Appendix C

Steady State Power Flow Results

Autocon Comparison Files

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR 2010 SUMMER PEAK **NORMAL** OPERATING CONDITIONS

--------FROM BUS--------				----------TO BUS----------					---BASE---		LOADING			
Bus #	NAME	KV	AREA	Bus #	NAME	KV	AREA	ID	MW	MVAR	P.U.	FLOW	RATING	------CASE------
30005	"ROUND MT"	500	30	40687	"MALIN "	500	40	"2 "	1570	-183	0.95	1710 AMPS	1799.95 AMPS	10sumpk_pre_catb
30005	"ROUND MT"	500	30	40687	"MALIN "	500	40	"2 "	1576	-179	0.95	1717 AMPS	1799.95 AMPS	10sumpk_pst_catb
30805	"BORDEN "	230	30	30810	"GREGG "	230	30	"1 "	-308	-26	1.15**	776 AMPS	675.25 AMPS	10sumpk_pre_catb
30805	"BORDEN "	230	30	30810	"GREGG "	230	30	"1 "	-320	-27	1.19**	807 AMPS	675.25 AMPS	10sumpk_pst_catb
33540	"TESLA "	115	30	33541	"AEC_TP1 "	115	30	"1 "	121	42	0.99	623 AMPS	631.07 AMPS	10sumpk_pre_catb
33540	"TESLA "	115	30	33541	"AEC_TP1 "	115	30	"1 "	120	42	0.98	621 AMPS	631.07 AMPS	10sumpk_pst_catb
34176	"EXCHQRTP"	115	30	34306	"EXCHQUER"	14	30	"1 "	94	11	0.95**	95 MVA	100.00 MVA	10sumpk_pre_catb
34176	"EXCHQRTP"	115	30	34306	"EXCHQUER"	14	30	"1 "	94	12	0.95**	95 MVA	100.00 MVA	10sumpk_pst_catb
34749	"TPMNTP1 "	115	30	34774	"MIDWAY "	115	30	"1 "	74	20	0.92	382 AMPS	416.70 AMPS	10sumpk_pre_catb
34749	"TPMNTP1 "	115	30	34774	"MIDWAY "	115	30	"1 "	74	20	0.92	382 AMPS	416.70 AMPS	10sumpk_pst_catb
37004	"ELKGROVE"	230	30	37102	"ELKGROV1"	69	30	"1 "	175	17	1.26**	176 MVA	140.00 MVA	10sumpk_pre_catb
37004	"ELKGROVE"	230	30	37102	"ELKGROV1"	69	30	"1 "	175	17	1.26**	176 MVA	140.00 MVA	10sumpk_pst_catb
37006	"ELVRTAX1"	230	30	37103	"ELVERTA1"	69	30	"1 "	-83	73	0.99**	110 MVA	111.00 MVA	10sumpk_pre_catb
37006	"ELVRTAX1"	230	30	37103	"ELVERTA1"	69	30	"1 "	-83	73	0.99**	110 MVA	111.00 MVA	10sumpk_pst_catb

--------FROM BUS--------			----------TO BUS----------				(RATE 1)	(RATE 2)	---------OUTAGE----------			(RATE 2)		
Bus #	NAME	KV AREA	Bus #	NAME	KV AREA	ID	BASE	OUTAGE	MW	MVAR	FLOW	RATING	FILE	OUTAGE #
30796	"STOREY 1"	230 30	30810	"GREGG "	230 30	"1 "	0.77	0.96	-302.77	31.99	764.77 AMPS	793.23 AMPS	10sumpk_pre_catb	114
30796	"STOREY 1"	230 30	30810	"GREGG "	230 30	"1 "	0.82	1.03	-323.46	30.24	816.73 AMPS	793.23 AMPS	10sumpk_pst_catb	114
30796	"STOREY 1"	230 30	30810	"GREGG "	230 30	"1 "	0.77	0.96	-300.14	37.86	758.61 AMPS	793.23 AMPS	10sumpk_pre_catb	147
30796	"STOREY 1"	230 30	30810	"GREGG "	230 30	"1 "	0.82	1.02	-321.04	36.76	810.84 AMPS	793.23 AMPS	10sumpk_pst_catb	147
30796	"STOREY 1"	230 30	30810	"GREGG "	230 30	"1 "	0.77	0.91	-284.91	42.03	720.70 AMPS	793.23 AMPS	10sumpk_pre_catb	15
30796	"STOREY 1"	230 30	30810	"GREGG "	230 30	"1 "	0.82	0.97	-305.89	40.91	772.81 AMPS	793.23 AMPS	10sumpk_pst_catb	15
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30796	"STOREY 1"	230 30	30810	"GREGG "	230 30	"1 "	0.82	0.95	-304.61	-16.10	756.44 AMPS	793.23 AMPS	10sumpk_pst_catb	150
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30796	"STOREY 1"	230 30	30810	"GREGG "	230 30	"1 "	0.82	0.93	-290.59	43.06	736.09 AMPS	793.23 AMPS	10sumpk_pst_catb	164
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30796	"STOREY 1"	230 30	30810	"GREGG "	230 30	"1 "	0.82	0.90	-289.58	-10.51	716.67 AMPS	793.23 AMPS	10sumpk_pst_catb	17
30796	"STOREY 1"	230 30	30810	"GREGG "	230 30	"1 "	0.77	0.90	-286.98	-21.33	714.39 AMPS	793.23 AMPS	10sumpk_pre_catb	386
30796	"STOREY 1"	230 30	30810	"GREGG "	230 30	"1 "	0.82	0.96	-307.32	-22.06	765.36 AMPS	793.23 AMPS	10sumpk_pst_catb	386
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.03	-323.12	-30.77	817.69 AMPS	793.23 AMPS	10sumpk_pre_catb	102
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.07	-335.94	-31.55	850.29 AMPS	793.23 AMPS	10sumpk_pst_catb	102
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.04	-327.39	-49.05	823.36 AMPS	793.23 AMPS	10sumpk_pre_catb	115
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.10	-346.87	-49.77	871.71 AMPS	793.23 AMPS	10sumpk_pst_catb	115
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.04	-325.29	-29.04	822.14 AMPS	793.23 AMPS	10sumpk_pre_catb	135
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.08	-339.82	-30.13	859.35 AMPS	793.23 AMPS	10sumpk_pst_catb	135
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30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.09	-344.21	-45.17	862.74 AMPS	793.23 AMPS	10sumpk_pst_catb	148
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.04	-328.35	-25.49	827.78 AMPS	793.23 AMPS	10sumpk_pre_catb	174
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30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.07	-335.41	-27.85	847.23 AMPS	793.23 AMPS	10sumpk_pre_catb	337
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.09	-342.23	-28.56	864.88 AMPS	793.23 AMPS	10sumpk_pst_catb	337
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.08	-336.89	-31.36	853.05 AMPS	793.23 AMPS	10sumpk_pre_catb	393
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.10	-343.62	-32.41	870.71 AMPS	793.23 AMPS	10sumpk_pst_catb	393
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.04	-325.49	-28.36	821.40 AMPS	793.23 AMPS	10sumpk_pre_catb	95
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.07	-337.63	-29.25	852.22 AMPS	793.23 AMPS	10sumpk_pst_catb	95
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.55	0.93	314.01	-23.24	787.46 AMPS	849.96 AMPS	10sumpk_pre_catb	176

