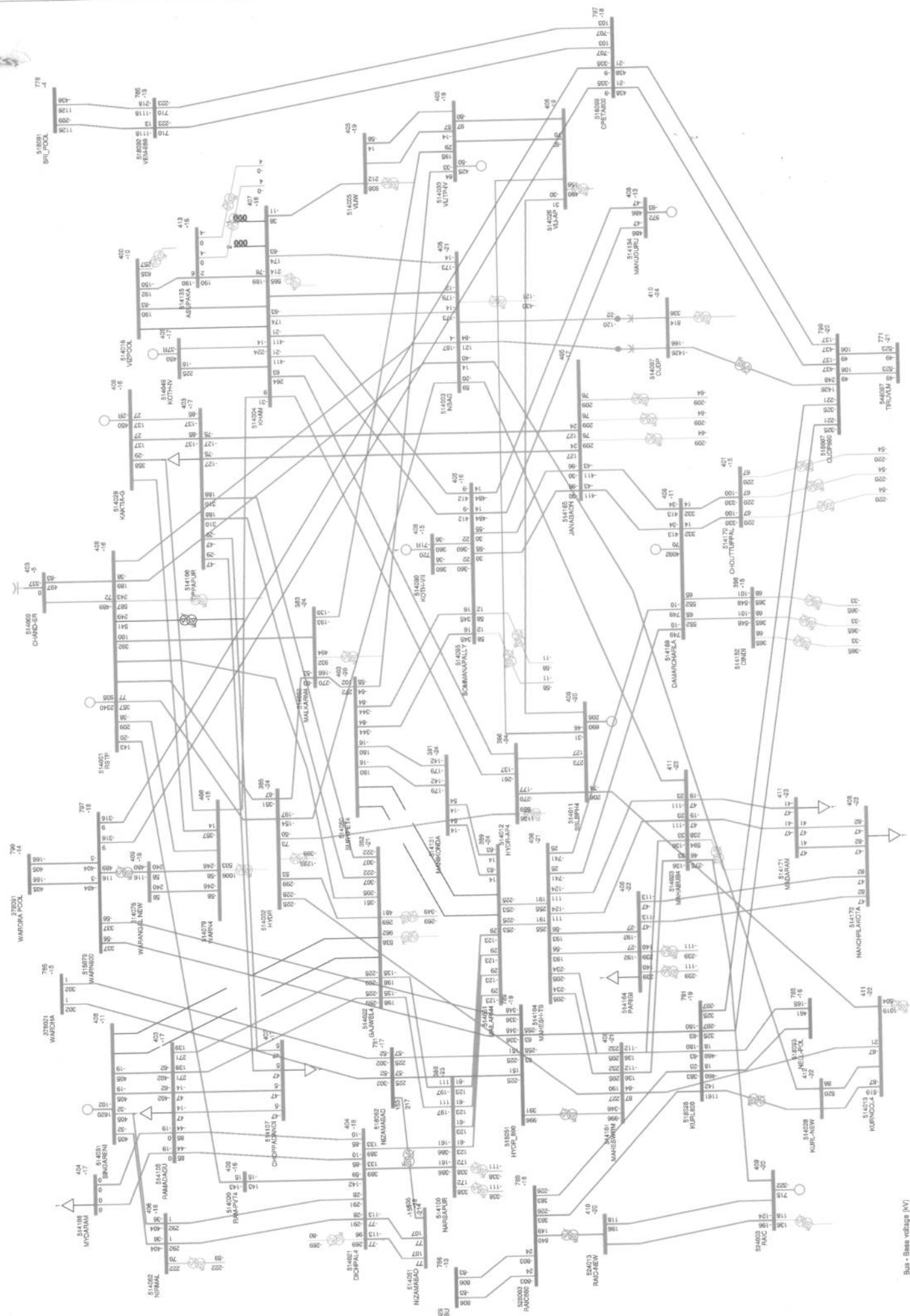
Bus - Base voltage (kV)
 Branch - MW/kW
 Equipment - MVA/Mvar
 KV: ca110.000 ca132.000 ca220.000 ca400.000 ca500.000 ca765.000 ca765.000

TELANGANA SYSTEM STUDIES (2021-22 TIME FRAME)



Bus - Base voltage (kV)
 Branch - MVA
 Equipment - MW/Mvar
 KV: <=110.000 <=132.000 <=230.000 <=425.000 <=400.000 <=765.000 >=765.000

TELANGANA SYSTEM STUDIES (2021-22 TIME FRAME)



X-- AREA	FROM GENE- FROM IND TO IND		TO AREA BUSES		TO BUS SHUNT	GNE BUS DEVICES	TC	TO LINE SHUNT CHARGING	FROM CHARGING	TO LOSSES	-NET INTERCHANGE-		DESIRED NET INT
	--X RATION	GENERATN	MOTORS	LOAD							TO IND	TO IND	
1 NORTH	42687.3	0.0	0.0	65153.7	0.0	0.0	0.0	2.3	0.0	2571.5	-25040.2	-25040.2	0.0
	-6612.4	0.0	0.0	16520.1	-5459.4	0.0	0.0	21993.6	72457.2	30475.5	2315.0	2315.0	0.0
2 NRTHEAST	4148.4	0.0	0.0	3159.0	0.0	0.0	0.0	0.0	0.0	182.3	807.1	797.1	0.0
	-1306.2	0.0	0.0	956.3	4883.6	0.0	0.0	2023.0	7677.6	1488.2	-2979.7	-2981.7	0.0
3 WEST	83786.7	0.0	0.0	64271.9	0.0	0.0	0.0	0.0	0.0	3612.7	15902.1	15902.1	0.0
	-5953.3	0.0	0.0	9396.1	-9101.0	0.0	0.0	50406.3	101354.6	49774.9	-5075.0	-5075.0	0.0
4 EAST	46826.3	0.0	0.0	25959.8	0.0	0.0	0.0	202.9	0.0	1096.0	19567.6	19577.7	0.0
	-6003.1	0.0	0.0	5201.9	-2464.6	0.0	0.0	9216.0	34262.7	13648.0	2658.4	2660.4	0.0
5 SOUTH	52560.7	0.0	0.0	62958.5	0.0	0.0	0.0	0.0	0.0	1510.6	-11908.4	-11908.4	-6200.0
	54.2	0.0	0.0	20715.3	508.2	0.0	0.0	14580.1	58604.5	19168.8	3686.4	3686.4	0.0
6 BHUTAN	2005.9	0.0	0.0	318.3	0.0	0.0	0.0	0.0	0.0	6.7	1680.9	1680.9	0.0
	-591.5	0.0	0.0	114.5	119.6	0.0	0.0	94.4	500.4	146.7	-566.4	-566.4	0.0
7 BAUGLADESH	0.0	0.0	0.0	1000.0	0.0	0.0	0.0	0.0	0.0	9.2	-1009.2	-1009.2	0.0
	0.0	0.0	0.0	50.0	0.0	0.0	0.0	0.0	113.9	102.5	-38.7	-38.7	0.0
COLUMN TOTALS	232015.2	0.0	0.0	222821.1	0.0	0.0	0.0	205.2	0.0	8989.0	0.0	0.0	-6200.0
TOTALS	-20412.4	0.0	0.0	52954.2	-11513.7	0.0	0.0	98313.4	274970.9	114804.7	0.0	0.0	0.0

OUTPUT FOR ZONE 51 [TELANGANA]

OPTIONS USED:

- SET PRE-FAULT VOLTAGE ON ALL BUSES TO 1.00 PU AT 0 PHASE SHIFT ANGLE
- SET SYNCHRONOUS/ASYNCHRONOUS MACHINE POWER OUTPUTS TO P=0.0, Q=0.0
- SET GENERATOR POSITIVE SEQUENCE REACTANCES TO SUBTRANSIENT
- SET TRANSFORMER TAP RATIOS=1.0 PU AND PHASE SHIFT ANGLES=0.0
- SET LINE CHARGING=0.0 IN +/-0 SEQUENCES
- SET LINE/FIXED/SWITCHED SHUNTS=0.0 AND TRANSFORMER MAGNETIZING ADMITTANCE=0.0 IN +/-0 SEQUENCES
- SET LOAD=0.0 IN +/- SEQUENCES
- DC LINES AND FACTS DEVICES BLOCKED
- IMPEDANCE CORRECTIONS NOT APPLIED TO TRANSFORMER ZERO SEQUENCE IMPEDANCES

X-----	BUS	-----X	THREE PHASE FAULT		X----LG FAULT---X	
			/I+/	AN(I+)	/3I0/	AN(I+)
514001	[RSTP	400.00] AMP	38036.8	-86.95	38654.9	-86.88
514002	[HYDR	400.00] AMP	34265.8	-85.78	23318.6	-80.89
514003	[NSAG	400.00] AMP	32621.8	-85.23	22098.2	-81.39
514004	[KHAM	400.00] AMP	43325.3	-86.57	31845.4	-82.96
514009	[CHAND-SR	400.00] AMP	6461.4	-85.18	4015.8	-78.84
514011	[SSLBPH4	400.00] AMP	21282.7	-86.31	18950.5	-85.56
514012	[HYDR-AP4	400.00] AMP	25698.8	-85.81	17921.3	-81.46
514020	[RAM-PVT4	400.00] AMP	26712.9	-86.22	21357.0	-82.39
514021	[DICHPAL4	400.00] AMP	36504.2	-86.89	25396.4	-81.77
514022	[GAJWEL4	400.00] AMP	31698.6	-85.91	20654.2	-80.33
514023	[MAHABUB4	400.00] AMP	34228.7	-86.39	22534.4	-81.87
514029	[KAKTIA-G	400.00] AMP	28241.4	-86.70	25425.8	-85.74
514031	[SINGARENI	400.00] AMP	21340.9	-87.82	22550.6	-87.85
514049	[KOTH-IV	400.00] AMP	15720.3	-85.98	13112.5	-84.67
514051	[MAILARM4	400.00] AMP	31942.7	-85.96	21190.7	-80.94
514052	[MALKARM4	400.00] AMP	22185.4	-85.84	15504.3	-81.80
514060	[SURYPET4	400.00] AMP	30660.5	-86.45	20416.4	-82.16
514061	[NIZAMABAD	400.00] AMP	34951.5	-87.20	24174.8	-82.09
514062	[NIRMAL	400.00] AMP	20563.0	-86.26	14162.6	-81.53
514078	[WARANGAL NEW	400.00] AMP	37947.7	-87.55	28714.2	-83.55
514079	[WARN4	400.00] AMP	38397.8	-87.23	29175.8	-83.20
514080	[KOTH-VII	400.00] AMP	29049.0	-87.58	22026.5	-85.87
514095	[BOMMANAPALLY	400.00] AMP	39238.4	-87.45	29117.5	-84.88
514100	[NARSAPUR	400.00] AMP	32306.5	-85.90	21399.7	-80.61
514101	[MAHESWRM	400.00] AMP	49815.7	-87.11	35614.6	-83.00
514104	[MAHESH-TS	400.00] AMP	48810.6	-86.93	34417.9	-82.67
514105	[RAMADAGU	400.00] AMP	29730.2	-86.50	20182.4	-81.59
514106	[TIPPAPUR	400.00] AMP	32419.4	-86.30	21725.6	-81.17
514107	[CHOPPADANDI	400.00] AMP	27687.1	-86.32	18302.9	-81.19
514108	[MYDARAM	400.00] AMP	21107.4	-86.55	13663.6	-81.79
514131	[MANIKONDA	400.00] AMP	22036.3	-86.32	13883.9	-81.59
514134	[MANUGURU	400.00] AMP	21807.4	-88.07	17892.5	-87.31
514135	[ASUPAKA	400.00] AMP	7530.6	-84.93	4482.7	-78.08
514152	[DINDI	400.00] AMP	14586.9	-86.01	10109.2	-83.09
514164	[PARIGI	400.00] AMP	18858.1	-86.45	11909.4	-82.28
514165	[JANAGAON	400.00] AMP	27756.1	-86.56	18016.3	-82.43
514169	[DAMARCHARLA	400.00] AMP	32616.0	-87.63	26719.7	-86.83
514170	[CHOUTTUPPAL	400.00] AMP	11502.7	-85.86	7464.5	-82.53
514171	[MADARAM	400.00] AMP	18964.1	-86.54	11822.6	-82.16
514172	[NANCHRLAKOTA	400.00] AMP	17610.4	-86.51	10984.8	-82.22
518051	[HYDR_800	765.00] AMP	32430.2	-87.78	21217.9	-82.65
518062	[NIZAMABAD	765.00] AMP	22997.8	-87.58	14236.7	-81.66
518079	[WARN800	765.00] AMP	29870.2	-87.70	19130.1	-82.30

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E MON, APR 27 2015 14:51
 AREA TIE LINE INTERCHANGE

