Appendix C

Steady State Power Flow Results

Autocon Comparison Files

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR 2008 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 "	1549	-201	0.93	1679 AMPS	1800.18 AMPS	bullardec-08sumpk-catb-before
30005	"ROUND MT"	500	30	40687	"MALIN "	500	40	"2 "	1551	-200	0.93	1681 AMPS	1800.18 AMPS	bullardec-08sumpk-catb-after
30300	"TBL MT D"	230	30	30330	"RIO OSO "	230	30	"1 "	302	49	0.90	744 AMPS	825.86 AMPS	bullardec-08sumpk-catb-before
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=														
30335	"ATLANTC "	230	30	32412	"ATLANTIC"	60	30	"1 "	145	15	1.04**	146 MVA	139.50 MVA	bullardec-08sumpk-catb-before
30335	"ATLANTC "	230	30	32412	"ATLANTIC"	60	30	"1 "	145	15	1.04**	146 MVA	139.50 MVA	bullardec-08sumpk-catb-after
30705	"MONTAVIS"	230	30	35455	"MNTA VSA"	60	30	"5 "	115	58	0.96	129 MVA	134.40 MVA	bullardec-08sumpk-catb-before
30705	"MONTAVIS"	230	30	35455	"MNTA VSA"	60	30	"5 "	115	59	0.96	129 MVA	134.40 MVA	bullardec-08sumpk-catb-after
31468	"CASCADE "	115	30	45087	"DELTA "	115	40	"1 "	84	-21	1.01	422 AMPS	416.70 AMPS	bullardec-08sumpk-catb-before
31468	"CASCADE "	115	30	45087	"DELTA "	115	40	"1 "	84	-21	1.01	422 AMPS	416.70 AMPS	bullardec-08sumpk-catb-after
31482	"PALERMO "	115	30	32280	"E.MRY J2"	115	30	"1 "	65	-16	0.91	324 AMPS	356.45 AMPS	bullardec-08sumpk-catb-before
31482	"PALERMO "	115	30	32280	"E.MRY J2"	115	30	"1 "	65	-16	0.91	323 AMPS	356.45 AMPS	bullardec-08sumpk-catb-after
31998	"VACA-DIX"	115	30	32088	"VACA-DXN"	60	30	"5 "	72	16	0.92	74 MVA	80.00 MVA	bullardec-08sumpk-catb-before
31998	"VACA-DIX"	115	30	32088	"VACA-DXN"	60	30	"5 "	72	16	0.92	74 MVA	80.00 MVA	bullardec-08sumpk-catb-after
33912	"SPRNG GJ"	115	30	33914	"MI-WUK "	115	30	"1 "	97	12	0.92	450 AMPS	491.00 AMPS	bullardec-08sumpk-catb-before
33912	"SPRNG GJ"	115	30	33914	"MI-WUK "	115	30	"1 "	97	12	0.92	450 AMPS	491.00 AMPS	bullardec-08sumpk-catb-after
34204	"LIVNGSTN"	70	30	34212	"LVNGSTNT"	70	30	"1 "	-18	-4	0.91	167 AMPS	183.10 AMPS	bullardec-08sumpk-catb-before
34204	"LIVNGSTN"	70	30	34212	"LVNGSTNT"	70	30	"1 "	-18	-4	0.92	168 AMPS	183.10 AMPS	bullardec-08sumpk-catb-after
35647	"GILROY "	115	30	35660	"GILROYTP"	115	30	"1 "	-118	-20	0.92	581 AMPS	632.58 AMPS	bullardec-08sumpk-catb-before
35647	"GILROY "	115	30	35660	"GILROYTP"	115	30	"1 "	-118	-20	0.92	581 AMPS	632.58 AMPS	bullardec-08sumpk-catb-after
37014	"POCKET "	230	30	37117	"POCKET 2"	69	30	"2 "	196	48	0.90**	202 MVA	224.00 MVA	bullardec-08sumpk-catb-before
37014	"POCKET "	230	30	37117	"POCKET 2"	69	30	"2 "	196	48	0.90**	202 MVA	224.00 MVA	bullardec-08sumpk-catb-after
37558	"KESWICK "	230	30	37641	"SPRINGCR"	230	30	"2 "	-179	-47	0.90**	450 AMPS	500.04 AMPS	bullardec-08sumpk-catb-before
37558	"KESWICK "	230	30	37641	"SPRINGCR"	230	30	"2 "	-179	-47	0.90**	450 AMPS	500.04 AMPS	bullardec-08sumpk-catb-after

--------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=																
30300	"TBL MT D"	230	30	30330	"RIO OSO "	230	30	"1 "	0.89	0.90	303.50	49.55	747.33 AMPS	825.86 AMPS	08sumpk-catb-after	230
=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=																
30300	"TBL MT D"	230	30	30330	"RIO OSO "	230	30	"1 "	0.89	0.90	303.50	49.56	747.34 AMPS	825.86 AMPS	08sumpk-catb-after	231
=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=																