--------FROM BUS--------				----------TO BUS----------					(RATE 1)	(RATE 2)	---------OUTAGE----------			(RATE 2)		
Bus #	NAME	KV	AREA	Bus #	NAME	KV	AREA	ID	BASE	OUTAGE	MW	MVAR	FLOW	RATING	FILE	OUTAGE #
30810	"GREGG "	230	30	30845	"FGRDN T2"	230	30	"1 "	0.55	0.93	314.01	-23.24	787.46 AMPS	849.96 AMPS	10sumpk_pst_catb	176
30810	"GREGG "	230	30	30845	"FGRDN T2"	230	30	"1 "	0.55	0.93	314.02	-22.98	788.40 AMPS	849.96 AMPS	10sumpk_pre_catb	339
30810	"GREGG "	230	30	30845	"FGRDN T2"	230	30	"1 "	0.55	0.93	314.02	-22.99	788.38 AMPS	849.96 AMPS	10sumpk_pst_catb	339
30810	"GREGG "	230	30	30845	"FGRDN T2"	230	30	"1 "	0.55	0.93	314.02	-22.94	788.53 AMPS	849.96 AMPS	10sumpk_pre_catb	356
30810	"GREGG "	230	30	30845	"FGRDN T2"	230	30	"1 "	0.55	0.93	314.02	-22.96	788.45 AMPS	849.96 AMPS	10sumpk_pst_catb	356
30810	"GREGG "	230	30	30845	"FGRDN T2"	230	30	"1 "	0.55	0.91	313.97	-26.37	776.57 AMPS	849.96 AMPS	10sumpk_pre_catb	373
30810	"GREGG "	230	30	30845	"FGRDN T2"	230	30	"1 "	0.55	0.91	313.97	-26.40	776.47 AMPS	849.96 AMPS	10sumpk_pst_catb	373
30810	"GREGG "	230	30	30845	"FGRDN T2"	230	30	"1 "	0.55	0.93	314.02	-22.74	789.24 AMPS	849.96 AMPS	10sumpk_pre_catb	395
30810	"GREGG "	230	30	30845	"FGRDN T2"	230	30	"1 "	0.55	0.93	314.02	-22.73	789.31 AMPS	849.96 AMPS	10sumpk_pst_catb	395
30830	"KEARNEY "	230	30	34480	"KEARNEY "	70	30	"2 "	0.87	0.96	98.53	30.40	103.11 MVA	107.50 MVA	10sumpk_pre_catb	283
30830	"KEARNEY "	230	30	34480	"KEARNEY "	70	30	"2 "	0.87	0.96	98.52	30.37	103.10 MVA	107.50 MVA	10sumpk_pst_catb	283
30835	"HERNDON "	230	30	30840	"FGRDN T1"	230	30	"1 "	0.51	0.91	313.95	-26.24	777.49 AMPS	850.96 AMPS	10sumpk_pre_catb	172
30835	"HERNDON "	230	30	30840	"FGRDN T1"	230	30	"1 "	0.52	0.91	313.95	-26.29	777.33 AMPS	850.96 AMPS	10sumpk_pst_catb	172
30835	"HERNDON "	230	30	30840	"FGRDN T1"	230	30	"1 "	0.51	0.91	313.95	-25.94	778.51 AMPS	850.96 AMPS	10sumpk_pre_catb	335
30835	"HERNDON "	230	30	30840	"FGRDN T1"	230	30	"1 "	0.52	0.91	313.95	-26.02	778.24 AMPS	850.96 AMPS	10sumpk_pst_catb	335
30835	"HERNDON "	230	30	30840	"FGRDN T1"	230	30	"1 "	0.51	0.92	313.95	-25.78	779.05 AMPS	850.96 AMPS	10sumpk_pre_catb	352
30835	"HERNDON "	230	30	30840	"FGRDN T1"	230	30	"1 "	0.52	0.92	313.95	-25.86	778.80 AMPS	850.96 AMPS	10sumpk_pst_catb	352
30835	"HERNDON "	230	30	30840	"FGRDN T1"	230	30	"1 "	0.51	0.91	313.94	-26.94	775.10 AMPS	850.96 AMPS	10sumpk_pre_catb	369
30835	"HERNDON "	230	30	30840	"FGRDN T1"	230	30	"1 "	0.52	0.91	313.94	-27.05	774.74 AMPS	850.96 AMPS	10sumpk_pst_catb	369
30835	"HERNDON "	230	30	30840	"FGRDN T1"	230	30	"1 "	0.51	0.92	313.95	-25.78	779.08 AMPS	850.96 AMPS	10sumpk_pre_catb	391
30835	"HERNDON "	230	30	30840	"FGRDN T1"	230	30	"1 "	0.52	0.92	313.95	-25.81	778.95 AMPS	850.96 AMPS	10sumpk_pst_catb	391
34200	"ORO LOMA"	70	30	34218	"DOS PALS"	70	30	"1 "	0.80	1.05	36.27	5.58	296.92 AMPS	282.08 AMPS	10sumpk_pre_catb	45
34200	"ORO LOMA"	70	30	34218	"DOS PALS"	70	30	"1 "	0.84	1.07	37.01	5.37	302.36 AMPS	282.08 AMPS	10sumpk_pst_catb	45
34220	"ORTIGA "	70	30	34222	"MRCYSPRS"	70	30	"1 "	0.51	0.94	-55.56	-15.93	481.85 AMPS	512.19 AMPS	10sumpk_pre_catb	45
34220	"ORTIGA "	70	30	34222	"MRCYSPRS"	70	30	"1 "	0.53	0.93	-54.87	-16.21	477.09 AMPS	512.19 AMPS	10sumpk_pst_catb	45
34232	"EXCHEQUR"	70	30	34242	"BER VLLY"	70	30	"1 "	0.43	0.99	34.41	9.28	279.77 AMPS	282.08 AMPS	10sumpk_pre_catb	49
34232	"EXCHEQUR"	70	30	34242	"BER VLLY"	70	30	"1 "	0.43	0.99	34.41	9.29	279.96 AMPS	282.08 AMPS	10sumpk_pst_catb	49
34252	"MADERA "	70	30	34256	"BORDEN "	70	30	"1 "	0.60	0.97	-84.42	-16.37	717.88 AMPS	739.01 AMPS	10sumpk_pre_catb	55
34252	"MADERA "	70	30	34256	"BORDEN "	70	30	"1 "	0.60	0.97	-84.42	-16.37	718.09 AMPS	739.01 AMPS	10sumpk_pst_catb	55
34252	"MADERA "	70	30	34256	"BORDEN "	70	30	"2 "	0.54	0.97	-84.43	-16.42	719.92 AMPS	739.01 AMPS	10sumpk_pre_catb	54
34252	"MADERA "	70	30	34256	"BORDEN "	70	30	"2 "	0.54	0.97	-84.43	-16.43	720.13 AMPS	739.01 AMPS	10sumpk_pst_catb	54

--------FROM BUS--------			----------TO BUS----------				(RATE 1)	(RATE 2)	---------OUTAGE----------			(RATE 2)		
Bus #	NAME	KV AREA	Bus #	NAME	KV AREA	ID	BASE	OUTAGE	MW	MVAR	FLOW	RATING	FILE	OUTAGE #
34380	"REEDLEY "	115 30	34394	"PIEDRA 1"	115 30	"1 "	0.36	0.94	-105.71	-21.03	564.08 AMPS	597.43 AMPS	10sumpk_pre_catb	201
34380	"REEDLEY "	115 30	34394	"PIEDRA 1"	115 30	"1 "	0.36	0.95	-105.92	-20.95	564.87 AMPS	597.43 AMPS	10sumpk_pst_catb	201
34390	"DANISHCM"	115 30	34402	"CAL AVE "	115 30	"1 "	0.08	0.93	-89.47	-24.16	476.55 AMPS	512.08 AMPS	10sumpk_pre_catb	210
34390	"DANISHCM"	115 30	34402	"CAL AVE "	115 30	"1 "	0.08	0.93	-89.46	-24.15	476.35 AMPS	512.08 AMPS	10sumpk_pst_catb	210
34409	"PNDLJ2 "	115 30	34412	"HERNDON "	115 30	"1 "	0.53	0.98	216.19	62.30	1104.56 AMPS	1124.58 AMPS	10sumpk_pre_catb	214
34409	"PNDLJ2 "	115 30	34412	"HERNDON "	115 30	"1 "	0.53	0.98	216.19	62.30	1104.47 AMPS	1124.58 AMPS	10sumpk_pst_catb	214
34409	"PNDLJ2 "	115 30	34416	"BULLARD "	115 30	"1 "	0.32	0.94	134.10	22.29	700.98 AMPS	743.03 AMPS	10sumpk_pre_catb	214
34409	"PNDLJ2 "	115 30	34416	"BULLARD "	115 30	"1 "	0.32	0.94	134.10	22.29	700.93 AMPS	743.03 AMPS	10sumpk_pst_catb	214
34411	"PNDLJ1 "	115 30	34412	"HERNDON "	115 30	"1 "	0.42	0.98	216.19	62.30	1104.56 AMPS	1124.58 AMPS	10sumpk_pre_catb	212
34411	"PNDLJ1 "	115 30	34412	"HERNDON "	115 30	"1 "	0.42	0.98	216.19	62.30	1104.47 AMPS	1124.58 AMPS	10sumpk_pst_catb	212
34411	"PNDLJ1 "	115 30	34416	"BULLARD "	115 30	"1 "	0.75	0.94	134.10	22.29	700.98 AMPS	743.03 AMPS	10sumpk_pre_catb	212
34411	"PNDLJ1 "	115 30	34416	"BULLARD "	115 30	"1 "	0.75	0.94	134.10	22.29	700.93 AMPS	743.03 AMPS	10sumpk_pst_catb	212
34478	"TVY VLLY"	70 30	34492	"REEDLEY "	70 30	"1 "	0.35	0.90	-31.90	1.83	269.09 AMPS	297.75 AMPS	10sumpk_pre_catb	150
34478	"TVY VLLY"	70 30	34492	"REEDLEY "	70 30	"1 "	0.36	0.94	-33.05	2.19	279.25 AMPS	297.75 AMPS	10sumpk_pst_catb	150
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--------FROM BUS--------				----------TO BUS----------					---BASE---		LOADING			
Bus #	NAME	KV	AREA	Bus #	NAME	KV	AREA	ID	MW	MVAR	P.U.	FLOW	RATING	------CASE------
33514	"MANTECA "	115	30	33742	"MANTECA "	60	30	"3 "	24	17	0.93	29 MVA	31.20 MVA	10sprpk_pre_catb
33514	"MANTECA "	115	30	33742	"MANTECA "	60	30	"3 "	24	17	0.94	29 MVA	31.20 MVA	10sprpk_pst_catb
33600	"HERDLYN "	70	30	33770	"HERDLYN "	60	30	"2 "	47	1	0.93	47 MVA	50.00 MVA	10sprpk_pre_catb
33600	"HERDLYN "	70	30	33770	"HERDLYN "	60	30	"2 "	47	1	0.93	47 MVA	50.00 MVA	10sprpk_pst_catb
34176	"EXCHQRTP"	115	30	34306	"EXCHQUER"	14	30	"1 "	90	8	0.90**	90 MVA	100.00 MVA	10sprpk_pre_catb
34176	"EXCHQRTP"	115	30	34306	"EXCHQUER"	14	30	"1 "	90	8	0.90**	90 MVA	100.00 MVA	10sprpk_pst_catb
37004	"ELKGROVE"	230	30	37102	"ELKGROV1"	69	30	"1 "	135	3	0.97**	135 MVA	140.00 MVA	10sprpk_pre_catb
37004	"ELKGROVE"	230	30	37102	"ELKGROV1"	69	30	"1 "	135	3	0.97**	135 MVA	140.00 MVA	10sprpk_pst_catb
37006	"ELVRTAX1"	230	30	37103	"ELVERTA1"	69	30	"1 "	-65	80	0.93**	103 MVA	111.00 MVA	10sprpk_pre_catb
37006	"ELVRTAX1"	230	30	37103	"ELVERTA1"	69	30	"1 "	-65	80	0.93**	103 MVA	111.00 MVA	10sprpk_pst_catb