FROM AREA 5 SOUTH

TO AREA	3 WEST	TO AREA BUS	-----X	X-----	TO AREA BUS	-----X	CTK	MW	MVAR	TWO TRM DC
BUS#	X-- NAME	--X BASKV	400.00*	BUS#	X-- NAME	--X BASKV	2DC	-497.0	251.6	"11"
514009	CHAND-SR	400.00*	374007 BHADR4	400.00	2DC	-497.0	251.6	TWO TRM DC "12"		
514009	CHAND-SR	400.00*	374007 BHADR4	400.00	2DC	-2795.9	1304.1	TWO TRM DC "33"		
544016	PUGALUR-NEW	400.00*	314029 RAIGARH_POOL	400.00	2DC	-2795.9	1304.1	TWO TRM DC "34"		
544016	PUGALUR-NEW	400.00*	314029 RAIGARH_POOL	400.00	2DC	-1452.4	132.5			
518029	DUMY_BU	765.00	378040 SHOLAPUR-PG	765.00*	4	-113.5	44.7			
518062	NIZAMABAD	765.00*	378021 WARDHA	765.00	1	-113.5	44.7			
518062	NIZAMABAD	765.00*	378021 WARDHA	765.00	2	-208.2	216.9			
518079	WARN800	765.00	378091 WARORA POOL	765.00*	1	-208.2	216.9			
518079	WARN800	765.00	378091 WARORA POOL	765.00*	2	709.0	18.2			
524015	NARDR-NW	400.00*	374050 KOLHAPURPG	400.00	1	709.0	18.2			
524015	NARDR-NW	400.00*	374050 KOLHAPURPG	400.00	2					
TOTAL FROM AREA	5 TO AREA							-7263.6		3803.7

FROM AREA 4 EAST

TO AREA	4 EAST	TO AREA BUS	-----X	X-----	TO AREA BUS	-----X	CTK	MW	MVAR	TWO TRM DC
BUS#	X-- NAME	--X BASKV	400.00 <th>BUS#</th> <th>X-- NAME</th> <th>--X BASKV</th> <th>2DC <th>1004.8 <th>-413.0 <th>"10" </th></th></th></th>	BUS#	X-- NAME	--X BASKV	2DC <th>1004.8 <th>-413.0 <th>"10" </th></th></th>	1004.8 <th>-413.0 <th>"10" </th></th>	-413.0 <th>"10" </th>	"10"
524011	KOLAR	400.00	424019 TALCHER	400.00*	2DC	-323.2	175.5 <th>TWO TRM DC "13"</th>	TWO TRM DC "13"		
514010	GAZU-SR	400.00*	424039 GAZUWARA-ER	400.00	2DC	-323.2	175.5 <th>TWO TRM DC "14"</th>	TWO TRM DC "14"		
514010	GAZU-SR	400.00*	424039 GAZUWARA-ER	400.00	2DC	-1004.8	-413.0 <th>TWO TRM DC "9"</th>	TWO TRM DC "9"		
524011	KOLAR	400.00	424019 TALCHER	400.00*	2DC	178.8	178.8			
518091	SRI_POOL	765.00	428014 ANGUL	765.00*	1	-994.4	-994.4			
518091	SRI_POOL	765.00	428014 ANGUL	765.00*	2		-4644.8	-117.3		
TOTAL FROM AREA	4 TO AREA							-11908.4		3686.4

FROM AREA 5 SOUTH

TO AREA	5 SOUTH	TO AREA BUS	-----X	X-----	TO AREA BUS	-----X	CTK	MW	MVAR	TWO TRM DC
BUS#	X-- NAME	--X BASKV	400.00 <th>BUS#</th> <th>X-- NAME</th> <th>--X BASKV</th> <th>2DC <th>1004.8 <th>-413.0 <th>"10"</th> </th></th></th>	BUS#	X-- NAME	--X BASKV	2DC <th>1004.8 <th>-413.0 <th>"10"</th> </th></th>	1004.8 <th>-413.0 <th>"10"</th> </th>	-413.0 <th>"10"</th>	"10"
524011	KOLAR	400.00	424019 TALCHER	400.00*	2DC	-323.2	175.5 <th>TWO TRM DC "13"</th>	TWO TRM DC "13"		
514010	GAZU-SR	400.00*	424039 GAZUWARA-ER	400.00	2DC	-323.2	175.5 <th>TWO TRM DC "14"</th>	TWO TRM DC "14"		
524011	KOLAR	400.00	424019 TALCHER	400.00*	2DC	-1004.8	-413.0 <th>TWO TRM DC "9"</th>	TWO TRM DC "9"		
518091	SRI_POOL	765.00	428014 ANGUL	765.00*	1	178.8	178.8			
518091	SRI_POOL	765.00	428014 ANGUL	765.00*	2		-4644.8	-117.3		
TOTAL FROM AREA	5 TO AREA							-11908.4		3686.4

X-- ZONE --X	FROM		AT		ZONE		EUSES		TO		ZONE		TOTALS		IN MW/MVAR		-NET INTERCHANGE-		
	GENE-	FROM IND	FROM IND	GENERATN	TO IND	TO IND	MOTORS	LOAD	TO BUS	TO BUS	TO BUS	TO LINE	TO LINE	FROM	TO	LOSSES	TO TIE	TO TIES	LOADS
	RATION							SHUNT	SHUNT	DEVICES	SHUNT	CHARGING	CHARGING	LOSSES	LOSSES	LINES	+	+	LOADS
50	11210.5	0.0	0.0	11661.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	222.2	222.2	-672.7	-672.7	-672.7	2791.6
ANDHRA	-845.3	0.0	0.0	3832.8	0.0	0.0	5664.6	18282.0	1867.3	0.0	5664.6	18282.0	3280.5	3280.5	2791.6	-672.7	-672.7	-672.7	2791.6
51	10428.0	0.0	0.0	12241.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	253.2	253.2	-2067.0	-2067.0	-2067.0	-98.4
TELANGANA	-2057.3	0.0	0.0	4023.7	0.0	0.0	3468.9	13261.6	618.0	0.0	3468.9	13261.6	3192.1	3192.1	-98.4	-98.4	-98.4	-98.4	-98.4
52	11104.9	0.0	0.0	13175.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	396.2	396.2	-2466.5	-2466.5	-2466.5	-838.7
KARNATAKA	-1321.2	0.0	0.0	4330.4	0.0	0.0	789.5	9144.1	-1273.8	0.0	789.5	9144.1	4815.4	4815.4	-838.7	-838.7	-838.7	-838.7	-838.7
53	1644.9	0.0	0.0	4479.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	268.5	268.5	-3103.1	-3103.1	-3103.1	-816.0
KERALA	931.1	0.0	0.0	1472.4	0.0	0.0	44.4	1047.2	-1557.4	0.0	44.4	1047.2	2835.0	2835.0	-816.0	-816.0	-816.0	-816.0	-816.0
54	18142.4	0.0	0.0	19774.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	353.9	353.9	-1985.6	-1985.6	-1985.6	-3106.7
TAMILNADU	3337.2	0.0	0.0	6521.3	0.0	0.0	3565.2	15361.3	881.9	0.0	3565.2	15361.3	4532.2	4532.2	3197.9	3197.9	2829.4	2829.4	2829.4
55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CENTRAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
56	0.0	0.0	0.0	1102.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.8	10.8	-1113.2	-1113.2	-1113.2	-10.8
TN-WIND	0.0	0.0	0.0	362.4	0.0	0.0	0.0	187.9	0.0	0.0	0.0	187.9	211.8	211.8	-386.3	-386.3	-24.0	-24.0	-24.0
57	30.0	0.0	0.0	524.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	-495.6	-495.6	-495.6	-184.3
POHLY	9.7	0.0	0.0	172.4	0.0	0.0	0.0	11.1	-27.6	0.0	0.0	11.1	66.7	66.7	-190.4	-190.4	-184.3	-184.3	-184.3
58	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEL-LOAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COLUMN	52560.7	0.0	0.0	62958.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1505.8	1505.8	-11903.6	-11903.6	-11903.6	3659.6
TOTALS	54.2	0.0	0.0	20716.3	0.0	0.0	13532.5	57295.1	508.2	0.0	13532.5	57295.1	18933.8	18933.8	3659.6	3659.6	3659.6	3659.6	3659.6

FROM ZONE 51 TELANGANA

TO ZONE	37	1ep	X-----	TO ZONE BUS	-----X	CKT	MW	MVAR	TWO TRM	DC "11"
X----	FROM ZONE BUS	---	X BASKV	BUS# X--	NAME --X	BASKV				
514009	CHAND-SR	400.00*	374007	BHADR4	400.00	2DC	-497.0	251.6	TWO TRM	DC "11"
514009	CHAND-SR	400.00*	374007	BHADR4	400.00	2DC	-497.0	251.6	TWO TRM	DC "12"
518062	NIZAMABAD	765.00*	378021	WARDHA	765.00	1	-113.5	44.7		
518062	NIZAMABAD	765.00*	378021	WARDHA	765.00	2	-113.5	44.7		
518079	WARNEG00	765.00	378091	WARORA POOL	765.00*	1	-208.2	216.9		
518079	WARNEG00	765.00	378091	WARORA POOL	765.00*	2	-208.2	216.9		
TOTAL FROM ZONE	51 TO ZONE	37					-1637.5	1026.4		

TO ZONE	50	ANDHRA	X-----	FROM ZONE BUS	-----X	CKT	MW	MVAR
X----	FROM ZONE BUS	---	X BASKV	BUS# X--	NAME --X	BASKV		
512003	NSAG	220.00*	512005	VIJA	220.00	1	-6.4	-10.4
512003	NSAG	220.00*	512005	VIJA	220.00	2	-6.4	-10.4
512003	NSAG	220.00	512073	SRTS	220.00*	1	20.0	4.2
512003	NSAG	220.00	512073	SRTS	220.00*	2	20.0	4.2
512003	NSAG	220.00*	512073	SRTS	220.00*	3	20.0	4.2
512049	KOTH	220.00*	512005	VIJA	220.00	1	119.1	-23.5
512049	KOTH	220.00*	512050	LISLRU	220.00	1	-68.4	11.5
512049	KOTH	220.00*	512050	LISLRU	220.00	2	-71.6	5.6
512060	SURYAPET2	220.00*	512035	CHILKAL	220.00	1	63.9	10.5
512106	WANERTHY	220.00*	512103	BRAHMTR	220.00	2	65.8	42.0
512152	DINDI	220.00*	512073	SRTS	220.00	1	-35.2	19.4
512152	DINDI	220.00*	512073	SRTS	220.00	2	-35.2	19.4
512174	HUZURANNAGAR	220.00*	512035	CHILKAL	220.00	1	-59.7	-8.4
514003	NSAG	400.00	514028	BHPL-NEW	400.00*	1	67.6	34.2
514003	NSAG	400.00*	514998	FSC-3	400.00	1	185.6	-80.3
514003	NSAG	400.00*	514999	FSC-4	400.00	2	185.5	-80.3
514004	KHAM	400.00*	514005	VIJA	400.00	1	49.7	24.0
514011	SILBER4	400.00*	514016	VIJPOCL	400.00*	1	-193.8	99.2
514011	SILBER4	400.00*	514613	PURNOCL4	400.00	1	205.9	-136.5
514011	SILBER4	400.00*	514026	VIJ-AP	400.00	1	-29.5	-101.1
514023	MAHABUB4	400.00*	514026	VIJ-AP	400.00*	2	-29.5	-101.1
514023	MAHABUB4	400.00*	514133	URVEND	400.00	1	55.6	152.6
514052	MALKAPM4	400.00	514133	URVEND	400.00	2	65.6	-152.6
514060	SURYPET4	400.00	514020	VIJTP-IV	400.00*	2	-164.5	24.1
514060	SURYPET4	400.00*	514111	KVKOTIA40	400.00*	1	-42.9	69.1
514060	SURYPET4	400.00*	514111	KVKOTIA40	400.00	2	-209.8	-16.5
514101	MAJESWM	400.00*	514015	BURNOC4	400.00	1	57.0	19.5
514175	ASUEXKA	400.00*	514016	VIJPOCL	400.00*	1	-104.9	167.6
518051	HYDR_800	765.00*	518028	ROR1800	765.00	1	71.0	-205.1
518051	HYDR_800	765.00*	518028	ROR1800	765.00	2	71.0	-205.1
518079	WARNEG00	765.00*	518029	PELTA800	765.00	1	70.1	243.7
518079	WARNEG00	765.00*	518029	PELTA800	765.00	2	-70.1	-243.7
TOTAL FROM ZONE	51 TO ZONE	50					-67.7	-1265.9

TO ZONE	52	KARNATAKA	X-----	FROM ZONE BUS	-----X	CKT	MW	MVAR
X----	FROM ZONE BUS	---	X BASKV	BUS# X--	NAME --X	BASKV		
512019	JUBLPARK	220.00*	522003	RAIC	220.00	1	-68.6	14.6
512019	JUBLPARK	220.00*	522003	RAIC	220.00	2	-68.6	14.6
514023	MAHABUB4	400.00*	514023	MAHABUB4	400.00*	1	204.6	100.9
TOTAL FROM ZONE	51 TO ZONE	52					51.4	135.1

FROM

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)/E MON, APR 27 2015 14:50
 ZONE TOTALS
 IN MW/MVAR