30300	"TBL MT D"	230	30	30330	"RIO OSO "	230	30	"1 "	0.89	0.90	303.50	49.55	747.33 AMPS	825.86 AMPS	08sumpk-catb-after	232
=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=																
34200	"ORO LOMA"	70	30	34218	"DOS PALS"	70	30	"1 "	0.80	0.90	32.29	3.27	254.58 AMPS	282.08 AMPS	08sumpk-catb-after	277
=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=																
34200	"ORO LOMA"	70	30	34218	"DOS PALS"	70	30	"1 "	0.80	0.90	32.26	3.28	254.34 AMPS	282.08 AMPS	08sumpk-catb-after	57
34390	"DANISHCM"	115	30	34402	"CAL AVE "	115	30	"1 "	0.12	0.94	-89.99	-26.42	480.16 AMPS	512.08 AMPS	08sumpk-catb-before	91
34390	"DANISHCM"	115	30	34402	"CAL AVE "	115	30	"1 "	0.12	0.94	-89.99	-26.43	479.93 AMPS	512.08 AMPS	08sumpk-catb-after	91
34409	"PNDLJ2 "	115	30	34412	"HERNDON "	115	30	"1 "	0.67	1.12	166.86	42.02	829.72 AMPS	743.03 AMPS	08sumpk-catb-before	101
34409	"PNDLJ2 "	115	30	34412	"HERNDON "	115	30	"1 "	0.67	1.11	166.85	41.93	828.26 AMPS	743.03 AMPS	08sumpk-catb-after	101
34409	"PNDLJ2 "	115	30	34416	"BULLARD "	115	30	"1 "	0.50	0.97	142.77	27.05	719.52 AMPS	743.03 AMPS	08sumpk-catb-before	101
34409	"PNDLJ2 "	115	30	34416	"BULLARD "	115	30	"1 "	0.50	0.97	142.77	27.00	718.26 AMPS	743.03 AMPS	08sumpk-catb-after	101
34411	"PNDLJ1 "	115	30	34412	"HERNDON "	115	30	"1 "	0.61	1.12	166.86	42.02	829.72 AMPS	743.03 AMPS	08sumpk-catb-before	99
34411	"PNDLJ1 "	115	30	34412	"HERNDON "	115	30	"1 "	0.61	1.11	166.85	41.93	828.26 AMPS	743.03 AMPS	08sumpk-catb-after	99
34411	"PNDLJ1 "	115	30	34416	"BULLARD "	115	30	"1 "	0.61	0.97	142.77	27.05	719.52 AMPS	743.03 AMPS	08sumpk-catb-before	99
34411	"PNDLJ1 "	115	30	34416	"BULLARD "	115	30	"1 "	0.61	0.97	142.77	27.00	718.26 AMPS	743.03 AMPS	08sumpk-catb-after	99
34420	"CORCORAN"	115	30	34528	"CORCORAN"	70	30	"2 "	0.79	1.09	35.36	10.58	36.91 MVA	33.80 MVA	08sumpk-catb-before	110
34420	"CORCORAN"	115	30	34528	"CORCORAN"	70	30	"2 "	0.79	1.09	35.36	10.59	36.91 MVA	33.80 MVA	08sumpk-catb-after	110
34478	"TVY VLLY"	70	30	34492	"REEDLEY "	70	30	"1 "	0.07	0.92	-34.29	-12.79	326.93 AMPS	354.66 AMPS	08sumpk-catb-before	339
34478	"TVY VLLY"	70	30	34492	"REEDLEY "	70	30	"1 "	0.03	0.92	-34.28	-12.78	326.65 AMPS	354.66 AMPS	08sumpk-catb-after	339
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.84	0.95	-326.02	-16.00	809.71 AMPS	849.96 AMPS	08sumpk-catb-before	140
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.89	0.95	-326.02	-16.69	810.10 AMPS	849.96 AMPS	08sumpk-catb-after	140
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.84	0.95	-326.03	-14.75	809.03 AMPS	849.96 AMPS	08sumpk-catb-before	289
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.89	0.95	-326.03	-14.96	809.15 AMPS	849.96 AMPS	08sumpk-catb-after	289
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.84	0.95	-326.02	-15.76	809.58 AMPS	849.96 AMPS	08sumpk-catb-before	307
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.89	0.95	-326.02	-16.24	809.85 AMPS	849.96 AMPS	08sumpk-catb-after	307
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.84	0.95	-326.02	-16.27	809.86 AMPS	849.96 AMPS	08sumpk-catb-before	323
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.89	0.95	-326.02	-16.81	810.17 AMPS	849.96 AMPS	08sumpk-catb-after	323

--------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 #