--------FROM BUS--------			----------TO BUS----------				(RATE 1)	(RATE 2)	---------OUTAGE----------			(RATE 2)		
Bus #	NAME	KV AREA	Bus #	NAME	KV AREA	ID	BASE	OUTAGE	MW	MVAR	FLOW	RATING	FILE	OUTAGE #
=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=														
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	0.87	0.90	-242.75	-31.58	608.83 AMPS	675.25 AMPS	10sprpk_pst_catb	303
=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=														
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	0.87	0.90	-243.27	-33.31	610.95 AMPS	675.25 AMPS	10sprpk_pst_catb	78
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	0.90	42.99	-10.11	341.70 AMPS	379.40 AMPS	10sprpk_pre_catb	127
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	0.90	42.90	-10.47	341.61 AMPS	379.40 AMPS	10sprpk_pst_catb	127
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	1.00	47.48	-12.37	380.00 AMPS	379.40 AMPS	10sprpk_pre_catb	131
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.03	48.89	-12.70	390.68 AMPS	379.40 AMPS	10sprpk_pst_catb	131
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	0.98	46.17	-13.04	371.11 AMPS	379.40 AMPS	10sprpk_pre_catb	133
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.01	47.63	-13.38	382.21 AMPS	379.40 AMPS	10sprpk_pst_catb	133
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	1.08	51.74	-10.99	411.09 AMPS	379.40 AMPS	10sprpk_pre_catb	174
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.05	50.67	-8.96	399.88 AMPS	379.40 AMPS	10sprpk_pst_catb	174
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	1.63	72.21	25.38	617.47 AMPS	379.40 AMPS	10sprpk_pre_catb	269
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.64	72.81	24.88	621.79 AMPS	379.40 AMPS	10sprpk_pst_catb	269
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	0.97	39.23	-9.64	312.89 AMPS	321.67 AMPS	10sprpk_pre_catb	287
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.01	40.86	-10.05	325.48 AMPS	321.67 AMPS	10sprpk_pst_catb	287
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	0.97	39.23	-9.63	312.89 AMPS	321.67 AMPS	10sprpk_pre_catb	288
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.01	40.86	-10.05	325.48 AMPS	321.67 AMPS	10sprpk_pst_catb	288
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	0.97	39.23	-9.64	312.89 AMPS	321.67 AMPS	10sprpk_pre_catb	289
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.01	40.86	-10.05	325.48 AMPS	321.67 AMPS	10sprpk_pst_catb	289
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	1.08	51.44	-10.32	407.87 AMPS	379.40 AMPS	10sprpk_pre_catb	337
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.05	50.22	-9.71	397.07 AMPS	379.40 AMPS	10sprpk_pst_catb	337
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	1.07	51.10	-10.65	405.75 AMPS	379.40 AMPS	10sprpk_pre_catb	354
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.04	50.03	-8.57	394.59 AMPS	379.40 AMPS	10sprpk_pst_catb	354
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	1.01	48.02	-11.18	381.90 AMPS	379.40 AMPS	10sprpk_pre_catb	366
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.04	49.67	-11.57	394.45 AMPS	379.40 AMPS	10sprpk_pst_catb	366
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	1.01	47.96	-12.31	383.47 AMPS	379.40 AMPS	10sprpk_pre_catb	367
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.04	49.61	-12.70	396.03 AMPS	379.40 AMPS	10sprpk_pst_catb	367
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	1.01	47.96	-12.31	383.47 AMPS	379.40 AMPS	10sprpk_pre_catb	368
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.04	49.61	-12.70	396.03 AMPS	379.40 AMPS	10sprpk_pst_catb	368
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	1.01	47.98	-12.15	383.47 AMPS	379.40 AMPS	10sprpk_pre_catb	369

--------FROM BUS--------			----------TO BUS----------					(RATE 1)	(RATE 2)	---------OUTAGE----------			(RATE 2)		
Bus #	NAME	KV AREA	Bus #	NAME	KV AREA	ID		BASE	OUTAGE	MW	MVAR	FLOW	RATING	FILE	OUTAGE #
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "		0.80	1.04	49.64	-12.53	396.07 AMPS	379.40 AMPS	10sprpk_pst_catb	369
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "		0.76	1.00	47.56	-12.37	380.59 AMPS	379.40 AMPS	10sprpk_pre_catb	370
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "		0.80	1.03	48.98	-12.73	391.38 AMPS	379.40 AMPS	10sprpk_pst_catb	370
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "		0.76	1.06	50.78	-9.03	400.91 AMPS	379.40 AMPS	10sprpk_pre_catb	371
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "		0.80	1.03	49.57	-8.28	390.23 AMPS	379.40 AMPS	10sprpk_pst_catb	371
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "		0.76	1.08	51.59	-10.35	409.10 AMPS	379.40 AMPS	10sprpk_pre_catb	393
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "		0.80	1.05	50.36	-9.74	398.31 AMPS	379.40 AMPS	10sprpk_pst_catb	393
34480	"KEARNEY "	70 30	34481	"FRWWTAP "	70 30	"1 "		0.33	1.17	-47.34	-12.65	443.53 AMPS	379.40 AMPS	10sprpk_pre_catb	269
34480	"KEARNEY "	70 30	34481	"FRWWTAP "	70 30	"1 "		0.36	1.18	-47.87	-12.02	447.31 AMPS	379.40 AMPS	10sprpk_pst_catb	269
34481	"FRWWTAP "	70 30	34484	"KERMAN "	70 30	"1 "		0.31	1.14	-46.49	-13.04	434.07 AMPS	379.40 AMPS	10sprpk_pre_catb	269
34481	"FRWWTAP "	70 30	34484	"KERMAN "	70 30	"1 "		0.35	1.15	-47.03	-12.41	437.81 AMPS	379.40 AMPS	10sprpk_pst_catb	269

--------FROM BUS--------			----------TO BUS----------					---BASE---		LOADING			
Bus #	NAME	KV	AREA	Bus #	NAME	KV	AREA	ID	MW	MVAR	P.U.	FLOW	RATING	------CASE------
33912	"SPRNG GJ"	115	30	33914	"MI-WUK "	115	30	"1 "	93	-15	0.93	459 AMPS	491.00 AMPS	10sumop_pre_catb
33912	"SPRNG GJ"	115	30	33914	"MI-WUK "	115	30	"1 "	93	-15	0.93	459 AMPS	491.00 AMPS	10sumop_pst_catb
38436	"WALNT115"	115	30	38440	"WEC115 "	115	30	"1 "	-136	-66	0.91	746 AMPS	815.82 AMPS	10sumop_pre_catb
38436	"WALNT115"	115	30	38440	"WEC115 "	115	30	"1 "	-134	-68	0.91	743 AMPS	815.82 AMPS	10sumop_pst_catb

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--------FROM BUS--------  ----------TO BUS-----------     (RATE 1) (RATE 2)   ---------OUTAGE------------   (RATE 2)
Bus #    NAME     KV AREA  Bus #   NAME     KV AREA ID      BASE   OUTAGE     MW      MVAR      FLOW         RATING            FILE        OUTAGE #