X ZONE	FROM		-AT ZONE BUSES-		TO		TO BUS		TO LINE		FROM		TO		-NET INTERCHANGE-	
	GENE	FROM IND	FROM IND	TO IND	TO IND	SHUNT	SHUNT	DEVICES	SHUNT	CHARGING	LOSSES	LOSSES	TO TIE	TO TIES	TO TIES	LOADS
51	10426.0	0.0	0.0	0.0	12241.7	0.0	0.0	0.0	0.0	0.0	253.2	253.2	-2067.0	-2067.0	-2067.0	0.0
TELANGANA	-2057.3	0.0	0.0	0.0	4023.7	618.0	0.0	0.0	3468.9	13261.6	3192.1	3192.1	-98.4	-98.4	-98.4	0.0
SR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TSL-LOAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COLUMN	10428.0	0.0	0.0	0.0	12241.7	618.0	0.0	0.0	3468.9	13261.6	253.2	253.2	-2067.0	-2067.0	-2067.0	0.0
TOTALS	-2057.3	0.0	0.0	0.0	4023.7	618.0	0.0	0.0	3468.9	13261.6	3192.1	3192.1	-98.4	-98.4	-98.4	0.0

FROM ----- AT AREA BUS#--
 GENE- FROM 1111

MON, APR 27 2015 14:52

PTI INTERACTIVE POWER SYSTEM SIMULATOR - PSS(R)E
 OUTPUT FOR ZONE 51 (TELANGANA) (EXCLUDED: LINES; BREAKERS AND SWITCHES)

SUBSYSTEM LOADING CHECK (INCLUDED: TRANSFORMERS) (EXCLUDED: LINES; BREAKERS AND SWITCHES)

WVA LOADINGS ABOVE 60.0 % OF RATING SET A:

FROM BUS	TO BUS	BASKV	AREA	CRT	LOADING	RATING	PERCENT
X-----X	X-----X	132.00	5	1	436.2	400.0	109.0
BUS# X-- NAME --X	BUS# X-- NAME --X						
511001 RSTP	514001 RSTP	220.00	5	1	516.0	815.0	63.3
512001 RMGD	514001 RSTP	220.00	5	1	1095.7	1445.0	75.8
512002 HYDR	514002 HYDR	220.00	5	1	992.3	1220.0	78.8
512012 GAJWEL2	514022 GAJWEL4	220.00	5	1	626.5	630.0	99.4
512022 GAJWEL2	514022 GAJWEL4	220.00	5	1	313.3	315.0	99.4
512023 MAHARMB4	514023 MAHARMB4	220.00	5	1	569.9	630.0	90.5
512051 MAILRM	514051 MAILRPM4	220.00	5	1	834.4	945.0	88.3
512052 MALKAPM4	514052 MALKAPM4	220.00	5	1	834.0	945.0	88.3
512060 SURYAPET2	514060 SURYPM4	220.00	5	1	473.0	630.0	75.1
512079 WENG	514079 WARMA	220.00	5	1	791.7	1130.0	70.1
512100 NARSAPUR2	514100 NARSAPUR	220.00	5	1	290.0	315.0	92.1
512100 NARSAPUR2	514100 NARSAPUR	220.00	5	2	290.0	315.0	92.1
512160 PARIGI-L1	514164 PARIGI	220.00	5	1	190.3	315.0	60.4
512160 PARIGI-L1	514164 PARIGI	220.00	5	2	190.3	315.0	60.4

X- AREA	X RATION	-----AT AREA BUSES-----				TO BUS SHUNT	GENE TO DEVICES	TO LINE SHUNT	FROM CHARGING	TO LOSSES	-NET INTERCHANGE-		DESIRED NET INT
		FROM GENERATN	TO IND MOTORS	TO LOAD	TO SHUNT						TO TIE LINES	TO TIES + LOADS	
NORTH	1	41750.7	0.0	65153.7	0.0	0.0	21872.1	2.3	0.0	2705.7	-26111.0	-26111.0	0.0
		-6279.0	0.0	16520.1	0.0	0.0	0.0	0.0	0.0	31273.0	3124.6	3124.6	0.0
			0.0	3159.0	0.0	0.0	1380.4	5129.5	0.0	97.3	882.2	882.1	0.0
			0.0	956.3	0.0	0.0	0.0	0.0	0.0	646.4	-48.8	-50.8	0.0
NORTHEAST	2	8148.4	0.0	64271.9	0.0	0.0	0.0	0.0	0.0	3638.2	17150.7	17150.7	0.0
		-873.8	0.0	9396.1	0.0	0.0	50103.5	100858.1	0.0	50097.1	-4808.2	-4808.2	0.0
WEST	3	85060.7	0.0	25959.8	0.0	0.0	203.2	0.0	0.0	1024.9	20761.9	20771.9	0.0
		-5325.1	0.0	5201.9	0.0	0.0	8887.0	31921.0	0.0	12696.0	-1155.0	-1153.0	0.0
EAST	4	47949.7	0.0	68433.1	0.0	0.0	0.0	0.0	0.0	1863.9	-13361.3	-13361.3	-6200.0
		-1510.6	0.0	19217.0	0.0	0.0	14395.4	57994.9	0.0	23155.2	3270.6	3270.6	0.0
SOUTH	5	56935.7	0.0	318.3	0.0	0.0	0.0	0.0	0.0	10.3	1677.2	1677.2	0.0
		1434.4	0.0	114.5	0.0	0.0	56.4	248.8	0.0	216.1	-335.2	-335.2	0.0
BHUTAN	6	2005.9	0.0	1000.0	0.0	0.0	0.0	0.0	0.0	9.6	-1009.6	-1009.6	0.0
		-143.1	0.0	50.0	0.0	0.0	0.0	109.2	0.0	107.1	47.9	-47.9	0.0
BAHGLADESH	7	0.0	0.0	228295.7	0.0	0.0	205.5	0.0	0.0	9349.9	0.0	0.0	-6200.0
		0.0	0.0	51855.9	0.0	0.0	96694.8	266447.2	118190.9	0.0	0.0	0.0	0.0
COLUMN TOTALS		237851.1	0.0	51855.9	0.0	0.0	205.5	0.0	0.0	9349.9	0.0	0.0	-6200.0
		-13697.3	0.0		0.0	0.0							

OUTPUT FOR ZONE 51 (TELANGANA) |
 SUBSYSTEM LOADING CHECK (INCLUDED: LINES) (EXCLUDED: BREAKERS AND SWITCHES; TRANSFORMERS)

CURRENT LOADINGS ABOVE 100.0 % OF RATING SET A:

FROM BUS	TO BUS	AREA	AREA	CT	LOADING	RATING	PERCENT
X-----X	X-----X	BASKV	BASKV	5	734.2	681.0	107.8
BUS# X-- NAME --X	BUS# X-- NAME --X	5 514169 DAMARCHARIA	5 514169 DAMARCHARIA	5	734.2	681.0	107.8
514104 MAHESH-TS	514104 MAHESH-TS	400.00	400.00*	5	734.2	681.0	107.8
400.00	400.00			5	734.2	681.0	107.8

OUTPUT FOR ZONE 51 [TELANGANA]

OPTIONS USED:

- SET PRE-FAULT VOLTAGE ON ALL BUSES TO 1.00 PU AT 0 PHASE SHIFT ANGLE
- SET SYNCHRONOUS/ASYNCHRONOUS MACHINE POWER OUTPUTS TO P=0.0, Q=0.0
- SET GENERATOR POSITIVE SEQUENCE REACTANCES TO SUBTRANSIENT
- SET TRANSFORMER TAP RATIOS=1.0 PU AND PHASE SHIFT ANGLES=0.0
- SET LINE CHARGING=0.0 IN +/-0 SEQUENCES
- SET LINE/FIXED/SWITCHED SHUNTS=0.0 AND TRANSFORMER MAGNETIZING ADMITTANCE=0.0 IN +/-0 SEQUENCES
- SET LOAD=0.0 IN +/- SEQUENCES
- DC LINES AND FACTS DEVICES BLOCKED
- IMPEDANCE CORRECTIONS NOT APPLIED TO TRANSFORMER ZERO SEQUENCE IMPEDANCES

X-----	BUS	-----X	THREE PHASE FAULT		X----LG FAULT---X		
			/I+/ AMP	AN(I+)	/3I0/ AMP	AN(I+)	
514001	[RSTP	400.00]	AMP	38322.9	-86.91	38001.0	-87.05
514002	[HYDP	400.00]	AMP	34905.2	-85.74	19123.3	-79.02
514003	[NSAG	400.00]	AMP	32905.0	-85.19	16788.9	-77.96
514004	[KHAM	400.00]	AMP	43752.4	-86.53	26737.0	-81.19
514009	[CHAND-SR	400.00]	AMP	6469.6	-85.17	4008.9	-78.88
514011	[SSLBPH4	400.00]	AMP	21375.9	-86.29	18480.2	-85.79
514012	[HYDR-AP4	400.00]	AMP	25992.8	-85.78	13746.8	-78.92
514020	[RAM-PVI4	400.00]	AMP	26858.5	-86.20	21107.9	-82.51
514021	[DICHPAL4	400.00]	AMP	36924.9	-86.86	16729.7	-79.69
514022	[GAJWEL4	400.00]	AMP	32270.3	-85.87	18348.0	-79.70
514023	[MAHABUB4	400.00]	AMP	35022.0	-86.37	16881.4	-79.79
514029	[KAKTIA-G	400.00]	AMP	28493.3	-86.67	23827.3	-86.31
514031	[SINGARENI	400.00]	AMP	21435.0	-87.80	22225.4	-87.95
514049	[KOTH-IV	400.00]	AMP	15766.2	-85.97	12816.7	-84.72
514051	[MALLARM4	400.00]	AMP	32585.3	-85.91	15958.2	-79.33
514052	[MALKARM4	400.00]	AMP	22407.5	-85.81	11127.2	-78.50
514060	[SURYPET4	400.00]	AMP	30895.5	-86.42	16091.5	-80.27
514061	[NIZAMABAD	400.00]	AMP	35301.8	-87.18	14469.7	-79.14
514062	[NIRMAL	400.00]	AMP	20677.9	-86.24	11471.2	-80.47
514078	[WARANGAL NEW	400.00]	AMP	38277.5	-87.53	17109.7	-80.47
514079	[WARN4	400.00]	AMP	38748.3	-87.21	19086.4	-80.61
514080	[KOTH-VII	400.00]	AMP	29243.6	-87.56	20561.9	-85.25
514095	[BOMMANAPALLY	400.00]	AMP	39656.5	-87.43	26416.0	-83.59
514100	[NARSAPUR	400.00]	AMP	32894.7	-85.85	16738.0	-79.33
514101	[MAHESWRM	400.00]	AMP	52107.5	-87.08	21405.5	-79.18
514104	[MAHESH-TS	400.00]	AMP	51332.3	-86.90	21746.7	-79.27
514105	[RAMADAGU	400.00]	AMP	30180.0	-86.47	17360.4	-80.64
514106	[TIPPAPUR	400.00]	AMP	33310.0	-86.28	19607.0	-80.76
514107	[CHOPPADANDI	400.00]	AMP	28156.3	-86.29	16093.9	-80.47
514108	[MYDARAM	400.00]	AMP	21333.2	-86.53	11732.2	-80.27
514131	[MANIKONDA	400.00]	AMP	22307.4	-86.29	11102.3	-79.52
514134	[MANUGURU	400.00]	AMP	21876.1	-88.06	17250.1	-87.08
514135	[ASUPAKA	400.00]	AMP	7538.7	-84.93	4174.6	-79.43
514152	[DINDI	400.00]	AMP	15926.3	-86.11	6523.4	-79.41
514164	[PARIGI	400.00]	AMP	19160.0	-86.44	8568.8	-79.20
514165	[JANAGAON	400.00]	AMP	29321.3	-86.57	15755.2	-80.31
514169	[DAMARCHARLA	400.00]	AMP	50285.0	-88.46	47158.8	-88.57
514170	[CHOUTTUPPAL	400.00]	AMP	12594.7	-85.96	5823.2	-79.64
514171	[MADARAM	400.00]	AMP	19232.6	-86.53	9089.0	-79.47
514172	[NANCHRLAKOTA	400.00]	AMP	17859.2	-86.50	8240.1	-79.33
518051	[HYDR_800	765.00]	AMP	33100.2	-87.79	1906.6	-77.11
518062	[NIZAMABAD	765.00]	AMP	23196.1	-87.57	1584.1	-77.07
518079	[WARN800	765.00]	AMP	30194.0	-87.69	1987.0	-77.20