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.84	0.95	-326.02	-16.00	809.71 AMPS	849.96 AMPS	08sumpk-catb-before	357
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.89	0.95	-326.02	-16.19	809.82 AMPS	849.96 AMPS	08sumpk-catb-after	357

--------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 #
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.49	0.99	147.67	14.12	148.34 MVA	150.00 MVA	08sumpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.53	1.08	161.69	15.25	162.40 MVA	150.00 MVA	08sumpk-catc-after	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.49	0.99	73.84	7.06	74.18 MVA	75.00 MVA	08sumpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.53	1.08	80.85	7.63	81.21 MVA	75.00 MVA	08sumpk-catc-after	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.49	0.99	73.84	7.06	74.18 MVA	75.00 MVA	08sumpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.53	1.08	80.85	7.63	81.21 MVA	75.00 MVA	08sumpk-catc-after	23
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.26	0.94	331.06	28.01	800.72 AMPS	850.96 AMPS	08sumpk-catc-before	22
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.21	0.94	331.06	27.50	800.55 AMPS	850.96 AMPS	08sumpk-catc-after	22
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.26	0.94	331.06	26.42	800.19 AMPS	850.96 AMPS	08sumpk-catc-before	23
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.21	0.94	331.06	26.88	800.34 AMPS	850.96 AMPS	08sumpk-catc-after	23
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.49	1.33	465.78	60.48	1134.36 AMPS	849.96 AMPS	08sumpk-catc-before	31
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.48	1.07	374.01	50.35	908.26 AMPS	849.96 AMPS	08sumpk-catc-after	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.35	1.21	419.94	43.68	1029.18 AMPS	849.96 AMPS	08sumpk-catc-before	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.34	0.95	329.09	39.22	803.73 AMPS	849.96 AMPS	08sumpk-catc-after	31
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.15	0.90	69.82	-25.28	358.36 AMPS	396.61 AMPS	08sumpk-catc-before	10
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.15	0.90	69.82	-25.26	358.30 AMPS	396.61 AMPS	08sumpk-catc-after	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.50	1.28	93.57	-47.89	507.19 AMPS	396.61 AMPS	08sumpk-catc-before	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.53	1.28	93.57	-47.94	507.24 AMPS	396.61 AMPS	08sumpk-catc-after	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.15	0.90	-69.82	25.27	358.36 AMPS	396.61 AMPS	08sumpk-catc-before	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.15	0.90	-69.82	25.26	358.30 AMPS	396.61 AMPS	08sumpk-catc-after	10
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.19	1.73	-158.86	-42.16	886.14 AMPS	512.08 AMPS	08sumpk-catc-before	2
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.19	1.73	-158.86	-42.16	886.04 AMPS	512.08 AMPS	08sumpk-catc-after	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.35	1.41	-187.25	-60.93	1042.86 AMPS	738.00 AMPS	08sumpk-catc-before	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.35	1.41	-187.25	-60.92	1042.73 AMPS	738.00 AMPS	08sumpk-catc-after	2
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.69	1.07	101.41	-51.38	546.29 AMPS	512.08 AMPS	08sumpk-catc-before	10