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30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "    0.90    0.96   -562.61   146.72  1428.18 AMPS 1484.04 AMPS   10sumop_pst_catb 287

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30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "    0.90    0.96   -562.62   146.73  1428.21 AMPS 1484.04 AMPS   10sumop_pst_catb 288

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34366 "SANGER  "  115 30  34370 "MC CALL "  115 30  "3 "    0.83    0.91   -185.60    -2.85   888.55 AMPS  973.97 AMPS   10sumop_pst_catb 194

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34366 "SANGER  "  115 30  34370 "MC CALL "  115 30  "3 "    0.83    0.91   -185.60    -2.85   888.55 AMPS  973.97 AMPS   10sumop_pst_catb 195
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--------FROM BUS--------			----------TO BUS----------				(RATE 1)	(RATE 2)	---------OUTAGE----------			(RATE 2)		
Bus #	NAME	KV AREA	Bus #	NAME	KV AREA	ID	BASE	OUTAGE	MW	MVAR	FLOW	RATING	FILE	OUTAGE #
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.03	-325.51	-29.79	818.04 AMPS	793.23 AMPS	10sumpk_pre_catc	101
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.07	-337.34	-30.89	848.13 AMPS	793.23 AMPS	10sumpk_pst_catc	101
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.04	-327.07	-29.61	822.03 AMPS	793.23 AMPS	10sumpk_pre_catc	102
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.07	-339.01	-30.71	852.35 AMPS	793.23 AMPS	10sumpk_pst_catc	102
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.03	-325.74	-26.05	819.82 AMPS	793.23 AMPS	10sumpk_pre_catc	44
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.07	-337.12	-27.07	848.66 AMPS	793.23 AMPS	10sumpk_pst_catc	44
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.07	-337.82	-31.76	847.56 AMPS	793.23 AMPS	10sumpk_pre_catc	46
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.11	-349.79	-33.03	877.99 AMPS	793.23 AMPS	10sumpk_pst_catc	46
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.04	-327.89	-24.03	827.75 AMPS	793.23 AMPS	10sumpk_pre_catc	60
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30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.05	-329.85	-25.57	831.44 AMPS	793.23 AMPS	10sumpk_pre_catc	69
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.07	-336.68	-26.44	849.23 AMPS	793.23 AMPS	10sumpk_pst_catc	69
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.08	-338.32	-25.19	853.60 AMPS	793.23 AMPS	10sumpk_pre_catc	74
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.11	-350.24	-26.50	884.07 AMPS	793.23 AMPS	10sumpk_pst_catc	74
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.04	-326.31	-29.93	824.25 AMPS	793.23 AMPS	10sumpk_pre_catc	91
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.08	-338.31	-30.68	854.69 AMPS	793.23 AMPS	10sumpk_pst_catc	91
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.15	1.04	-327.47	-26.16	824.61 AMPS	793.23 AMPS	10sumpk_pre_catc	99
30805	"BORDEN "	230 30	30810	"GREGG "	230 30	"1 "	1.19	1.08	-339.09	-27.17	854.05 AMPS	793.23 AMPS	10sumpk_pst_catc	99
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.55	1.28	443.70	42.09	1088.79 AMPS	849.96 AMPS	10sumpk_pre_catc	59
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.55	1.20	417.02	41.85	1023.71 AMPS	849.96 AMPS	10sumpk_pst_catc	59
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.55	0.93	314.01	-23.14	787.82 AMPS	849.96 AMPS	10sumpk_pre_catc	60
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.55	0.93	314.02	-23.07	788.06 AMPS	849.96 AMPS	10sumpk_pst_catc	60
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.55	0.93	314.03	-21.92	792.23 AMPS	849.96 AMPS	10sumpk_pre_catc	61
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.55	0.93	314.03	-21.81	792.64 AMPS	849.96 AMPS	10sumpk_pst_catc	61
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.55	0.93	314.18	-28.67	791.31 AMPS	849.96 AMPS	10sumpk_pre_catc	71
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.55	0.93	314.18	-28.68	791.28 AMPS	849.96 AMPS	10sumpk_pst_catc	71
30835	"HERNDON "	230 30	30840	"FGRDN T1"	230 30	"1 "	0.51	0.91	313.95	-26.01	778.29 AMPS	850.96 AMPS	10sumpk_pre_catc	64
30835	"HERNDON "	230 30	30840	"FGRDN T1"	230 30	"1 "	0.52	0.91	313.95	-26.05	778.14 AMPS	850.96 AMPS	10sumpk_pst_catc	64
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.39	1.14	393.04	26.39	969.98 AMPS	849.96 AMPS	10sumpk_pre_catc	59
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.39	1.06	366.63	27.82	904.99 AMPS	849.96 AMPS	10sumpk_pst_catc	59
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.12	0.92	68.32	-28.07	365.49 AMPS	396.61 AMPS	10sumpk_pre_catc	47

--------FROM BUS--------			----------TO BUS----------				(RATE 1)	(RATE 2)	---------OUTAGE----------			(RATE 2)		
Bus #	NAME	KV AREA	Bus #	NAME	KV AREA	ID	BASE	OUTAGE	MW	MVAR	FLOW	RATING	FILE	OUTAGE #
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.12	0.92	68.30	-28.15	365.93 AMPS	396.61 AMPS	10sumpk_pst_catc	47
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.39	1.16	82.98	-41.93	460.06 AMPS	396.61 AMPS	10sumpk_pre_catc	47
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.40	1.16	82.97	-41.59	459.71 AMPS	396.61 AMPS	10sumpk_pst_catc	47
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.12	0.92	-68.31	28.08	365.49 AMPS	396.61 AMPS	10sumpk_pre_catc	47
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.12	0.92	-68.29	28.16	365.93 AMPS	396.61 AMPS	10sumpk_pst_catc	47
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.36	1.90	-171.29	-41.80	973.00 AMPS	512.08 AMPS	10sumpk_pre_catc	1
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.36	1.90	-171.29	-41.82	975.36 AMPS	512.08 AMPS	10sumpk_pst_catc	1
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.36	0.96	-93.37	-22.53	493.37 AMPS	512.08 AMPS	10sumpk_pre_catc	2
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.36	0.97	-93.37	-22.53	494.32 AMPS	512.08 AMPS	10sumpk_pst_catc	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.29	1.36	-177.88	-50.45	1000.65 AMPS	738.00 AMPS	10sumpk_pre_catc	1
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.29	1.36	-177.89	-50.51	1003.09 AMPS	738.00 AMPS	10sumpk_pst_catc	1
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.62	1.11	109.02	-28.62	569.12 AMPS	512.08 AMPS	10sumpk_pre_catc	10
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.69	1.22	119.72	-30.08	625.33 AMPS	512.08 AMPS	10sumpk_pst_catc	10
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.62	0.98	90.72	-46.08	501.79 AMPS	512.08 AMPS	10sumpk_pre_catc	47
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.69	1.04	97.10	-46.40	531.36 AMPS	512.08 AMPS	10sumpk_pst_catc	47
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.62	1.06	103.09	-30.82	540.82 AMPS	512.08 AMPS	10sumpk_pre_catc	9
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.69	1.14	111.00	-31.59	581.41 AMPS	512.08 AMPS	10sumpk_pst_catc	9
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.12	0.99	-75.81	22.28	390.70 AMPS	396.61 AMPS	10sumpk_pre_catc	47
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.14	0.99	-75.80	22.35	391.13 AMPS	396.61 AMPS	10sumpk_pst_catc	47
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.54	1.38	123.51	48.81	649.30 AMPS	471.92 AMPS	10sumpk_pre_catc	1
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.54	1.38	123.32	48.95	649.82 AMPS	471.92 AMPS	10sumpk_pst_catc	1
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.54	1.22	114.41	29.80	577.53 AMPS	471.92 AMPS	10sumpk_pre_catc	25
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.54	1.22	114.03	29.92	576.93 AMPS	471.92 AMPS	10sumpk_pst_catc	25
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.48	1.24	110.29	46.24	584.78 AMPS	471.92 AMPS	10sumpk_pre_catc	1
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.48	1.24	110.11	46.36	585.20 AMPS	471.92 AMPS	10sumpk_pst_catc	1
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.48	1.04	93.91	26.39	490.29 AMPS	471.92 AMPS	10sumpk_pre_catc	24
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.48	1.03	92.87	26.84	486.98 AMPS	471.92 AMPS	10sumpk_pst_catc	24
34144	"MERCED "	115 30	34146	"MERCED M"	115 30	"2 "	0.35	0.94	55.76	-9.54	56.57 MVA	60.00 MVA	10sumpk_pre_catc	23
34144	"MERCED "	115 30	34146	"MERCED M"	115 30	"2 "	0.36	0.94	55.75	-9.36	56.53 MVA	60.00 MVA	10sumpk_pst_catc	23
34146	"MERCED M"	115 30	34202	"MERCED "	70 30	"2 "	0.35	0.94	-55.76	9.54	56.57 MVA	60.00 MVA	10sumpk_pre_catc	23
34146	"MERCED M"	115 30	34202	"MERCED "	70 30	"2 "	0.36	0.94	-55.75	9.36	56.53 MVA	60.00 MVA	10sumpk_pst_catc	23