X	ZONE	FROM		TO		TO		TO		FROM		TO		NET INTERCHANGE	
		GENE- PATION	FROM IND GENERATN	TO IND MOTORS	LOAD	TO BUS SHUNT	GENE BUS DEVICES	TO LINE SHUNT	CHARGING	FROM CHARGING	LOSSES	TO TIE LINES	TO TIES + LOADS		
50	ANDHRA	12753.5	0.0	0.0	13661.0	0.0	0.0	0.0	0.0	284.0	-1191.5	-1191.5			
		198.3	0.0	0.0	4490.2	1318.0	0.0	5577.8	17937.3	4360.7	2288.9	2388.9			
51	TELANGANA	13260.0	0.0	0.0	15716.4	0.0	0.0	0.0	0.0	597.2	-3053.6	-3053.6			
		2476.7	0.0	0.0	5165.7	-196.9	0.0	3368.1	12657.2	6576.3	-779.3	-779.3			
52	KARNATAKA	11104.9	0.0	0.0	13175.1	0.0	0.0	0.0	0.0	387.6	-2457.9	-2457.9			
		-1952.8	0.0	0.0	3223.2	-513.0	0.0	794.0	9236.7	4700.0	-920.2	-920.2			
53	KERALA	1644.9	0.0	0.0	4479.5	0.0	0.0	0.0	0.0	247.0	-3081.7	-3081.7			
		463.5	0.0	0.0	1082.2	-1654.9	0.0	46.0	1095.8	2706.2	-620.2	-620.2			
54	TAMILNAD	19142.4	0.0	0.0	19774.1	0.0	0.0	0.0	0.0	330.9	-1962.6	-1962.6			
		1261.0	0.0	0.0	4855.1	465.8	0.0	3592.9	15591.0	4260.0	3678.2	3387.5			
55	CENTRAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
56	TN WIND	0.0	0.0	0.0	1102.4	0.0	0.0	0.0	0.0	10.1	-1112.5	-1112.5			
		-10.3	0.0	0.0	285.8	0.0	0.0	0.0	194.6	199.8	-301.3	-15.5			
57	PUNEY	30.0	0.0	0.0	524.6	0.0	0.0	0.0	0.0	0.9	-495.5	-476.8			
		-2.1	0.0	0.0	114.9	-27.5	0.0	0.0	11.6	57.4	-137.0	-132.1			
58	TEL-LOAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
COLUMNS	TOTALS	56335.7	0.0	0.0	68433.1	0.0	0.0	0.0	0.0	1857.8	-13355.3	-13355.3			
	TOTALS	1434.1	0.0	0.0	19217.0	-608.9	0.0	13378.8	56724.1	22562.3	3359.3	3308.3			

FROM AREA 5 SOUTH

TO AREA	3 WEST	TO AREA BUS	-----X	BUS#	X--	NAME	---X	BASKV	-----X	CRT	NM	MVAR	TWO TRM DC	"11"
X----	FROM AREA BUS	---	X											
BUS#	X--	NAME	---	X	BASKV									
514009	CHAND-SR		400.00*	374007	BHADRA4		400.00	2DC	-497.0	251.6	TWO TRM DC	"11"		
514009	CHAND-SR		400.00*	374007	BHADRA4		400.00	2DC	-497.0	251.6	TWO TRM DC	"12"		
544016	PUGALUR-MEW		400.00*	314029	RAIGARRH_POOL		400.00	2DC	-1908.8	789.1	TWO TRM DC	"33"		
544016	PUGALUR-MEW		400.00*	314029	RAIGARRH_POOL		400.00	2DC	-1908.8	789.1	TWO TRM DC	"34"		
518029	DUMY_BU		765.00	378040	SHOLAPUR-PG		765.00*	4	-1908.8	-34.8				
518062	NIZAMABAD		765.00*	378021	WARDHA		765.00	1	-519.0	-20.4				
518062	NIZAMABAD		765.00*	378021	WARDHA		765.00	2	-519.0	-20.4				
518079	WARNA00		765.00	378091	WARORA POOL		765.00*	1	-630.7	167.7				
518079	WARNA00		765.00	378091	WARORA POOL		765.00*	2	-630.7	167.7				
524015	NARDR-NW		400.00*	374050	KOLHAPURPG		400.00	1	576.9	1.7				
524015	NARDR-NW		400.00*	374050	KOLHAPURPG		400.00	2	576.9	1.7				
TOTAL FROM AREA			5 TO AREA					3					-7866.1	2344.4

TO AREA	4 EAST	TO AREA BUS	-----X	BUS#	X--	NAME	---X	BASKV	-----X	CRT	NM	MVAR	TWO TRM DC	"10"
X----	FROM AREA BUS	---	X											
BUS#	X--	NAME	---	X	BASKV									
524011	KOLAR		400.00	424019	TALCHER		400.00*	2DC	-1004.8	-413.1	TWO TRM DC	"10"		
514010	GAZU-SR		400.00*	424099	GAZUMAKA-SR		400.00	2DC	-323.2	175.5	TWO TRM DC	"13"		
514010	GAZU-SR		400.00*	424099	GAZUMAKA-SR		400.00	2DC	-323.2	175.5	TWO TRM DC	"14"		
524011	KOLAR		400.00	424019	TALCHER		400.00*	2DC	-1004.8	-413.1	TWO TRM DC	"9"		
518091	SRI_POOL		765.00	424014	ANGUL		765.00*	1	-1406.8	120.7				
518091	SRI_POOL		765.00	424014	ANGUL		765.00*	2	-1406.8	120.7				
TOTAL FROM AREA			5 TO AREA					4					-5459.7	-233.7
TOTAL FROM AREA			5 SOUTH										-13335.5	2110.7

FROM AREA 5 SOUTH

TO AREA	3	WEST	X-----X	TO AREA BUS	-----X	BASKV	CKT	MW	MVAR	TWO TRM	DC	"11"			
X----	FROM AREA	BUS	X----	BUS#	X--	NAME	--X	BASKV	400.00	2DC	-497.0	251.6	TWO TRM	DC	"12"
BUS#	X--	NAME	--X	BASKV	400.00*	374007	BHADR4	400.00	2DC	-497.0	251.6	TWO TRM	DC	"13"	
514009	CHANDL	SR	400.00*	374007	BHADR4	400.00	2DC	-497.0	251.6	TWO TRM	DC	"14"			
514009	CHANDL	SR	400.00*	314029	RAIGARH_POOL	400.00	2DC	-2795.9	1304.1	TWO TRM	DC	"34"			
544016	BUSALUR-HEM	400.00*	314029	RAIGARH_POOL	400.00	2DC	-2795.9	1304.1	TWO TRM	DC	"34"				
544016	BUSALUR-HEM	400.00*	314029	RAIGARH_POOL	400.00	2DC	-2795.9	1304.1	TWO TRM	DC	"34"				
518029	DUMY_BU	765.00	378040	SHOLAPUR-PG	765.00*	4	-1612.1	10.0	-51.7						
518029	DUMY_BU	765.00*	378021	WARDHA	765.00	1	-301.9	-51.7							
518062	NIZAMABAD	765.00*	378021	WARDHA	765.00*	1	-405.0	166.0							
518062	NIZAMABAD	765.00	378091	WARORA POOL	765.00*	2	-405.0	166.0							
518079	WARN800	765.00	378091	WARORA POOL	765.00*	2	-405.0	166.0							
518079	WARN800	400.00*	374050	KOLHAPURPG	400.00	1	663.9	12.5							
524015	NARDR-NW	400.00*	374050	KOLHAPURPG	400.00	1	663.9	12.5							
524015	NARDR-NW	400.00*	374050	KOLHAPURPG	400.00	1	663.9	12.5							
TOTAL FROM AREA			5	TO AREA											

TO AREA	4	EAST	X-----X	TO AREA BUS	-----X	BASKV	CKT	MW	MVAR	TWO TRM	DC	"10"			
X----	FROM AREA	BUS	X----	BUS#	X--	NAME	--X	BASKV	400.00*	2DC	-1004.8	-413.1	TWO TRM	DC	"10"
BUS#	X--	NAME	--X	BASKV	400.00	424019	TALCHER	400.00*	2DC	-323.2	175.5	TWO TRM	DC	"13"	
524011	KOLAR	400.00*	424099	GAZUMAKA-ER	400.00	2DC	-323.2	175.5	TWO TRM	DC	"14"				
514010	GAZU-SR	400.00*	424099	GAZUMAKA-ER	400.00	2DC	-1004.8	-413.1	TWO TRM	DC	"9"				
514010	GAZU-SR	400.00	424019	TALCHER	400.00*	2DC	-1004.8	-413.1	TWO TRM	DC	"9"				
524011	KOLAR	400.00	424019	TALCHER	400.00*	2DC	-1004.8	-413.1	TWO TRM	DC	"9"				
518091	SRI_POOL	765.00	428014	ANGUL	765.00*	1	-1210.7	185.2							
518091	SRI_POOL	765.00	428014	ANGUL	765.00*	1	-1210.7	185.2							
518091	SRI_POOL	765.00	428014	ANGUL	765.00*	1	-1210.7	185.2							
TOTAL FROM AREA			5	TO AREA											

TOTAL FROM AREA 5 SOUTH

 -13361.3 3270.6

TO ZONE	37	IPP	FROM ZONE	51	TELANGANA							
X----	FROM ZONE	BUS	----	X-----	TO ZONE							
BUS#	X--	NAME	--X	BASKV	BUS#	X--	NAME	--X	BASKV	CRT	MM	MVAR
514009	CHAND-SR	400.00*	374007	BHADR4	400.00	2DC	-437.0	251.6	TWO TRM DC "11"			
514009	CHAND-SR	400.00*	374007	BHADR4	400.00	2DC	-437.0	251.6	TWO TRM DC "12"			
514062	NIZAMABAD	765.00*	379021	WARDHA	765.00	1	-301.9	-51.7				
514062	NIZAMABAD	765.00*	379021	WARDHA	765.00	2	-301.9	-51.7				
518079	WARAN800	765.00	378091	WARORA POOL	765.00*	1	-405.0	166.0				
518079	WARAN800	765.00	378091	WARORA POOL	765.00*	2	-405.0	166.0				
TOTAL FROM ZONE	51	TO ZONE	37						-2407.9	731.8		

TO ZONE	50	ANDHRA	FROM ZONE	50	ANDHRA							
X----	FROM ZONE	BUS	----	X-----	TO ZONE							
BUS#	X--	NAME	--X	BASKV	BUS#	X--	NAME	--X	BASKV	CRT	MM	MVAR
512003	NSAG	220.00*	512005	VIJA	220.00	1	3.7	-6.0				
512003	NSAG	220.00*	512005	VIJA	220.00	2	3.7	-6.0				
512003	NSAG	220.00	512073	SRTS	220.00*	1	-2.7	11.3				
512003	NSAG	220.00	512073	SRTS	220.00*	2	-2.7	11.3				
512003	NSAG	220.00	512073	SRTS	220.00*	3	-2.7	11.3				
512049	KOTH	220.00*	512005	VIJA	220.00	1	103.4	2.2				
512049	KOTH	220.00*	512005	VIJA	220.00	2	103.4	2.2				
512049	KOTH	220.00*	512050	LISLEU	220.00	1	-94.5	32.3				
512049	KOTH	220.00*	512050	LISLEU	220.00	2	-94.5	32.3				
512060	SURYAPET2	220.00*	512035	CHILAKAL	220.00	1	71.2	53.8				
512060	SURYAPET2	220.00*	512035	CHILAKAL	220.00	2	71.2	53.8				
512152	DINDI	220.00*	512103	BRAHMKTR	220.00	1	93.7	15.1				
512152	DINDI	220.00*	512103	BRAHMKTR	220.00	2	93.7	15.1				
512174	HUZURANAGAR	220.00*	512073	SRTS	220.00	1	22.5	-36.6				
512174	HUZURANAGAR	220.00*	512073	SRTS	220.00	2	22.5	-36.6				
514003	NSAG	400.00*	512035	CHILAKAL	220.00	1	-82.4	-33.8				
514003	NSAG	400.00*	512035	CHILAKAL	220.00	2	-82.4	-33.8				
514003	NSAG	400.00*	514028	RUPIL-MEW	400.00	1	121.0	84.4				
514003	NSAG	400.00*	514028	RUPIL-MEW	400.00	2	121.0	84.4				
514004	KHAM	400.00*	514998	ESG-3	400.00	1	37.7	11.1				
514004	KHAM	400.00*	514998	ESG-3	400.00	2	37.7	11.1				
514004	KHAM	400.00*	514005	VIJW	400.00	1	-189.9	80.4				
514004	KHAM	400.00*	514005	VIJW	400.00	2	-189.9	80.4				
514011	SELBPH1	400.00*	514016	VIREPOL	400.00*	1	205.6	-71.2				
514011	SELBPH1	400.00*	514016	VIREPOL	400.00*	2	205.6	-71.2				
514011	SELBPH1	400.00*	514015	RUDHOCCL4	400.00	1	-31.0	-48.5				
514011	SELBPH1	400.00*	514015	RUDHOCCL4	400.00	2	-31.0	-48.5				
514023	MAHABUB4	400.00*	514026	V13-AF	400.00*	1	59.7	76.3				
514023	MAHABUB4	400.00*	514026	V13-AF	400.00*	2	59.7	76.3				
514060	SURYPET4	400.00*	514133	UPVRND	400.00	1	69.7	-151.6				
514060	SURYPET4	400.00*	514133	UPVRND	400.00	2	69.7	-151.6				
514060	SURYPET4	400.00*	514030	V14P-IV	400.00*	1	-194.9	-23.9				
514060	SURYPET4	400.00*	514030	V14P-IV	400.00*	2	-194.9	-23.9				
514103	MAHESWRN	400.00*	514111	KVKOTI4C	400.00	1	-213.7	-54.3				
514103	MAHESWRN	400.00*	514111	KVKOTI4C	400.00	2	-213.7	-54.3				
514133	AGDFAKA	400.00	514013	KUSANOCCL4	400.00	1	-192.0	150.2				
514133	AGDFAKA	400.00	514013	KUSANOCCL4	400.00	2	-192.0	150.2				
514051	HYDR_800	765.00*	514026	RUPIL-800	765.00	1	63.4	-254.6				
514051	HYDR_800	765.00*	514026	RUPIL-800	765.00	2	63.4	-254.6				
514978	WARAN800	765.00*	514028	RUPIL-800	765.00	1	9.3	-315.2				
514978	WARAN800	765.00*	514028	RUPIL-800	765.00	2	9.3	-315.2				
514979	WARAN800	765.00*	518099	CHSIA290	765.00	1	-316.0	-316.0				
514979	WARAN800	765.00*	518099	CHSIA290	765.00	2	-316.0	-316.0				
TOTAL FROM ZONE	51	TO ZONE	50						-200.1	-1573.5		