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.67	1.03	97.82	-50.43	528.77 AMPS	512.08 AMPS	08sumpk-catc-after	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.08	0.97	-77.29	19.57	384.08 AMPS	396.61 AMPS	08sumpk-catc-before	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.10	0.97	-77.29	19.56	384.02 AMPS	396.61 AMPS	08sumpk-catc-after	10
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.35	122.80	54.06	638.57 AMPS	471.92 AMPS	08sumpk-catc-before	2
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.35	122.87	54.03	638.75 AMPS	471.92 AMPS	08sumpk-catc-after	2
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.17	111.17	34.25	553.17 AMPS	471.92 AMPS	08sumpk-catc-before	54
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.17	111.30	34.17	553.76 AMPS	471.92 AMPS	08sumpk-catc-after	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 #
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.45	1.22	109.36	51.22	574.80 AMPS	471.92 AMPS	08sumpk-catc-before	2
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.46	1.22	109.42	51.20	574.94 AMPS	471.92 AMPS	08sumpk-catc-after	2
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.45	0.99	90.82	31.05	469.35 AMPS	471.92 AMPS	08sumpk-catc-before	53
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.46	1.00	91.10	30.92	470.32 AMPS	471.92 AMPS	08sumpk-catc-after	53
34390	"DANISHCM"	115 30	34402	"CAL AVE "	115 30	"1 "	0.12	0.95	-89.99	-26.52	484.79 AMPS	512.08 AMPS	08sumpk-catc-before	58
34390	"DANISHCM"	115 30	34402	"CAL AVE "	115 30	"1 "	0.12	0.95	-89.99	-26.50	484.23 AMPS	512.08 AMPS	08sumpk-catc-after	58
34390	"DANISHCM"	115 30	34407	"WFRES J2"	115 30	"1 "	0.07	0.90	-86.12	-23.20	461.03 AMPS	512.08 AMPS	08sumpk-catc-before	58
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=														
34409	"PNDLJ2 "	115 30	34412	"HERNDON "	115 30	"1 "	0.67	1.11	166.84	41.63	828.10 AMPS	743.03 AMPS	08sumpk-catc-before	61
34409	"PNDLJ2 "	115 30	34412	"HERNDON "	115 30	"1 "	0.67	1.11	166.83	41.54	826.56 AMPS	743.03 AMPS	08sumpk-catc-after	61
34409	"PNDLJ2 "	115 30	34416	"BULLARD "	115 30	"1 "	0.50	0.97	142.77	26.70	718.08 AMPS	743.03 AMPS	08sumpk-catc-before	61
34409	"PNDLJ2 "	115 30	34416	"BULLARD "	115 30	"1 "	0.50	0.96	142.77	26.65	716.74 AMPS	743.03 AMPS	08sumpk-catc-after	61
34411	"PNDLJ1 "	115 30	34412	"HERNDON "	115 30	"1 "	0.61	1.12	167.18	43.31	833.64 AMPS	743.03 AMPS	08sumpk-catc-before	62
34411	"PNDLJ1 "	115 30	34412	"HERNDON "	115 30	"1 "	0.61	1.12	167.17	43.30	833.45 AMPS	743.03 AMPS	08sumpk-catc-after	62
34411	"PNDLJ1 "	115 30	34416	"BULLARD "	115 30	"1 "	0.61	1.12	164.92	33.21	834.36 AMPS	743.03 AMPS	08sumpk-catc-before	62
34411	"PNDLJ1 "	115 30	34416	"BULLARD "	115 30	"1 "	0.61	1.12	164.92	33.21	834.17 AMPS	743.03 AMPS	08sumpk-catc-after	62
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.84	0.95	-326.02	-15.73	809.56 AMPS	849.96 AMPS	08sumpk-catc-before	24
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.89	0.95	-326.02	-16.26	809.86 AMPS	849.96 AMPS	08sumpk-catc-after	24

--------FROM BUS--------				----------TO BUS----------					---BASE---		LOADING			
Bus #	NAME	KV	AREA	Bus #	NAME	KV	AREA	ID	MW	MVAR	P.U.	FLOW	RATING	------CASE------
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	-564	178	0.97	1437 AMPS	1483.54 AMPS	bullardec-08sumop-catb-before
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	-588	184	1.01	1500 AMPS	1483.54 AMPS	bullardec-08sumop-catb-after