--------FROM BUS--------			----------TO BUS----------				(RATE 1)	(RATE 2)	---------OUTAGE----------			(RATE 2)		
Bus #	NAME	KV AREA	Bus #	NAME	KV AREA	ID	BASE	OUTAGE	MW	MVAR	FLOW	RATING	FILE	OUTAGE #
=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=														
34159	"PANOCHEJ"	115 30	34160	"HAMMONDS"	115 30	"1 "	0.86	0.98	125.75	13.23	596.90 AMPS	607.47 AMPS	10sumpk_pst_catc	10
34159	"PANOCHEJ"	115 30	34160	"HAMMONDS"	115 30	"1 "	0.76	1.18	133.06	67.16	718.23 AMPS	607.47 AMPS	10sumpk_pre_catc	34
34159	"PANOCHEJ"	115 30	34160	"HAMMONDS"	115 30	"1 "	0.86	1.23	139.93	67.08	744.59 AMPS	607.47 AMPS	10sumpk_pst_catc	34
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34159	"PANOCHEJ"	115 30	34160	"HAMMONDS"	115 30	"1 "	0.86	0.95	121.23	11.64	574.53 AMPS	607.47 AMPS	10sumpk_pst_catc	9
34160	"HAMMONDS"	115 30	34161	"DFSTP "	115 30	"1 "	0.62	1.07	116.93	58.97	649.39 AMPS	607.47 AMPS	10sumpk_pre_catc	34
34160	"HAMMONDS"	115 30	34161	"DFSTP "	115 30	"1 "	0.72	1.11	123.65	58.47	675.60 AMPS	607.47 AMPS	10sumpk_pst_catc	34
34161	"DFSTP "	115 30	34162	"ORO LOMA"	115 30	"1 "	0.61	1.05	112.74	51.15	640.67 AMPS	607.47 AMPS	10sumpk_pre_catc	34
34161	"DFSTP "	115 30	34162	"ORO LOMA"	115 30	"1 "	0.70	1.10	119.25	50.07	666.90 AMPS	607.47 AMPS	10sumpk_pst_catc	34
34162	"ORO LOMA"	115 30	34200	"ORO LOMA"	70 30	"2 "	0.61	1.92	115.59	75.41	138.01 MVA	72.00 MVA	10sumpk_pre_catc	34
34162	"ORO LOMA"	115 30	34200	"ORO LOMA"	70 30	"2 "	0.66	1.90	114.99	74.68	137.11 MVA	72.00 MVA	10sumpk_pst_catc	34
34176	"EXCHQRTP"	115 30	34232	"EXCHEQUR"	70 30	"1 "	0.48	0.94	94.01	8.96	94.43 MVA	100.00 MVA	10sumpk_pre_catc	23
34176	"EXCHQRTP"	115 30	34232	"EXCHEQUR"	70 30	"1 "	0.48	0.94	94.01	9.15	94.45 MVA	100.00 MVA	10sumpk_pst_catc	23
34200	"ORO LOMA"	70 30	34218	"DOS PALS"	70 30	"1 "	0.80	2.12	61.00	17.66	597.65 AMPS	282.08 AMPS	10sumpk_pre_catc	34
34200	"ORO LOMA"	70 30	34218	"DOS PALS"	70 30	"1 "	0.84	2.10	60.88	17.46	593.17 AMPS	282.08 AMPS	10sumpk_pst_catc	34
34200	"ORO LOMA"	70 30	34222	"MRCYSPRS"	70 30	"1 "	0.16	1.54	73.38	39.68	785.06 AMPS	511.37 AMPS	10sumpk_pre_catc	34
34200	"ORO LOMA"	70 30	34222	"MRCYSPRS"	70 30	"1 "	0.22	1.52	73.26	39.34	778.87 AMPS	511.37 AMPS	10sumpk_pst_catc	34
34200	"ORO LOMA"	70 30	34234	"POSO J1 "	70 30	"1 "	0.27	1.03	-30.50	-4.08	289.62 AMPS	282.08 AMPS	10sumpk_pre_catc	34
34200	"ORO LOMA"	70 30	34234	"POSO J1 "	70 30	"1 "	0.32	1.03	-30.85	-3.86	291.21 AMPS	282.08 AMPS	10sumpk_pst_catc	34
34202	"MERCED "	70 30	34230	"MRCDFLLS"	70 30	"1 "	0.43	1.35	-55.76	13.89	510.20 AMPS	377.75 AMPS	10sumpk_pre_catc	23
34202	"MERCED "	70 30	34230	"MRCDFLLS"	70 30	"1 "	0.44	1.35	-55.75	13.71	510.40 AMPS	377.75 AMPS	10sumpk_pst_catc	23
34206	"CANAL "	70 30	34216	"SNTA RTA"	70 30	"1 "	0.09	1.30	-31.33	-1.71	368.09 AMPS	282.08 AMPS	10sumpk_pre_catc	34
34206	"CANAL "	70 30	34216	"SNTA RTA"	70 30	"1 "	0.14	1.29	-31.32	-1.70	364.99 AMPS	282.08 AMPS	10sumpk_pst_catc	34
34206	"CANAL "	70 30	34220	"ORTIGA "	70 30	"1 "	0.32	1.02	-42.21	-14.20	522.47 AMPS	512.19 AMPS	10sumpk_pre_catc	34
34206	"CANAL "	70 30	34220	"ORTIGA "	70 30	"1 "	0.33	1.01	-42.21	-14.19	518.12 AMPS	512.19 AMPS	10sumpk_pst_catc	34
34216	"SNTA RTA"	70 30	34218	"DOS PALS"	70 30	"1 "	0.38	1.60	-44.24	-7.31	476.03 AMPS	297.75 AMPS	10sumpk_pre_catc	34
34216	"SNTA RTA"	70 30	34218	"DOS PALS"	70 30	"1 "	0.42	1.59	-44.18	-7.23	472.21 AMPS	297.75 AMPS	10sumpk_pst_catc	34
34220	"ORTIGA "	70 30	34222	"MRCYSPRS"	70 30	"1 "	0.51	1.25	-53.99	-19.81	638.25 AMPS	512.19 AMPS	10sumpk_pre_catc	34
34220	"ORTIGA "	70 30	34222	"MRCYSPRS"	70 30	"1 "	0.53	1.24	-53.97	-19.74	633.07 AMPS	512.19 AMPS	10sumpk_pst_catc	34
34230	"MRCDFLLS"	70 30	34321	"MCSWAINJ"	70 30	"1 "	0.58	1.47	67.73	-2.12	558.26 AMPS	379.40 AMPS	10sumpk_pre_catc	23
34230	"MRCDFLLS"	70 30	34321	"MCSWAINJ"	70 30	"1 "	0.59	1.47	67.73	-1.93	558.48 AMPS	379.40 AMPS	10sumpk_pst_catc	23