TO ZONE	52	KARNATAKA	FROM ZONE	52	KARNATAKA							
X----	FROM ZONE	BUS	----	X-----	TO ZONE							
BUS#	X--	NAME	--X	BASKV	BUS#	X--	NAME	--X	BASKV	CRT	MM	MVAR
512019	JUSLPRKR	220.00*	522003	RAIC	220.00	1	-85.5	8.3				
512019	JUSLPRKR	220.00*	522003	RAIC	220.00	2	-85.5	8.3				
514021	MAHABUB4	400.00*	521003	RAIC	400.00	1	-274.5	45.9				
514021	MAHABUB4	400.00*	521003	RAIC	400.00	2	-274.5	45.9				
TOTAL FROM ZONE	51	TO ZONE	52						-455.5	62.4		

ZONE TOTALS
IN MW/MVAR

X-- ZONE --X	FROM -----AT ZONE BUSES-----				TO				-NET INTERCHANGE-			
	GENE- FROM IND RATTON GENERATN	TO IND MOTORS	LOAD	TO BUS SHUNT	GENE BUS DEVICES	TO LINE SHUNT	CHARGING	FROM LOSSES	TO TIE LINES	TO TIES + LOADS		
51	13260.0	0.0	0.0	15716.4	0.0	0.0	0.0	597.2	-3053.6	-3053.6		
TELANGANA	1476.7	0.0	0.0	5165.7	-196.9	0.0	3368.1	12657.2	-779.3	-779.3		
58	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
TEL-LOAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
COLUMN	13260.0	0.0	0.0	15716.4	0.0	0.0	0.0	597.2	-3053.6	-3053.6		
TOTALS	1476.7	0.0	0.0	5165.7	-196.9	0.0	3368.1	12657.2	-779.3	-779.3		

OUTPUT FOR ZONE 51 [TELANGANA]

SUBSYSTEM LOADING CHECK (INCLUDED: TRANSFORMERS) (EXCLUDED: LINES; BREAKERS AND SWITCHES)
MVA LOADINGS ABOVE 60.0 % OF RATING SET A:

FROM BUS				TO BUS				CMT	LOADING	RATING	PERCENT
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA				
511001	RSTP	132.00	5	514001	RSTP	400.00*	5 1	595.3	400.0	148.8	
512001	RMGD	220.00	5	514001	RSTP	400.00*	5 1	635.5	815.9	78.8	
512002	HYDR	220.00	5	514002	HYDR	400.00*	5 1	1349.1	1445.0	93.4	
512012	HYDAP2	220.00	5	514012	HYDR-AP4	400.00*	5 1	1266.5	1260.0	100.5	
512022	GAJWEL2	220.00	5	514022	GAJWEL4	400.00*	5 1	1102.4	630.0	175.0	
512022	GAJWEL2	220.00	5	514022	GAJWEL4	400.00*	5 2	551.2	315.0	175.0	
512023	MEHBOBNG	220.00	5	514023	MAHABUB4	400.00*	5 1	639.7	630.0	101.5	
512051	MAILRM	220.00	5	514051	MAILARM4	400.00*	5 1	1091.6	945.0	115.5	
512052	MALKARAM	220.00	5	514052	MALKARM4	400.00*	5 1	1054.5	945.0	111.6	
512060	SURYAPET2	220.00	5	514060	SURYPET4	400.00*	5 1	606.5	630.0	96.3	
512079	WRNG	220.00	5	514079	WARN4	400.00*	5 1	1124.5	1130.0	99.5	
512100	NARSAPUR2	220.00	5	514100	NARSAPUR	400.00*	5 1	378.7	315.0	120.2	
512100	NARSAPUR2	220.00	5	514100	NARSAPUR	400.00*	5 2	378.7	315.0	120.2	
512131	MANIKONDA2	220.00	5	514131	MANIKONDA	400.00*	5 1	211.5	315.0	67.2	
512131	MANIKONDA2	220.00	5	514131	MANIKONDA	400.00*	5 2	211.5	315.0	67.2	
512152	DINDI	220.00	5	514152	DINDI	400.00*	5 1	371.5	500.0	74.3	
512152	DINDI	220.00	5	514152	DINDI	400.00*	5 2	371.5	500.0	74.3	
512152	DINDI	220.00	5	514152	DINDI	400.00*	5 3	371.5	500.0	74.3	
512160	PARIGI-LI	220.00	5	514164	PARIGI	400.00*	5 1	277.6	315.0	88.1	
512160	PARIGI-LI	220.00	5	514164	PARIGI	400.00*	5 2	277.6	315.0	88.1	

X-- AREA--X	FROM GENE- RATION	-----AT FROM IND	AREA BUSES----- TO IND	LOAD	TO BUS SHUNT	TO GNE BUS DEVICES	TO LINE SHUNT	FROM CHARGING	TO LOSSES	-NET INTERCHANGE-			DESIRED NET INT
										TO TIE LINES	TO TIES LOADS		
1	42687.3	0.0	0.0	65153.7	0.0	0.0	2.3	0.0	2720.8	-25189.5	-25189.5	0.0	0.0
NORTH	-6414.1	0.0	0.0	16520.1	-6858.4	0.0	21893.8	72253.2	31297.3	2986.4	2986.4	0.0	0.0
2	4148.4	0.0	0.0	3159.0	0.0	0.0	0.0	0.0	97.3	892.2	882.1	0.0	0.0
NORTHEAST	-870.6	0.0	0.0	956.3	1321.4	0.0	1360.3	5129.3	546.4	-45.6	-47.7	0.0	0.0
3	85060.7	0.0	0.0	64271.9	0.0	0.0	0.0	0.0	3660.1	17128.7	17128.7	0.0	0.0
WEST	-5014.7	0.0	0.0	9396.1	-9406.1	0.0	50059.0	100802.9	50435.2	-4696.0	-4696.0	0.0	0.0
4	49792.9	0.0	0.0	25959.8	0.0	0.0	203.5	0.0	1033.2	22596.3	22606.4	0.0	0.0
EAST	-1190.6	0.0	0.0	5201.9	4708.4	0.0	8873.4	31890.6	12974.8	-1058.5	-1056.5	0.0	0.0
5	59264.3	0.0	0.0	73596.4	0.0	0.0	0.0	0.0	1763.2	-16095.3	-16095.3	0.0	0.0
SOUTH	-2183.8	0.0	0.0	16713.8	-1882.8	0.0	14337.8	57941.3	23387.4	3201.2	3201.2	0.0	0.0
6	2005.9	0.0	0.0	318.3	0.0	0.0	0.0	0.0	10.4	1677.2	1677.2	0.0	0.0
BHUTAN	-142.3	0.0	0.0	114.5	53.9	0.0	56.3	248.7	221.1	-339.5	-339.5	0.0	0.0
7	0.0	0.0	0.0	1000.0	0.0	0.0	0.0	0.0	9.6	-1009.6	-1009.6	0.0	0.0
BAHGLADESH	0.0	0.0	0.0	50.0	0.0	0.0	0.0	109.1	107.1	-48.0	-48.0	0.0	0.0
COLUMN	242959.5	0.0	0.0	233459.1	0.0	0.0	205.8	0.0	9294.6	0.0	0.0	0.0	-6200.0
TOTALS	-15816.2	0.0	0.0	48952.7	-12083.6	0.0	96600.6	268375.3	119069.2	0.0	0.0	0.0	0.0

OUTPUT FOR ZONE 51 (TELANGANA)
 SUBSYSTEM LOADING CHECK (INCLUDED: LINES) (EXCLUDED: BREAKERS AND SWITCHES; TRANSFORMERS)
 CURRENT LOADINGS ABOVE 100.0 % OF RATING SET A:

FROM BUS	TO BUS	BASKV	AREA	CRT	LOADING	RATING	PERCENT
514021 DICHPAL4	514061 NIZAMABAD	400.00*	5	1	645.0	550.0	117.3
514021 DICHPAL4	514061 NIZAMABAD	400.00*	5	2	645.0	550.0	117.3
514023 MAHABUB4	514171 MADARAM	400.00	5	1	876.6	581.0	128.7
514023 MAHABUB4	514171 MADARAM	400.00	5	2	876.6	581.0	128.7
514023 MAHABUB4	524003 RAIC	400.00	5	1	892.7	517.0	172.7
514101 MAHESWRM	514104 MAHESH-TS	400.00	5	1	871.6	550.0	158.5
514101 MAHESWRM	514104 MAHESH-TS	400.00	5	2	871.6	550.0	158.5

OUTPUT FOR ZONE 51 [TELANGANA]

OPTIONS USED:

- SET PRE-FAULT VOLTAGE ON ALL BUSES TO 1.00 PU AT 0 PHASE SHIFT ANGLE
- SET SYNCHRONOUS/ASYNCHRONOUS MACHINE POWER OUTPUTS TO P=0.0, Q=0.0
- SET GENERATOR POSITIVE SEQUENCE REACTANCES TO SUBTRANSIENT
- SET TRANSFORMER TAP RATIOS=1.0 PU AND PHASE SHIFT ANGLES=0.0
- SET LINE CHARGING=0.0 IN +/-0 SEQUENCES
- SET LINE/FIXED/SWITCHED SHUNTS=0.0 AND TRANSFORMER MAGNETIZING ADMITTANCE=0.0 IN +/-0 SEQUENCES
- SET LOAD=0.0 IN +/- SEQUENCES
- DC LINES AND FACTS DEVICES BLOCKED
- IMPEDANCE CORRECTIONS NOT APPLIED TO TRANSFORMER ZERO SEQUENCE IMPEDANCES

X-----BUS-----X	THREE PHASE FAULT	X----LG FAULT---X
	/I+/ AN(I+)	/3I0/ AN(I+)
514001 [RSTP 400.00] AMP	38445.6	-86.91
514002 [HYDR 400.00] AMP	35113.2	-85.73
514003 [NSAG 400.00] AMP	33778.3	-85.41
514004 [KHAM 400.00] AMP	44093.3	-86.55
514009 [CHAND-SR 400.00] AMP	6473.1	-85.17
514011 [SSLBPH4 400.00] AMP	21416.9	-86.28
514012 [HYDR-AP4 400.00] AMP	26096.5	-85.77
514020 [RAM-PVT4 400.00] AMP	26917.3	-86.19
514021 [DICHPAL4 400.00] AMP	37007.7	-86.85
514022 [GAJWEL4 400.00] AMP	32376.8	-85.86
514023 [MAHABUB4 400.00] AMP	35466.9	-86.41
514029 [KAKTIA-G 400.00] AMP	28538.9	-86.66
514031 [SINGARENI 400.00] AMP	21449.7	-87.80
514049 [KOTH-IV 400.00] AMP	15802.6	-85.97
514051 [MAILARM4 400.00] AMP	32724.7	-85.91
514052 [MALKARM4 400.00] AMP	22501.6	-85.81
514060 [SURYPET4 400.00] AMP	31078.4	-86.43
514061 [NIZAMABAD 400.00] AMP	35372.5	-87.17
514062 [NIRMAL 400.00] AMP	20699.3	-86.23
514078 [WARANGAL NEW400.00] AMP	38374.7	-87.53
514079 [WARN4 400.00] AMP	38851.1	-87.20
514080 [KOTH-VII 400.00] AMP	29321.6	-87.56
514095 [BOMMANAPALLY400.00] AMP	39824.9	-87.43
514100 [NARSAPUR 400.00] AMP	33019.7	-85.84
514101 [MAHESWRM 400.00] AMP	52530.3	-87.08
514104 [MAHESH-TS 400.00] AMP	51749.9	-86.91
514105 [RAMADAGU 400.00] AMP	30239.8	-86.46
514106 [TIPPAPUR 400.00] AMP	33390.6	-86.28
514107 [CHOPPADANDI 400.00] AMP	28210.2	-86.29
514108 [MYDARAM 400.00] AMP	21363.0	-86.53
514131 [MANIKONDA 400.00] AMP	22375.5	-86.28
514134 [MANUGURU 400.00] AMP	21903.5	-88.06
514135 [ASUPAKA 400.00] AMP	7545.2	-84.92
514152 [DINDI 400.00] AMP	15988.8	-86.09
514164 [PARIGI 400.00] AMP	19240.1	-86.44
514165 [JANAGAON 400.00] AMP	29386.5	-86.56
514169 [DAMARCHARLA 400.00] AMP	50407.0	-88.45
514170 [CHOUTTUPPAL 400.00] AMP	12606.0	-85.95
514171 [MADARAM 400.00] AMP	19340.1	-86.54
514172 [NANCHRLAKOTA400.00] AMP	17938.3	-86.51
518051 [HYDR_800 765.00] AMP	33275.5	-87.79
518062 [NIZAMABAD 765.00] AMP	23241.6	-87.57
518079 [WARN800 765.00] AMP	30293.9	-87.69
		38081.4
		19164.4
		16939.4
		26821.3
		4009.8
		18500.5
		13765.9
		21132.1
		16740.9
		18370.6
		16949.7
		23848.5
		22236.0
		12832.7
		15980.2
		11142.6
		16124.4
		14477.5
		11475.5
		17122.4
		19102.9
		20587.5
		26465.6
		16759.3
		21452.4
		21796.0
		17373.5
		19625.4
		16105.5
		11738.1
		11113.4
		17261.5
		4175.9
		6530.3
		8579.4
		15767.6
		47230.2
		5824.8
		9105.0
		8251.3
		1907.0
		1584.2
		1987.3
		-87.05
		-79.00
		-77.97
		-81.18
		-76.88
		-85.78
		-78.91
		-82.50
		-79.69
		-79.69
		-79.78
		-86.31
		-87.95
		-84.72
		-79.32
		-78.49
		-80.26
		-79.13
		-80.46
		-80.46
		-80.61
		-85.25
		-83.58
		-79.32
		-79.17
		-79.25
		-80.63
		-80.76
		-80.46
		-80.27
		-79.51
		-87.08
		-79.43
		-79.39
		-79.19
		-80.30
		-88.56
		-79.64
		-79.47
		-79.33
		-77.10
		-77.06
		-77.20