30735	"METCALF "	230	30	30750	"MOSSLND2"	230	30	"1 "	-329	57	0.92	819 AMPS	890.87 AMPS	bullardec-08sumop-catb-before
30735	"METCALF "	230	30	30750	"MOSSLND2"	230	30	"1 "	-336	59	0.94	838 AMPS	890.87 AMPS	bullardec-08sumop-catb-after
30735	"METCALF "	230	30	30755	"MOSSLND1"	230	30	"1 "	-329	57	0.92	819 AMPS	890.87 AMPS	bullardec-08sumop-catb-before
30735	"METCALF "	230	30	30755	"MOSSLND1"	230	30	"1 "	-336	59	0.94	838 AMPS	890.87 AMPS	bullardec-08sumop-catb-after
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30829	"P0429 "	230	30	30835	"HERNDON "	230	30	"1 "	-344	58	1.02	840 AMPS	825.86 AMPS	bullardec-08sumop-catb-after
31260	"MNDCNO M"	115	30	31300	"MENDOCNO"	60	30	"1 "	-6	-75	0.93	75 MVA	80.00 MVA	bullardec-08sumop-catb-before
31260	"MNDCNO M"	115	30	31300	"MENDOCNO"	60	30	"1 "	-6	-75	0.93	75 MVA	80.00 MVA	bullardec-08sumop-catb-after
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	4	0.94**	95 AMPS	101.04 AMPS	bullardec-08sumop-catb-before
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	4	0.94**	95 AMPS	101.04 AMPS	bullardec-08sumop-catb-after
34473	"SNJQTP "	70	30	34474	"HELM "	70	30	"1 "	-39	16	0.98	314 AMPS	321.67 AMPS	bullardec-08sumop-catb-before
34473	"SNJQTP "	70	30	34474	"HELM "	70	30	"1 "	-39	16	0.98	315 AMPS	321.67 AMPS	bullardec-08sumop-catb-after
34473	"SNJQTP "	70	30	34475	"AGRCJCT "	70	30	"1 "	-39	15	0.98	314 AMPS	321.67 AMPS	bullardec-08sumop-catb-before
34473	"SNJQTP "	70	30	34475	"AGRCJCT "	70	30	"1 "	-39	16	0.98	315 AMPS	321.67 AMPS	bullardec-08sumop-catb-after

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR **ISO CATEGORY B** 2008 SUMMER OFF-PEAK OPERATING CONDITIONS

--------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 #
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.93	-619.38	198.26	1585.40 AMPS	1699.42 AMPS	08sumop-catb-before	10
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.96	-636.92	204.76	1633.24 AMPS	1699.42 AMPS	08sumop-catb-after	10
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.93	-614.97	196.21	1573.24 AMPS	1699.42 AMPS	08sumop-catb-before	11
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.39	188.96	1535.48 AMPS	1699.42 AMPS	08sumop-catb-before	150
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.14	196.37	1598.42 AMPS	1699.42 AMPS	08sumop-catb-after	150
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.39	188.96	1535.49 AMPS	1699.42 AMPS	08sumop-catb-before	151
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.14	196.37	1598.42 AMPS	1699.42 AMPS	08sumop-catb-after	151
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.24	188.20	1534.11 AMPS	1699.42 AMPS	08sumop-catb-before	19
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-624.71	197.22	1598.45 AMPS	1699.42 AMPS	08sumop-catb-after	19
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.24	188.20	1534.12 AMPS	1699.42 AMPS	08sumop-catb-before	20
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-624.71	197.22	1598.45 AMPS	1699.42 AMPS	08sumop-catb-after	20
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-604.57	196.16	1550.08 AMPS	1699.42 AMPS	08sumop-catb-before	24
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-628.16	202.43	1611.40 AMPS	1699.42 AMPS	08sumop-catb-after	24
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.31	191.67	1549.21 AMPS	1699.42 AMPS	08sumop-catb-before	260