--------FROM BUS--------			----------TO BUS----------				(RATE 1)	(RATE 2)	---------OUTAGE----------			(RATE 2)		
Bus #	NAME	KV AREA	Bus #	NAME	KV AREA	ID	BASE	OUTAGE	MW	MVAR	FLOW	RATING	FILE	OUTAGE #
34232	"EXCHEQUR"	70 30	34321	"MCSWAINJ"	70 30	"1 "	0.47	1.31	35.39	10.71	367.44 AMPS	280.43 AMPS	10sumpk_pre_catc	22
34232	"EXCHEQUR"	70 30	34321	"MCSWAINJ"	70 30	"1 "	0.48	1.32	35.43	10.77	369.45 AMPS	280.43 AMPS	10sumpk_pst_catc	22
34232	"EXCHEQUR"	70 30	34321	"MCSWAINJ"	70 30	"1 "	0.47	1.71	-58.24	3.97	480.93 AMPS	280.43 AMPS	10sumpk_pre_catc	23
34232	"EXCHEQUR"	70 30	34321	"MCSWAINJ"	70 30	"1 "	0.48	1.72	-58.24	3.78	481.05 AMPS	280.43 AMPS	10sumpk_pst_catc	23
34266	"FIREBAGH"	70 30	34267	"TOMATAK "	70 30	"1 "	0.48	1.01	-45.76	-9.90	398.44 AMPS	395.90 AMPS	10sumpk_pre_catc	34
34266	"FIREBAGH"	70 30	34267	"TOMATAK "	70 30	"1 "	0.52	1.01	-46.13	-9.72	399.63 AMPS	395.90 AMPS	10sumpk_pst_catc	34
34267	"TOMATAK "	70 30	34268	"MENDOTA "	70 30	"1 "	0.64	1.16	-52.33	-15.35	459.09 AMPS	395.90 AMPS	10sumpk_pre_catc	34
34267	"TOMATAK "	70 30	34268	"MENDOTA "	70 30	"1 "	0.67	1.16	-52.71	-15.18	459.91 AMPS	395.90 AMPS	10sumpk_pst_catc	34
34409	"PNDLJ2 "	115 30	34412	"HERNDON "	115 30	"1 "	0.53	0.98	216.13	61.76	1100.11 AMPS	1124.58 AMPS	10sumpk_pre_catc	99
34409	"PNDLJ2 "	115 30	34412	"HERNDON "	115 30	"1 "	0.53	0.98	216.13	61.75	1099.93 AMPS	1124.58 AMPS	10sumpk_pst_catc	99
34409	"PNDLJ2 "	115 30	34416	"BULLARD "	115 30	"1 "	0.32	0.94	134.09	21.91	698.08 AMPS	743.03 AMPS	10sumpk_pre_catc	99
34409	"PNDLJ2 "	115 30	34416	"BULLARD "	115 30	"1 "	0.32	0.94	134.09	21.91	697.96 AMPS	743.03 AMPS	10sumpk_pst_catc	99
34411	"PNDLJ1 "	115 30	34412	"HERNDON "	115 30	"1 "	0.42	1.02	218.18	71.43	1142.96 AMPS	1124.58 AMPS	10sumpk_pre_catc	98
34411	"PNDLJ1 "	115 30	34412	"HERNDON "	115 30	"1 "	0.42	1.02	218.18	71.42	1142.81 AMPS	1124.58 AMPS	10sumpk_pst_catc	98
34411	"PNDLJ1 "	115 30	34416	"BULLARD "	115 30	"1 "	0.75	1.54	211.67	50.11	1143.82 AMPS	743.03 AMPS	10sumpk_pre_catc	98
34411	"PNDLJ1 "	115 30	34416	"BULLARD "	115 30	"1 "	0.75	1.54	211.67	50.11	1143.67 AMPS	743.03 AMPS	10sumpk_pst_catc	98
34412	"HERNDON "	115 30	34422	"CHLDHOSP"	115 30	"1 "	0.64	1.16	196.45	100.76	1132.83 AMPS	973.97 AMPS	10sumpk_pre_catc	88
34412	"HERNDON "	115 30	34422	"CHLDHOSP"	115 30	"1 "	0.64	1.16	196.67	100.96	1134.38 AMPS	973.97 AMPS	10sumpk_pst_catc	88
34414	"WOODWARD"	115 30	34422	"CHLDHOSP"	115 30	"1 "	0.62	1.14	-188.25	-67.18	1113.27 AMPS	973.97 AMPS	10sumpk_pre_catc	88
34414	"WOODWARD"	115 30	34422	"CHLDHOSP"	115 30	"1 "	0.62	1.14	-188.46	-67.30	1114.83 AMPS	973.97 AMPS	10sumpk_pst_catc	88
34464	"COPPRMNE"	70 30	34478	"TVY VLLY"	70 30	"1 "	0.12	0.94	-29.18	9.26	281.17 AMPS	297.75 AMPS	10sumpk_pre_catc	10
34464	"COPPRMNE"	70 30	34478	"TVY VLLY"	70 30	"1 "	0.11	1.01	-30.70	10.31	299.27 AMPS	297.75 AMPS	10sumpk_pst_catc	10
34464	"COPPRMNE"	70 30	34478	"TVY VLLY"	70 30	"1 "	0.12	1.02	-29.39	-1.96	303.32 AMPS	297.75 AMPS	10sumpk_pre_catc	40
34464	"COPPRMNE"	70 30	34478	"TVY VLLY"	70 30	"1 "	0.11	1.02	-29.39	-1.95	303.09 AMPS	297.75 AMPS	10sumpk_pst_catc	40
34478	"TVY VLLY"	70 30	34492	"REEDLEY "	70 30	"1 "	0.35	1.21	-41.87	3.60	359.88 AMPS	297.75 AMPS	10sumpk_pre_catc	10
34478	"TVY VLLY"	70 30	34492	"REEDLEY "	70 30	"1 "	0.36	1.27	-43.83	4.06	378.11 AMPS	297.75 AMPS	10sumpk_pst_catc	10
34478	"TVY VLLY"	70 30	34492	"REEDLEY "	70 30	"1 "	0.35	1.30	-42.60	-8.38	388.11 AMPS	297.75 AMPS	10sumpk_pre_catc	40
34478	"TVY VLLY"	70 30	34492	"REEDLEY "	70 30	"1 "	0.36	1.30	-42.59	-8.37	387.84 AMPS	297.75 AMPS	10sumpk_pst_catc	40
34487	"SNGRJCT "	70 30	34488	"SANGER "	70 30	"1 "	0.16	0.92	44.60	14.62	366.02 AMPS	395.90 AMPS	10sumpk_pre_catc	91
34487	"SNGRJCT "	70 30	34488	"SANGER "	70 30	"1 "	0.16	0.93	44.85	14.56	367.64 AMPS	395.90 AMPS	10sumpk_pst_catc	91
34487	"SNGRJCT "	70 30	34490	"PARLIER "	70 30	"1 "	0.71	1.47	81.09	30.18	690.16 AMPS	470.13 AMPS	10sumpk_pre_catc	91

--------FROM BUS--------				----------TO BUS----------					(RATE 1)	(RATE 2)	---------OUTAGE----------			(RATE 2)		
Bus #	NAME	KV	AREA	Bus #	NAME	KV	AREA	ID	BASE	OUTAGE	MW	MVAR	FLOW	RATING	FILE	OUTAGE #
34487	"SNGRJCT "	70	30	34490	"PARLIER "	70	30	"1 "	0.71	1.47	81.34	30.12	691.63 AMPS	470.13 AMPS	10sumpk_pst_catc	91
34490	"PARLIER "	70	30	34492	"REEDLEY "	70	30	"1 "	0.37	1.40	62.03	18.81	559.66 AMPS	398.37 AMPS	10sumpk_pre_catc	91
34490	"PARLIER "	70	30	34492	"REEDLEY "	70	30	"1 "	0.37	1.41	62.26	18.70	561.13 AMPS	398.37 AMPS	10sumpk_pst_catc	91

--------FROM BUS--------			----------TO BUS----------				(RATE 1)	(RATE 2)	---------OUTAGE----------			(RATE 2)		
Bus #	NAME	KV AREA	Bus #	NAME	KV AREA	ID	BASE	OUTAGE	MW	MVAR	FLOW	RATING	FILE	OUTAGE #
=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=1=														
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.83	0.90	-135.47	6.35	135.62 MVA	150.00 MVA	10sprpk_pst_catc	12
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30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.83	0.90	-67.75	3.18	67.82 MVA	75.00 MVA	10sprpk_pst_catc	12
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30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.83	0.90	-67.75	3.18	67.82 MVA	75.00 MVA	10sprpk_pst_catc	12
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.42	1.05	369.57	20.88	896.00 AMPS	849.96 AMPS	10sprpk_pre_catc	59
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.41	0.98	342.80	20.89	831.11 AMPS	849.96 AMPS	10sprpk_pst_catc	59
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.30	0.95	332.03	12.52	808.75 AMPS	849.96 AMPS	10sprpk_pre_catc	59
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34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.07	1.26	93.38	-37.50	498.60 AMPS	396.61 AMPS	10sprpk_pre_catc	47
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.07	1.26	93.37	-37.52	498.77 AMPS	396.61 AMPS	10sprpk_pst_catc	47
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.44	1.56	114.71	-49.51	619.08 AMPS	396.61 AMPS	10sprpk_pre_catc	47
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.45	1.56	114.70	-49.42	619.05 AMPS	396.61 AMPS	10sprpk_pst_catc	47
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.07	1.26	-93.38	37.50	498.60 AMPS	396.61 AMPS	10sprpk_pre_catc	47
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.07	1.26	-93.37	37.53	498.78 AMPS	396.61 AMPS	10sprpk_pst_catc	47
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.27	1.35	-127.00	-30.61	690.87 AMPS	512.08 AMPS	10sprpk_pre_catc	1
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.27	1.35	-127.00	-30.62	691.68 AMPS	512.08 AMPS	10sprpk_pst_catc	1
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.22	0.97	-132.56	-36.29	717.35 AMPS	738.00 AMPS	10sprpk_pre_catc	1
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.23	0.97	-132.57	-36.31	718.19 AMPS	738.00 AMPS	10sprpk_pst_catc	1
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.43	1.00	94.50	-42.50	513.19 AMPS	512.08 AMPS	10sprpk_pre_catc	47
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.51	1.06	100.84	-42.85	542.86 AMPS	512.08 AMPS	10sprpk_pst_catc	47
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.13	1.32	-101.55	30.16	524.05 AMPS	396.61 AMPS	10sprpk_pre_catc	47
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.14	1.32	-101.54	30.19	524.23 AMPS	396.61 AMPS	10sprpk_pst_catc	47
34123	"K1-JCT "	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.36	0.94	-147.10	7.82	696.78 AMPS	743.03 AMPS	10sprpk_pre_catc	47
34123	"K1-JCT "	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.36	0.94	-147.09	7.83	697.01 AMPS	743.03 AMPS	10sprpk_pst_catc	47
34123	"K1-JCT "	115 30	34358	"KERCKHF2"	115 30	"2 "	0.35	0.94	-148.77	7.76	696.96 AMPS	743.03 AMPS	10sprpk_pre_catc	47
34123	"K1-JCT "	115 30	34358	"KERCKHF2"	115 30	"2 "	0.36	0.94	-148.77	7.77	697.20 AMPS	743.03 AMPS	10sprpk_pst_catc	47
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.38	0.96	88.06	30.56	454.58 AMPS	471.92 AMPS	10sprpk_pre_catc	1
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.38	0.96	87.84	30.65	454.14 AMPS	471.92 AMPS	10sprpk_pst_catc	1
34144	"MERCED "	115 30	34146	"MERCED M"	115 30	"2 "	0.35	0.99	58.70	-8.86	59.36 MVA	60.00 MVA	10sprpk_pre_catc	23