FROM AREA 5 SOUTH

TO AREA 3 WEST		TO AREA BUS		TO AREA BUS		TO AREA BUS	
X----	FROM AREA BUS	X----	NAME	X----	NAME	X----	NAME
BUS#	X--	BUS#	X--	BUS#	X--	BUS#	X--
514009	CHAND-SR	374007	BHADRA4	400.00	2DC	251.6	TWO TRM DC "11"
514009	CHAND-SR	374007	BHADRA4	400.00	2DC	251.6	TWO TRM DC "12"
544016	PUGALUR-NEW	314029	RAIGARH_POOL	400.00	2DC	789.1	TWO TRM DC "33"
544016	PUGALUR-NEW	314029	RAIGARH_POOL	400.00	2DC	789.1	TWO TRM DC "34"
518029	DUMI_BU	378040	SHOLAPUR-PG	765.00	4	-69.9	
518062	NIZAMABAD	378021	WARDHA	765.00	1	46.9	
518062	NIZAMABAD	378021	WARDHA	765.00	2	46.9	
518079	WARAN800	378091	WARORA POOL	765.00	1	143.4	
518079	WARAN800	378091	WARORA POOL	765.00	2	143.4	
524015	NARDR-NW	374050	KOLHAPURPG	400.00	1	5.7	
524015	NARDR-NW	374050	KOLHAPURPG	400.00	2	5.7	
TOTAL FROM AREA 5 TO AREA 3						-10035.1	2403.4

TO AREA 4 EAST		TO AREA BUS		TO AREA BUS		TO AREA BUS	
X----	FROM AREA BUS	X----	NAME	X----	NAME	X----	NAME
BUS#	X--	BUS#	X--	BUS#	X--	BUS#	X--
524011	KOLAR	424019	TALCHER	400.00	2DC	-1004.8	
514010	GAZU-SR	424099	GAZUWAKA-ER	400.00	2DC	-323.2	
514010	GAZU-SR	424099	GAZUWAKA-ER	400.00	2DC	-323.2	
524011	KOLAR	424019	TALCHER	400.00	2DC	-1004.8	
518091	SRI_POOL	428014	ANGUL	765.00	1	-1680.1	
518091	SRI_POOL	428014	ANGUL	765.00	2	-1680.1	
TOTAL FROM AREA 5 TO AREA 4						-6016.3	-374.3
TOTAL FROM AREA 5 SOUTH						-16051.4	2029.2

FROM AREA 5 SOUTH

TO AREA 3 WEST		TO AREA BUS		TO AREA BUS		TO AREA BUS	
BUS#	X-- NAME	X--X BASKV	X--X BASKV	X--X BASKV	CRT	MM	MVAR
514009	CHAND-SR	400.00*	374007 BHADR4	400.00	2DC	-497.0	251.6 TWO TRM DC "11"
514009	CHAND-SR	400.00*	374007 BHADR4	400.00	2DC	-497.0	251.6 TWO TRM DC "12"
544016	FUGALUR-NBW	400.00*	314029 RAIGARRH_POOL	400.00	2DC	2795.9	1304.1 TWO TRM DC "33"
544016	FUGALUR-NBW	400.00*	314029 RAIGARRH_POOL	400.00	2DC	-2795.9	1304.1 TWO TRM DC "34"
518029	DUMY_BU	765.00	378040 SHOLAPUR-PG	765.00*	4	-1902.8	-19.0
518062	NIZAMABAD	765.00*	378021 WARDHA	765.00	1	-860.4	8.2
518062	NIZAMABAD	765.00*	378021 WARDHA	765.00	2	-860.4	8.2
518079	WARUN800	765.00	378091 WARORA POOL	765.00*	1	-817.1	157.5
518079	WARUN800	765.00	378091 WARORA POOL	765.00*	2	-817.1	157.5
524015	NASDR-NW	400.00*	374050 KOLHAPURPG	400.00	1	583.0	17.9
524015	NASDR-NW	400.00*	374050 KOLHAPURPG	400.00	2	583.0	17.9
TOTAL FROM AREA 5 TO AREA		3		3		-10477.5 3459.7	

TO AREA 4 EAST		TO AREA BUS		TO AREA BUS		TO AREA BUS	
BUS#	X-- NAME	X--X BASKV	X--X BASKV	X--X BASKV	CRT	MM	MVAR
524011	KOLAR	400.00	424019 TALCHER	400.00*	2DC	-1004.8	-413.1 TWO TRM DC "10"
514010	GAZU-SR	400.00*	424099 GAZUMAKA-ER	400.00	2DC	323.2	175.5 TWO TRM DC "13"
514010	GAZU-SR	400.00*	424099 GAZUMAKA-ER	400.00	2DC	-223.2	175.5 TWO TRM DC "14"
524011	KOLAR	400.00	424019 TALCHER	400.00*	2DC	-1004.8	-413.1 TWO TRM DC "9"
518091	SRI_POOL	765.00	428014 ANCIJI	765.00*	1	-1180.9	108.4
518091	SRI_POOL	765.00	428014 ANCIJI	765.00*	2	-1480.9	108.4
TOTAL FROM AREA 5 TO AREA		4		4		-5617.8 -258.4	
TOTAL FROM AREA 5 SOUTH		5		5		-16095.3 3201.2	

PTI INTERACTIVE POWER SYSTEM SIMULATOR--PSS(R)E

MON, APR 27 2015 12:51

ZONE TOTALS
IN MW/MVAR

-NET INTERCHANGE-
TO TIE TO TIES
LINES + LOADS

X-- ZONE	FROM GENERATORS		TO MOTORS		LOAD		TO BUS SHUNT		TO GNE BUS DEVICES		TO LINE SHUNT		FROM CHARGING		TO LOSSES		NET INTERCHANGE		
	GENE- FROM	FROM TMD	TO TMD	IND	TO	IND	SHUNT	SHUNT	SHUNT	SHUNT	CHARGING	CHARGING	LOSSES	LOSSES	TO TIE	TO TIES	LINES	LOADS	
50	13230.8	0.0	0.0	0.0	13651.0	1150.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	305.8	-736.0	-736.0		
ANDHRA	462.9	0.0	0.0	0.0	4490.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4904.9	2209.4	2209.4			
51	12265.0	0.0	0.0	0.0	20979.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	426.8	-8041.5	-4302.5			
TELANGANA	-1302.0	0.0	0.0	0.0	4239.8	-1286.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5680.6	-629.1	334.2			
52	12359.9	0.0	0.0	0.0	13175.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	435.1	-1250.4	-1250.4			
KARNATAKA	-1924.2	0.0	0.0	0.0	2675.3	-663.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	5131.0	-643.8	-643.8			
53	1644.9	0.0	0.0	0.0	4479.5	-1676.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	244.4	-3079.1	-3079.1			
KERALA	276.4	0.0	0.0	0.0	909.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	331.8	-372.2	-1493.3			
54	19733.7	0.0	0.0	0.0	19774.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4321.5	3438.5	3210.7			
TAMILNAD	389.9	0.0	0.0	0.0	4068.5	-630.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	10.1	-112.6	-10.1		
CENTRAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	195.4	-303.1	-79.3		
56	0.0	0.0	0.0	0.0	1102.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	-495.3	-476.6		
TN-WIND	-80.0	0.0	0.0	0.0	223.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.3	-127.0	-123.2			
57	30.0	0.0	0.0	0.0	524.6	-27.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4739.0		
PONDI	-6.8	0.0	0.0	0.0	108.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-962.3		
58	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
TEL-LOAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1754.8	-16086.9	-16086.9		
COLUMN	59264.3	0.0	0.0	0.0	73596.4	1862.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	56674.1	22976.8	3158.4	3358.4		
TOTALS	2183.8	0.0	0.0	0.0	16114.8	1862.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13324.1	0.0	0.0	0.0		

FROM ZONE 51 TRIANGANA

TO ZONE 37		TO ZONE BUS		TO ZONE BUS		TO ZONE BUS		TO ZONE BUS	
FROM ZONE	NAME	BUS#	NAME	BUS#	NAME	BUS#	NAME	BUS#	NAME
X----	FROM ZONE BUS	X-----	TO ZONE BUS	X-----	TO ZONE BUS	X-----	TO ZONE BUS	X-----	TO ZONE BUS
514009	CHAND-SR	400.00*	374007	BHADRA4	400.00	2DC	MW	251.6	TWO TRM DC *11"
514009	CHAND-SR	400.00*	374007	BHADRA4	400.00	2DC	MW	251.6	TWO TRM DC *12"
518062	NIZAMABAD	765.00*	378021	WARDHA	765.00	1	MW	8.2	
518062	NIZAMABAD	765.00*	378021	WARDHA	765.00	2	MW	8.2	
518079	WARN800	765.00	378091	WARORA POOL	765.00*	1	MW	157.5	
518079	WARN800	765.00	378091	WARORA POOL	765.00*	2	MW	157.5	
TOTAL FROM ZONE		51 TO ZONE		37				-4349.0	834.5

TO ZONE 50		TO ZONE BUS		TO ZONE BUS		TO ZONE BUS		TO ZONE BUS	
FROM ZONE	NAME	BUS#	NAME	BUS#	NAME	BUS#	NAME	BUS#	NAME
X----	FROM ZONE BUS	X-----	TO ZONE BUS	X-----	TO ZONE BUS	X-----	TO ZONE BUS	X-----	TO ZONE BUS
512003	NSAG	220.00*	512005	VIIJA	220.00	1	MW	16.9	
512003	NSAG	220.00*	512005	VIIJA	220.00	2	MW	16.9	
512003	NSAG	220.00	512073	SRTS	220.00*	1	MW	30.4	
512003	NSAG	220.00	512073	SRTS	220.00*	2	MW	30.4	
512003	NSAG	220.00	512073	SRTS	220.00*	3	MW	30.4	
512049	KOTH	220.00*	512005	VIIJA	220.00	1	MW	37.4	
512049	KOTH	220.00*	512050	LISLARU	220.00	1	MW	-120.9	
512049	KOTH	220.00*	512050	LISLARU	220.00	2	MW	-97.9	
512060	SRYPET2	220.00*	512035	CHILAKAL	220.00	1	MW	31.2	
512106	WANRPTHV	220.00*	512103	BRAHMTR	220.00	2	MW	60.0	
512152	DINDI	220.00*	512073	SRTS	220.00	1	MW	-66.5	
512152	DINDI	220.00*	512073	SRTS	220.00	2	MW	-66.5	
512174	HUZURANAGAP	220.00*	512035	CHILAKAL	220.00	1	MW	-56.5	
514003	NSAG	400.00*	514025	KURL-NEW	400.00*	1	MW	-36.1	
514003	NSAG	400.00*	514996	FSC-2	400.00	1	MW	-41.0	
514004	KHAM	400.00*	514999	FSC-1	400.00	2	MW	-41.0	
514004	KHAM	400.00*	514005	VIIJA	400.00	1	MW	-172.0	
514004	KHAM	400.00	514015	VIZPOOL	400.00*	1	MW	64.5	
514011	SILRPH4	400.00*	514013	KURNIGOLA	400.00	1	MW	158.8	
514011	SILRPH4	400.00*	514026	VIIJA-AP	400.00	2	MW	-52.9	
514023	MAHABUB4	400.00*	514133	URVAND	400.00	1	MW	-51.1	
514023	MAHABUB4	400.00*	514133	URVAND	400.00	2	MW	-111.0	
514052	MALKARMA4	400.00	514030	VIIJA-IV	400.00*	2	MW	-111.0	
514060	SURYPET4	400.00	514030	VIIJA-IV	400.00*	1	MW	-220.9	
514060	SURYPET4	400.00*	514111	KVKOTTA40	400.00	1	MW	-347.2	
514101	MAHESWMD	400.00*	514111	KVKOTTA40	400.00	2	MW	-347.2	
514135	ASUFKA	400.00	514015	KURNIGOLA	400.00	1	MW	-206.0	
518051	HYDR_800	765.00*	514016	VIZPOOL	400.00*	1	MW	-337.8	
518051	HYDR_800	765.00*	518028	KURL800	765.00	1	MW	-358.7	
518079	WARNA800	765.00*	518028	KURL800	765.00	2	MW	-358.7	
518079	WARNA800	765.00*	518039	CPHARA800	765.00	1	MW	-172.3	
518079	WARNA800	765.00*	518039	CPHARA800	765.00	2	MW	-172.3	
TOTAL FROM ZONE		51 TO ZONE		50				-3721.3	-1527.5

TO ZONE 52		TO ZONE BUS		TO ZONE BUS		TO ZONE BUS		TO ZONE BUS	
FROM ZONE	NAME	BUS#	NAME	BUS#	NAME	BUS#	NAME	BUS#	NAME
X----	FROM ZONE BUS	X-----	TO ZONE BUS	X-----	TO ZONE BUS	X-----	TO ZONE BUS	X-----	TO ZONE BUS
512018	JURLPRR4	220.00*	522003	RAIC	220.00	1	MW	-47.5	
512018	JURLPRR4	220.00*	522003	RAIC	220.00	2	MW	-47.5	
514023	MAHABUB4	400.00*	524003	RAIC	400.00	1	MW	-896.2	
TOTAL FROM ZONE		51 TO ZONE		52				-991.2	65.2

ZONE TOTALS
IN MW/MVAR

X	ZONE	FROM -----AT ZONE BUSES-----										TO		-NET INTERCHANGE-	
		GENE- RATION	FROM GENERATN	IND MOTORS	TO IND	LOAD	TO SHUNT	TO BUS SHUNT	TO BUS DEVICES	TO LINE SHUNT	FROM CHARGING	TO LOSSES	TO TIE LINES	TO TIE LOADS	
51		12265.0	0.0	0.0	20879.7	0.0	0.0	0.0	0.0	0.0	426.8	-9041.5	-4302.5		
	TELANGANNA	-1302.0	0.0	0.0	4239.8	-1296.1	0.0	0.0	3338.9	12637.1	5680.6	-628.1	334.2		
38		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-4739.0		
	T&L-LOAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-962.3		
	COLUMN	12265.0	0.0	0.0	20879.7	0.0	0.0	0.0	0.0	0.0	426.8	-9041.5	-9041.5		
	TOTALS	-1302.0	0.0	0.0	4239.8	-1296.1	0.0	0.0	3338.9	12637.1	5680.6	-628.1	-628.1		

OUTPUT FOR ZONE 51 (TELANGANA)

OPTIONS USED:

- SET PRE-FAULT VOLTAGE ON ALL BUSES TO 1.00 PU AT 0 PHASE SHIFT ANGLE
- SET SYNCHRONOUS/ASYNCHRONOUS MACHINE POWER OUTPUTS TO P=0.0, Q=0.0
- SET GENERATOR POSITIVE SEQUENCE REACTANCES TO SUBTRANSIENT
- SET TRANSFORMER TAP RATIOS=1.0 PU AND PHASE SHIFT ANGLES=0.0
- SET LINE CHARGING=0.0 IN +/-0 SEQUENCES
- SET LINE/FIXED/SWITCHED SHUNTS=0.0 AND TRANSFORMER MAGNETIZING ADMITTANCE=0.0 IN +/-0 SEQUENCES
- SET LOAD=0.0 IN +/- SEQUENCES
- DC LINES AND FACTS DEVICES BLOCKED
- IMPEDANCE CORRECTIONS NOT APPLIED TO TRANSFORMER ZERO SEQUENCE IMPEDANCES

X-----	BUS	-----X		THREE PHASE FAULT		X----LG FAULT---X	
				/I+/	AN(I+)	/3I0/	AN(I+)
514001	[RSTP	400.00]	AMP	38086.7	-86.95	38710.3	-86.88
514002	[HYDR	400.00]	AMP	34304.0	-85.79	23420.6	-80.90
514003	[NSAG	400.00]	AMP	33428.4	-85.46	23819.7	-82.54
514004	[KHAM	400.00]	AMP	43562.3	-86.59	32110.6	-82.99
514009	[CHAND-SR	400.00]	AMP	6462.9	-85.18	4016.4	-78.84
514011	[SSLBPH4	400.00]	AMP	21302.3	-86.31	18965.0	-85.55
514012	[HYDR-AP4	400.00]	AMP	25726.6	-85.81	17968.0	-81.46
514020	[RAM-PVT4	400.00]	AMP	26734.8	-86.23	21373.1	-82.38
514021	[DICHPAL4	400.00]	AMP	36474.4	-86.89	25409.6	-81.78
514022	[GAJWEL4	400.00]	AMP	31649.5	-85.91	20672.4	-80.33
514023	[MAHABUB4	400.00]	AMP	34462.1	-86.44	22990.2	-82.04
514029	[KAKTIA-G	400.00]	AMP	28218.9	-86.69	25419.8	-85.74
514031	[SINGARENI	400.00]	AMP	21329.9	-87.82	22543.4	-87.85
514049	[KOTH-IV	400.00]	AMP	15745.9	-85.99	13133.5	-84.67
514051	[MAILARM4	400.00]	AMP	31909.1	-85.97	21236.2	-80.95
514052	[MALKARM4	400.00]	AMP	22222.3	-85.84	15560.4	-81.82
514060	[SURYPET4	400.00]	AMP	30787.1	-86.46	20541.4	-82.19
514061	[NIZAMABAD	400.00]	AMP	34929.1	-87.20	24188.6	-82.10
514062	[NIRMAL	400.00]	AMP	20553.6	-86.26	14163.3	-81.53
514078	[WARANGAL NEW	400.00]	AMP	37959.9	-87.55	28744.0	-83.55
514079	[WARN4	400.00]	AMP	38409.8	-87.23	29204.5	-83.20
514080	[KOTH-VII	400.00]	AMP	29076.9	-87.59	22057.5	-85.87
514095	[BOMMANAPALLY	400.00]	AMP	39298.1	-87.46	29195.7	-84.88
514100	[NARSAPUR	400.00]	AMP	32273.0	-85.90	21435.3	-80.61
514101	[MAHESWRM	400.00]	AMP	49611.5	-87.11	35777.6	-83.04
514104	[MAHESH-TS	400.00]	AMP	48536.0	-86.92	34563.6	-82.71
514105	[RAMADAGU	400.00]	AMP	29665.8	-86.49	20178.2	-81.59
514106	[TIPPAPUR	400.00]	AMP	32250.8	-86.29	21702.9	-81.17
514107	[CHOPPADANDI	400.00]	AMP	27610.5	-86.32	18295.5	-81.19
514108	[MYDARAM	400.00]	AMP	21074.9	-86.55	13661.7	-81.79
514131	[MANIKONDA	400.00]	AMP	22032.6	-86.32	13907.6	-81.59
514134	[MANUGURU	400.00]	AMP	21817.3	-88.07	17901.5	-87.30
514135	[ASUPAKA	400.00]	AMP	7535.2	-84.93	4485.5	-78.08
514152	[DINDI	400.00]	AMP	14286.6	-85.94	10064.5	-83.08
514164	[PARIGI	400.00]	AMP	18857.9	-86.46	11955.7	-82.31
514165	[JANAGAON	400.00]	AMP	27384.4	-86.53	17956.4	-82.44
514169	[DAMARCHARLA	400.00]	AMP	29493.1	-87.35	25807.2	-86.81
514170	[CHOUTTUPPAL	400.00]	AMP	11217.2	-85.79	7413.2	-82.54
514171	[MADARAM	400.00]	AMP	19001.7	-86.55	11907.4	-82.22
514172	[NANCHRLAKOTA	400.00]	AMP	17624.1	-86.52	11037.8	-82.26
518051	[HYDR_800	765.00]	AMP	32434.8	-87.78	21316.3	-82.69
518062	[NIZAMABAD	765.00]	AMP	22991.9	-87.58	14249.5	-81.67
518079	[WARN800	765.00]	AMP	29888.6	-87.70	19159.7	-82.30

FROM AREA 5 SOUTH

TO AREA	3 WEST	X-----	TO AREA BUS	-----X	CTK	MW	MVAR	TWO TRM DC	"11"
X----	FROM AREA BUS	--X	BUS#	X-- NAME --X	BASKV				
514003	CHAND-SR	400.00*	374007	BHADR4	400.00	2DC	-497.0	251.6	TWO TRM DC "11"
514009	CHAND-SR	400.00*	374007	BHADR4	400.00	2DC	-497.0	251.6	TWO TRM DC "12"
544016	PUGALUR-NEW	400.00*	314029	RAIGARH_POOL	400.00	2DC	-2795.9	1304.1	TWO TRM DC "33"
544016	PUGALUR-NEW	400.00*	314029	RAIGARH_POOL	400.00	2DC	-2795.9	1304.1	TWO TRM DC "34"
518029	DUMY_BU	765.00	378040	SHOLAPUR-PG	765.00*	4	-1769.5	33.0	
518062	NIZAMABAD	765.00*	378021	WARDHA	765.00	1	-580.2	28.3	
518079	WARAN800	765.00*	378021	WARDHA	765.00	2	-580.2	28.3	
518079	WARAN800	765.00	378091	WARORA POOL	765.00*	1	-572.0	161.1	
524015	NARDR-NW	400.00*	378091	WARORA POOL	765.00*	2	-572.0	161.1	
524015	NARDR-NW	400.00*	374050	KOLHAPURPG	400.00	1	645.9	7.5	
524015	NARDR-NW	400.00*	374050	KOLHAPURPG	400.00	2	645.9	7.5	
TOTAL FROM AREA			TOTAL FROM AREA					-9367.8	3538.3

TO AREA	4 EAST	X-----	TO AREA BUS	-----X	CTK	MW	MVAR	TWO TRM DC	"10"
X----	FROM AREA BUS	--X	BUS#	X-- NAME --X	BASKV				
524011	KOLAR	400.00	424019	TALCHER	400.00*	2DC	-1004.8	-478.8	TWO TRM DC "10"
514010	GAZU-SR	400.00*	424099	GAZUMAKA-SR	400.00	2DC	-323.2	175.5	TWO TRM DC "13"
514010	GAZU-SR	400.00*	424099	GAZUMAKA-SR	400.00	2DC	-323.2	175.5	TWO TRM DC "14"
524011	KOLAR	400.00	424019	TALCHER	400.00*	2DC	-1004.8	-478.8	TWO TRM DC "9"
518091	SRI_POOL	765.00	428014	ANGUL	765.00*	1	-1285.9	193.7	
518091	SRI_POOL	765.00	428014	ANGUL	765.00*	2	-1285.9	193.7	
TOTAL FROM AREA			TOTAL FROM AREA					5227.9	-219.1
TOTAL FROM AREA			TOTAL FROM AREA					-14595.7	3219.3

FROM AREA 5 SOUTH

TO AREA 3 WEST		TO AREA BUS		CMT		MW		MVAR	
BUS#	X-- NAME --X	BUS#	X-- NAME --X	BASKV	CT				
514009	CHAND-SR	374007	BHADRD4	400.00*	2DC	-497.0	251.6	TWO TRM DC "11"	
514009	CHAND-SR	374007	BHADRD4	400.00*	2DC	-497.0	251.6	TWO TRM DC "12"	
544016	PUGALUR-NEW	314029	RAIGARR_POOL	400.00*	2DC	-1908.8	789.1	TWO TRM DC "33"	
544016	PUGALUR-NEW	314029	RAIGARR_POOL	400.00*	2DC	-1908.8	789.1	TWO TRM DC "34"	
518029	DUMI_BU	378040	SHOLAPUR-PG	765.00*	4	-2062.3	-25.5		
518062	NIZAMABAD	378021	WARDHA	765.00*	1	-798.6	48.5		
518062	NIZAMABAD	378021	WARDHA	765.00*	2	-798.6	48.5		
518079	WARNR800	378091	WARORA POOL	765.00	1	-797.8	143.8		
518079	WARNR800	378091	WARORA POOL	765.00	2	-797.8	143.8		
524015	NARDR-NM	374050	KOLHAPURPG	400.00*	1	558.4	-1.5		
524015	NARDR-NM	374050	KOLHAPURPG	400.00*	2	558.4	-1.5		
TOTAL FROM AREA		3 TO AREA		5		-8950.0		2437.6	