--------FROM BUS--------				----------TO BUS----------				(RATE 1)	(RATE 2)	---------OUTAGE----------			(RATE 2)		
Bus #	NAME	KV	AREA	Bus #	NAME	KV	AREA	ID	BASE	OUTAGE	MW	MVAR	FLOW	RATING	FILE	OUTAGE #
34144	"MERCED "	115	30	34146	"MERCED M"	115	30	"2 "	0.36	0.99	58.69	-8.77	59.35 MVA	60.00 MVA	10sprpk_pst_catc	23
34146	"MERCED M"	115	30	34202	"MERCED "	70	30	"2 "	0.35	0.99	-58.70	8.86	59.36 MVA	60.00 MVA	10sprpk_pre_catc	23
34146	"MERCED M"	115	30	34202	"MERCED "	70	30	"2 "	0.36	0.99	-58.69	8.77	59.35 MVA	60.00 MVA	10sprpk_pst_catc	23
34162	"ORO LOMA"	115	30	34200	"ORO LOMA"	70	30	"2 "	0.65	1.28	83.11	40.60	92.49 MVA	72.00 MVA	10sprpk_pre_catc	34
34162	"ORO LOMA"	115	30	34200	"ORO LOMA"	70	30	"2 "	0.71	1.28	82.74	40.67	92.19 MVA	72.00 MVA	10sprpk_pst_catc	34
34200	"ORO LOMA"	70	30	34218	"DOS PALS"	70	30	"1 "	0.69	1.32	42.06	8.29	371.05 AMPS	282.08 AMPS	10sprpk_pre_catc	34
34200	"ORO LOMA"	70	30	34218	"DOS PALS"	70	30	"1 "	0.74	1.31	42.04	8.25	369.80 AMPS	282.08 AMPS	10sprpk_pst_catc	34
34200	"ORO LOMA"	70	30	34222	"MRCYSPRS"	70	30	"1 "	0.30	0.95	51.90	21.70	486.89 AMPS	511.37 AMPS	10sprpk_pre_catc	34
34200	"ORO LOMA"	70	30	34222	"MRCYSPRS"	70	30	"1 "	0.36	0.95	51.88	21.63	485.20 AMPS	511.37 AMPS	10sprpk_pst_catc	34
34202	"MERCED "	70	30	34230	"MRCDFLLS"	70	30	"1 "	0.43	1.43	-58.70	13.67	541.69 AMPS	377.75 AMPS	10sprpk_pre_catc	23
34202	"MERCED "	70	30	34230	"MRCDFLLS"	70	30	"1 "	0.44	1.43	-58.69	13.58	541.82 AMPS	377.75 AMPS	10sprpk_pst_catc	23
34216	"SNTA RTA"	70	30	34218	"DOS PALS"	70	30	"1 "	0.39	0.98	-31.45	-3.70	291.44 AMPS	297.75 AMPS	10sprpk_pre_catc	34
34216	"SNTA RTA"	70	30	34218	"DOS PALS"	70	30	"1 "	0.43	0.98	-31.44	-3.68	290.41 AMPS	297.75 AMPS	10sprpk_pst_catc	34
34230	"MRCDFLLS"	70	30	34321	"MCSWAINJ"	70	30	"1 "	0.52	1.51	69.46	-0.83	573.23 AMPS	379.40 AMPS	10sprpk_pre_catc	23
34230	"MRCDFLLS"	70	30	34321	"MCSWAINJ"	70	30	"1 "	0.54	1.51	69.46	-0.73	573.32 AMPS	379.40 AMPS	10sprpk_pst_catc	23
34232	"EXCHEQUR"	70	30	34321	"MCSWAINJ"	70	30	"1 "	0.45	1.81	-61.47	2.74	507.70 AMPS	280.43 AMPS	10sprpk_pre_catc	23
34232	"EXCHEQUR"	70	30	34321	"MCSWAINJ"	70	30	"1 "	0.46	1.81	-61.46	2.64	507.79 AMPS	280.43 AMPS	10sprpk_pst_catc	23
34411	"PNDLJ1 "	115	30	34416	"BULLARD "	115	30	"1 "	0.54	1.08	155.27	30.96	800.14 AMPS	743.03 AMPS	10sprpk_pre_catc	98
34411	"PNDLJ1 "	115	30	34416	"BULLARD "	115	30	"1 "	0.54	1.08	155.27	30.95	799.94 AMPS	743.03 AMPS	10sprpk_pst_catc	98
34456	"HRDWK TP"	70	30	34522	"HNFRD SW"	70	30	"1 "	0.31	1.32	51.24	23.59	500.36 AMPS	379.40 AMPS	10sprpk_pre_catc	124
34456	"HRDWK TP"	70	30	34522	"HNFRD SW"	70	30	"1 "	0.34	1.32	51.24	23.59	500.29 AMPS	379.40 AMPS	10sprpk_pst_catc	124
34456	"HRDWK TP"	70	30	34576	"KNGLOBUS"	70	30	"1 "	0.54	1.54	-60.50	-25.44	582.11 AMPS	377.75 AMPS	10sprpk_pre_catc	124
34456	"HRDWK TP"	70	30	34576	"KNGLOBUS"	70	30	"1 "	0.56	1.54	-60.49	-25.44	582.03 AMPS	377.75 AMPS	10sprpk_pst_catc	124
34475	"AGRCJCT "	70	30	34484	"KERMAN "	70	30	"1 "	0.76	1.47	70.76	-15.04	557.41 AMPS	379.40 AMPS	10sprpk_pre_catc	113
34475	"AGRCJCT "	70	30	34484	"KERMAN "	70	30	"1 "	0.80	1.47	70.76	-14.58	557.18 AMPS	379.40 AMPS	10sprpk_pst_catc	113
34475	"AGRCJCT "	70	30	34484	"KERMAN "	70	30	"1 "	0.76	1.19	57.03	-11.69	451.87 AMPS	379.40 AMPS	10sprpk_pre_catc	58
34475	"AGRCJCT "	70	30	34484	"KERMAN "	70	30	"1 "	0.80	1.22	58.68	-12.06	464.26 AMPS	379.40 AMPS	10sprpk_pst_catc	58
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34475	"AGRCJCT "	70	30	34484	"KERMAN "	70	30	"1 "	0.80	0.92	44.04	-9.26	348.71 AMPS	379.40 AMPS	10sprpk_pst_catc	59
34475	"AGRCJCT "	70	30	34484	"KERMAN "	70	30	"1 "	0.76	1.08	51.75	-10.97	411.14 AMPS	379.40 AMPS	10sprpk_pre_catc	60
34475	"AGRCJCT "	70	30	34484	"KERMAN "	70	30	"1 "	0.80	1.05	50.67	-8.95	399.93 AMPS	379.40 AMPS	10sprpk_pst_catc	60