TO AREA 4 EAST		TO AREA BUS		CMT		MW		MVAR	
BUS#	X-- NAME --X	BUS#	X-- NAME --X	BASKV	CT				
524011	KOLAR	424019	TALCHER	400.00	2DC	-1004.8	-478.4	TWO TRM DC "10"	
514010	GAZU-SR	424099	GAZUWAKA-ER	400.00*	2DC	-323.2	175.5	TWO TRM DC "13"	
514010	GAZU-SR	424099	GAZUWAKA-ER	400.00*	2DC	-323.2	175.5	TWO TRM DC "14"	
524011	KOLAR	424019	TALCHER	400.00	2DC	-1004.8	-478.4	TWO TRM DC "9"	
518091	SRI_POOL	428014	ANGUL	765.00	1	-1482.7	112.7		
518091	SRI_POOL	428014	ANGUL	765.00	2	-1482.7	112.7		
TOTAL FROM AREA		4 TO AREA		5		-5621.5		-380.5	
TOTAL FROM AREA		5 SOUTH				-14571.5		2057.1	

X--ZONE	GENE- RATON	FROM GENERATN	AT ZONE BUSES-----				TO BUS SHUNT	GNE DEVICES	TO LINE SHUNT	FROM CHARGING	TO LOSSES	-NET INTERCHANGE-	
			TO IND MOTORS	TO LOAD	TO IND MOTORS	TO LOAD						TO TIE LINES	TO TIES + LOADS
50	11210.5	0.0	0.0	11661.0	0.0	0.0	0.0	0.0	0.0	235.5	-666.0	-686.0	
ANDHRA	-1087.6	0.0	0.0	3401.1	1227.0	0.0	5643.6	18192.4	3618.4	3214.7	3214.7	3214.7	
51	9859.0	0.0	0.0	14375.0	0.0	0.0	0.0	0.0	0.0	245.5	-4762.4	-2571.4	
KELANGAMA	-2015.8	0.0	0.0	4192.7	711.1	0.0	3397.8	13078.0	3108.6	-348.1	290.9	290.9	
52	11104.9	0.0	0.0	13175.1	0.0	0.0	0.0	0.0	0.0	397.3	-2467.6	-2467.6	
KARNATKA	-1490.2	0.0	0.0	3842.7	-374.3	0.0	785.1	9120.6	4939.8	-1563.0	-1563.0	-1563.0	
53	1644.9	0.0	0.0	4479.5	0.0	0.0	0.0	0.0	0.0	256.3	-3090.9	-3090.9	
KERALA	715.7	0.0	0.0	1306.5	-1605.9	0.0	45.1	1072.0	2761.9	-719.9	-719.9	-719.9	
54	18142.4	0.0	0.0	19774.1	0.0	0.0	0.0	0.0	0.0	341.4	-1973.1	-3094.3	
TAMILNAD	2646.7	0.0	0.0	5798.5	1053.8	0.0	3569.2	15444.9	4379.5	3340.6	3013.6	3013.6	
55	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
CENTRAL	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
56	0.0	0.0	0.0	1102.4	0.0	0.0	0.0	0.0	0.0	10.5	-1112.9	-10.5	
TN-WIND	0.0	0.0	0.0	321.5	0.0	0.0	0.0	131.7	205.7	-335.5	-14.0	-14.0	
57	20.0	0.0	0.0	524.6	0.0	0.0	0.0	0.0	0.9	-495.5	-476.8	-476.8	
PONDY	2.8	0.0	0.0	153.0	-27.5	0.0	0.0	11.4	62.7	-173.6	-169.3	-169.3	
58	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
TELE-LOAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-2191.0	
COLUMN	51990.7	0.0	0.0	65091.7	0.0	0.0	0.0	0.0	1487.4	-14588.5	-14588.5	-14588.5	
TOTALS	1178.4	0.0	0.0	19016.2	988.8	0.0	0.0	0.0	0.0	19076.7	3615.1	3415.1	

X-- ZONE --X	FROM		-AT ZONE BUSES-		TO		TO		FROM		TO		-NET INTERCHANGE-	
	GENE- PATION	FROM IND GENERATN	TO IND MOTORS	TO LOAD	TO BUS SHUNT	GNE BUS DEVICES	TO LINE SHUNT	CHARGING	LOSSES	TO TIE LINES	TO TIES + LOADS	LOSSES	TO TIE LINES	TO TIES + LOADS
51	9858.0	0.0	0.0	14375.0	0.0	0.0	0.0	0.0	245.5	-4762.4	-2571.4	3108.6	-4762.4	290.9
TELANGANA	-2015.8	0.0	0.0	4192.7	711.1	0.0	3397.8	13078.0	0.0	-348.1	-2191.0	0.0	0.0	-639.0
58	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TEL LOAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
COLUMN	985810	0.0	0.0	14375.0	0.0	0.0	0.0	0.0	245.5	-4762.4	-4762.4	3108.6	-4762.4	-348.1
TOTALS	-2015.8	0.0	0.0	4192.7	711.1	0.0	3397.8	13078.0	0.0	-348.1	-348.1	0.0	-348.1	0.0

OUTPUT FOR ZONE 51 [TELANGANA]

SUBSYSTEM LOADING CHECK (INCLUDED: TRANSFORMERS) (EXCLUDED: LINES; BREAKERS AND SWITCHES)
MVA LOADINGS ABOVE 60.0 % OF RATING SET A:

X----- FROM BUS -----X X----- TO BUS -----X												
BUS#	X-- NAME	--X BASKV	AREA	BUS#	X-- NAME	--X BASKV	AREA	CKT	LOADING	RATING	PERCENT	
511001	RSTP	132.00	5	514001	RSTP	400.00*	5	1	419.1	400.0	104.8	
512001	RMGD	220.00	5	514001	RSTP	400.00*	5	1	538.5	815.0	66.1	
512002	HYDR	220.00*	5	514002	HYDR	400.00	5	1	1006.0	1445.0	69.6	
512012	HYDAP2	220.00	5	514012	HYDR-AP4	400.00*	5	1	1234.5	1260.0	98.0	
512022	GAJWEL2	220.00	5	514022	GAJWEL4	400.00*	5	1	579.3	630.0	91.9	
512022	GAJWEL2	220.00	5	514022	GAJWEL4	400.00*	5	2	289.6	315.0	91.9	
512023	MEHBOBNG	220.00	5	514023	MAHABUB4	400.00*	5	1	394.7	630.0	62.6	
512051	MAILRM	220.00	5	514051	MAILARM4	400.00*	5	1	669.0	945.0	70.8	
512052	MALKARAM	220.00	5	514052	MALKARM4	400.00*	5	1	794.7	945.0	84.1	
512060	SURYAPET2	220.00	5	514060	SURYPET4	400.00*	5	1	409.1	630.0	64.9	
512079	WRNG	220.00	5	514079	WARN4	400.00*	5	1	785.2	1130.0	69.5	
512100	NARSAPUR2	220.00	5	514100	NARSAPUR	400.00*	5	1	342.0	315.0	108.6	
512100	NARSAPUR2	220.00	5	514100	NARSAPUR	400.00*	5	2	342.0	315.0	108.6	
512160	PARIGI-LI	220.00	5	514164	PARIGI	400.00*	5	1	228.5	315.0	72.5	
512160	PARIGI-LI	220.00	5	514164	PARIGI	400.00*	5	2	228.5	315.0	72.5	

New generating Evacuation Schemes and possible connectivity to LI Loads

For the base case of load flows, the agriculture load growth of 8% and other then agriculture load growth of 12% are considered from the year 2014-15. The existing Lift Irrigation Load of 2240MW is considered for the year 2018-19 and 5513MW Lift Irrigation load is considered for the year 2021-22. The details of Load and Generation balance considered for the studies are as follows:

In MW

	2018-19		2021-22	
	Maximum Thermal Condition	Maximum Hydel Condition	Maximum Thermal Condition	Maximum Hydel Condition
Generation Availability	12286	10934	19796	16471
Projected Demand	12435	14675	16127	21640
LGB	-149	-3741	3669	-5169

Based on the above LGB, the load flows were conducted. The scheme wise details are as follows:

A) MANUGURU (4 X 270 MW) Power Evacuation Scheme:

i) Connectivity details:

- Manuguru TSGenco Plant Switchyard to Proposed 400/220kV Bommanapalli SS with Quad Moose Dc Line – about 80 kms.
- From Proposed 400/220kV Bommanapalli SS to Existing 400/220 kV Khammam (PGCIL) SS with Quad Moose Dc Line – about 50 kms.

B) KTPS VII(1 x 800 MW) Power Evacuation Scheme:

i) Connectivity details:

- KTPS Stage VII Switchyard to Proposed 400/220/132 kV Bommanapalli SS by Quad Moose Dc Line – about 25 kms.
- From Proposed 400/220/132 kV Bommanapalli SS to Upcoming 400/220/132 kV Suryapet SS by Quad Moose Dc Line – about 125 kms.
- From Proposed 400/220/132 kV Bommanapalli SS to Proposed 400/220 kV Jangaon SS by Quad Moose Dc Line – about 120 kms.

- From Proposed 400/220/132 kV Jangaon SS to Proposed 400 kV Tippapur LI SS (Considered under Pranahita Chevella Scheme approved in 37th Standing Committee meeting) by Quad Moose Dc Line – about 70 kms.
 - From Proposed 400/220/132 kV Bommanapalli SS to Proposed 220/132 kV Kallur SS by Single Moose Dc Line – about 70 kms.
 - From Proposed 400/220 kV Jangaon SS to Upcoming 220/132 kV Jangaon SS by Single Moose Dc Line – about 15 kms.
 - From Proposed 400/220 kV Jangaon SS to Existing 220/132 kV Husnabad SS by Single Moose Dc Line – about 60 kms.
 - From Proposed 400/220 kV Jangaon SS to Existing 220/132 kV Bhongiri SS by Single Moose Dc Line – about 70 kms.
- ii) The proposed new substations for both Manuguru and KTPS VII:
- 400/220 kV Bommanapalli SS with 2 x 315 MVA
 - 400/220 kV Jangaon SS with 3 x 500 MVA
 - 220/132 kV Kallur SS with 3 x 50 MVA
 - 220/132 kV Husnabad SS with 2 x 80 MVA



C) Damaracherla (2 x 600 + 4 x 800 MW) Power Evacuation Scheme:

- i) Connectivity details:
- Proposed Damaracherla Switchyard to Proposed 400/220/132 kV Choutuppall SS by Quad Moose Dc Line – about 150 kms.
 - Proposed Damaracherla Switchyard to Proposed 400/220kV Dindi SS by Quad Moose Dc Line – about 140 kms.
 - Proposed Damaracherla Switchyard to Proposed 400/220 kV Maheswaram (TSTRANSCO) SS by Quad Moose Dc Line – about 155kms.
 - Proposed Damaracherla Switchyard to Proposed 400/220kV Jangaon SS by Quad Moose Dc Line – about 155 kms.
 - From Proposed 400/220/132 kV Choutuppall SS to Upcoming 220/33 kV Hayatnagar SS by Single Moose Dc Line – about 50 kms.
- ii) The proposed new substations:
- 400/220 kV Dindi SS with 3 x 500 MVA
 - 400/220 kV Choutuppall SS with 3 x 500 MVA

D) Palamur-Ranagareddy Lift Irrigation Scheme with 2548 MW Load.

i) Connectivity details:

- Proposed 400/220kV Maheswaram (TSTRANSCO) SS to Existing 400/220kV Veltoor SS by Quad Moose Dc Line – about 137 kms.
- Proposed 400/220kV Maheswaram (TSTRANSCO) SS to Proposed 400 Parigi LI SS by Quad Moose Dc Line – about 120 kms.
- Existing 400/220 kV Veltoor SS to Proposed 400 kV Madaram LI SS by Quad Moose Dc Line – about 78 kms.
- Proposed 400 kV Madaram (Dhanwada Mandal) LI SS to Proposed 400 kV Nancharlakota LI SS by Quad Moose Dc Line – about 54 kms.
- Proposed 400 kV Nancharlakota LI SS to Proposed 400 kV Parigi LI SS by Quad Moose Dc Line – about 42 kms.

ii) The proposed new substations:

- 400 kV Madaram LI SS.
- 400 kV Nancharlakota LI SS
- 400 kV Parigi SS

6. Observations:

As per the loadflows, it is observed that by giving connectivity from Bommanapalli to Surayapet and Janagaon in addition to Khammam(PGCIL), the entire power of Manuguru Generating Station and KTPS can be utilised within the Telangana State.

In the 765KV Wardha – Nizamabad – Hyderabad scheme, the connectivity between Maheshwarm (PGCIL) to Maheshwarm (TSTRANSCO), Nizamabad (PGCIL) to Dichpalli (TSTRANSCO) is to be with Quad Moose DC line instead of Twin Moose DC line, which was envisaged earlier.

The proposed LILO of 2 circuits of 400KV Gajwel – Mailaram (Shankarpalli) at the proposed 400/220KV Narsapur SS with Twin Moose DC Line instead of direct connectivity form 400KV Gajwel SS, which was envisaged earlier in Singareni evacuation scheme as per the directions of Electricity regulatory commission .

Load flows also indicate the change in the conductor configuration from twin moose to Quad moose for 400kV DC line to proposed Nirmal SS for singareni evacuation scheme by considering all the three units (2x600 MW+ 1x800 MW)