--------FROM BUS--------			----------TO BUS----------				(RATE 1)	(RATE 2)	---------OUTAGE----------			(RATE 2)		
Bus #	NAME	KV AREA	Bus #	NAME	KV AREA	ID	BASE	OUTAGE	MW	MVAR	FLOW	RATING	FILE	OUTAGE #
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	1.07	51.22	-10.12	405.59 AMPS	379.40 AMPS	10sprpk_pre_catc	62
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.04	50.07	-8.71	394.60 AMPS	379.40 AMPS	10sprpk_pst_catc	62
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	1.19	57.03	-11.69	451.87 AMPS	379.40 AMPS	10sprpk_pre_catc	67
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.22	58.68	-12.06	464.26 AMPS	379.40 AMPS	10sprpk_pst_catc	67
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	1.07	51.18	-10.67	406.22 AMPS	379.40 AMPS	10sprpk_pre_catc	68
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.04	50.11	-8.58	395.06 AMPS	379.40 AMPS	10sprpk_pst_catc	68
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.76	1.61	71.14	25.98	611.49 AMPS	379.40 AMPS	10sprpk_pre_catc	69
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.80	1.63	71.92	25.39	616.61 AMPS	379.40 AMPS	10sprpk_pst_catc	69
34480	"KEARNEY "	70 30	34481	"FRWWTAP "	70 30	"1 "	0.33	1.09	-46.50	26.40	415.17 AMPS	379.40 AMPS	10sprpk_pre_catc	113
34480	"KEARNEY "	70 30	34481	"FRWWTAP "	70 30	"1 "	0.36	1.09	-46.51	25.91	414.21 AMPS	379.40 AMPS	10sprpk_pst_catc	113
34480	"KEARNEY "	70 30	34481	"FRWWTAP "	70 30	"1 "	0.33	1.15	-46.37	-13.45	437.76 AMPS	379.40 AMPS	10sprpk_pre_catc	69
34480	"KEARNEY "	70 30	34481	"FRWWTAP "	70 30	"1 "	0.36	1.17	-47.07	-12.70	442.32 AMPS	379.40 AMPS	10sprpk_pst_catc	69
34481	"FRWWTAP "	70 30	34484	"KERMAN "	70 30	"1 "	0.31	1.08	-45.62	26.10	408.27 AMPS	379.40 AMPS	10sprpk_pre_catc	113
34481	"FRWWTAP "	70 30	34484	"KERMAN "	70 30	"1 "	0.35	1.07	-45.63	25.61	407.26 AMPS	379.40 AMPS	10sprpk_pst_catc	113
34481	"FRWWTAP "	70 30	34484	"KERMAN "	70 30	"1 "	0.31	1.13	-45.52	-13.83	428.33 AMPS	379.40 AMPS	10sprpk_pre_catc	69
34481	"FRWWTAP "	70 30	34484	"KERMAN "	70 30	"1 "	0.35	1.14	-46.22	-13.08	432.85 AMPS	379.40 AMPS	10sprpk_pst_catc	69
34487	"SNGRJCT "	70 30	34490	"PARLIER "	70 30	"1 "	0.53	0.94	53.06	16.17	441.83 AMPS	470.13 AMPS	10sprpk_pre_catc	91
34487	"SNGRJCT "	70 30	34490	"PARLIER "	70 30	"1 "	0.53	0.94	53.29	16.07	443.21 AMPS	470.13 AMPS	10sprpk_pst_catc	91
34518	"LEMOORE "	70 30	34522	"HNFRD SW"	70 30	"1 "	0.40	1.79	-45.11	-14.43	501.53 AMPS	280.43 AMPS	10sprpk_pre_catc	124
34518	"LEMOORE "	70 30	34522	"HNFRD SW"	70 30	"1 "	0.44	1.79	-45.11	-14.43	501.46 AMPS	280.43 AMPS	10sprpk_pst_catc	124
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34572	"TORNADO "	70 30	34574	"COLNGA 1"	70 30	"1 "	0.66	0.92	43.72	-2.01	346.00 AMPS	377.75 AMPS	10sprpk_pst_catc	126

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--------FROM BUS--------  ----------TO BUS-----------     (RATE 1) (RATE 2)   ---------OUTAGE------------   (RATE 2)
Bus #    NAME     KV AREA  Bus #   NAME     KV AREA ID      BASE   OUTAGE     MW      MVAR      FLOW         RATING            FILE        OUTAGE #


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30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "    0.90    0.90   -599.93   169.41  1534.75 AMPS 1699.92 AMPS   10sumop_pst_catc  14

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30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "    0.90    0.93   -616.98   177.34  1581.89 AMPS 1699.92 AMPS   10sumop_pst_catc  63

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30790 "PANOCHE "  230 30  30825 "MCMULLN1"  230 30  "1 "    0.73    0.94    370.17    15.32   919.86 AMPS  974.97 AMPS   10sumop_pst_catc  88

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30825 "MCMULLN1"  230 30  30830 "KEARNEY "  230 30  "1 "    0.70    0.92    354.19   -39.18   900.98 AMPS  974.97 AMPS   10sumop_pst_catc  88

30835 "HERNDON "  230 30  30840 "FGRDN T1"  230 30  "1 "    0.29    1.08    356.64  -108.83   915.06 AMPS  850.96 AMPS   10sumop_pre_catc  59
30835 "HERNDON "  230 30  30840 "FGRDN T1"  230 30  "1 "    0.29    1.15    383.67  -110.48   980.16 AMPS  850.96 AMPS   10sumop_pst_catc  59

30840 "FGRDN T1"  230 30  30850 "ASHLAN  "  230 30  "1 "    0.15    0.96    323.93   -86.20   819.39 AMPS  850.96 AMPS   10sumop_pre_catc  59
30840 "FGRDN T1"  230 30  30850 "ASHLAN  "  230 30  "1 "    0.16    1.04    350.71   -89.36   885.16 AMPS  850.96 AMPS   10sumop_pst_catc  59

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34116 "LE GRAND"  115 30  34154 "DAIRYLND"  115 30  "1 "    0.76    0.96    -72.02    30.53   380.52 AMPS  398.12 AMPS   10sumop_pst_catc  14

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34116 "LE GRAND"  115 30  34154 "DAIRYLND"  115 30  "1 "    0.76    0.91    -68.63    29.59   362.59 AMPS  398.12 AMPS   10sumop_pst_catc  62

34116 "LE GRAND"  115 30  34154 "DAIRYLND"  115 30  "1 "    0.66    1.00    -75.32    31.72   399.35 AMPS  398.12 AMPS   10sumop_pre_catc  63
34116 "LE GRAND"  115 30  34154 "DAIRYLND"  115 30  "1 "    0.76    1.11    -83.14    34.68   441.61 AMPS  398.12 AMPS   10sumop_pst_catc  63

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34116 "LE GRAND"  115 30  34154 "DAIRYLND"  115 30  "1 "    0.76    0.94    -71.59    25.66   373.40 AMPS  398.12 AMPS   10sumop_pst_catc  70

34116 "LE GRAND"  115 30  34154 "DAIRYLND"  115 30  "1 "    0.66    0.96    -72.74    25.70   381.92 AMPS  398.12 AMPS   10sumop_pre_catc  88
34116 "LE GRAND"  115 30  34154 "DAIRYLND"  115 30  "1 "    0.76    1.05    -79.29    28.17   417.15 AMPS  398.12 AMPS   10sumop_pst_catc  88

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34118 "LE GRNDJ"  115 30  34136 "WILSON B"  115 30  "1 "    0.67    0.90     66.17   -35.31   359.28 AMPS  398.12 AMPS   10sumop_pst_catc  14

34118 "LE GRNDJ"  115 30  34136 "WILSON B"  115 30  "1 "    0.58    0.96     70.72   -36.56   383.19 AMPS  398.12 AMPS   10sumop_pre_catc  63
34118 "LE GRNDJ"  115 30  34136 "WILSON B"  115 30  "1 "    0.67    1.06     78.09   -39.83   423.30 AMPS  398.12 AMPS   10sumop_pst_catc  63

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34162 "ORO LOMA"  115 30  34168 "EL NIDO "  115 30  "1 "    0.62    0.92     93.59   -24.65   468.58 AMPS  512.08 AMPS   10sumop_pst_catc  63

34357 "AIRWAYJ1"  115 30  34368 "LASPALMS"  115 30  "1 "    0.55    0.91   -204.55    52.18  1026.70 AMPS 1124.58 AMPS   10sumop_pre_catc  63
34357 "AIRWAYJ1"  115 30  34368 "LASPALMS"  115 30  "1 "    0.56    0.94   -210.54    52.93  1057.84 AMPS 1124.58 AMPS   10sumop_pst_catc  63

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--------FROM BUS--------			----------TO BUS----------				(RATE 1)	(RATE 2)	---------OUTAGE----------			(RATE 2)		
Bus #	NAME	KV AREA	Bus #	NAME	KV AREA	ID	BASE	OUTAGE	MW	MVAR	FLOW	RATING	FILE	OUTAGE #
34359	"AIRWAYJ2"	115 30	34366	"SANGER "	115 30	"1 "	0.56	0.92	213.66	-14.75	1031.67 AMPS	1124.58 AMPS	10sumop_pst_catc	63
34359	"AIRWAYJ2"	115 30	34408	"BARTON "	115 30	"1 "	0.58	0.95	217.52	-25.02	1069.51 AMPS	1124.58 AMPS	10sumop_pre_catc	63
34359	"AIRWAYJ2"	115 30	34408	"BARTON "	115 30	"1 "	0.59	0.98	223.63	-24.86	1101.40 AMPS	1124.58 AMPS	10sumop_pst_catc	63
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