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-629.54	198.90	1610.81 AMPS	1699.42 AMPS	08sumop-catb-after	260
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-602.19	189.29	1537.68 AMPS	1699.42 AMPS	08sumop-catb-before	261
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.92	196.71	1600.61 AMPS	1699.42 AMPS	08sumop-catb-after	261
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.93	-621.02	194.43	1586.55 AMPS	1699.42 AMPS	08sumop-catb-after	262
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-622.78	196.39	1593.13 AMPS	1699.42 AMPS	08sumop-catb-after	263
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.93	-621.46	193.30	1587.22 AMPS	1699.42 AMPS	08sumop-catb-after	264
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.92	-609.97	191.71	1559.65 AMPS	1699.42 AMPS	08sumop-catb-after	265
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.92	-609.97	191.71	1559.65 AMPS	1699.42 AMPS	08sumop-catb-after	266
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.92	-607.33	196.65	1557.81 AMPS	1699.42 AMPS	08sumop-catb-after	267
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.92	-609.12	195.95	1561.29 AMPS	1699.42 AMPS	08sumop-catb-after	268

--------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 #
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.81	193.73	1552.46 AMPS	1699.42 AMPS	08sumop-catb-before	269
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-632.73	201.94	1621.24 AMPS	1699.42 AMPS	08sumop-catb-after	269
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.93	-619.81	197.86	1587.53 AMPS	1699.42 AMPS	08sumop-catb-after	270
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.91	-603.84	195.36	1548.63 AMPS	1699.42 AMPS	08sumop-catb-after	271
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.82	189.64	1537.51 AMPS	1699.42 AMPS	08sumop-catb-before	272
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-627.48	197.68	1605.41 AMPS	1699.42 AMPS	08sumop-catb-after	272
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.27	190.81	1548.96 AMPS	1699.42 AMPS	08sumop-catb-before	273
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-632.66	199.29	1619.12 AMPS	1699.42 AMPS	08sumop-catb-after	273
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.08	190.45	1547.99 AMPS	1699.42 AMPS	08sumop-catb-before	274
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-631.88	198.83	1616.68 AMPS	1699.42 AMPS	08sumop-catb-after	274
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.92	-610.44	195.96	1561.02 AMPS	1699.42 AMPS	08sumop-catb-before	275
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.97	-642.47	206.33	1645.93 AMPS	1699.42 AMPS	08sumop-catb-after	275
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.35	188.98	1535.41 AMPS	1699.42 AMPS	08sumop-catb-before	276
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.10	196.39	1598.35 AMPS	1699.42 AMPS	08sumop-catb-after	276
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-602.27	188.16	1536.55 AMPS	1699.42 AMPS	08sumop-catb-before	277
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-626.03	195.62	1599.55 AMPS	1699.42 AMPS	08sumop-catb-after	277
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-602.20	189.49	1537.81 AMPS	1699.42 AMPS	08sumop-catb-before	278
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.88	196.85	1600.57 AMPS	1699.42 AMPS	08sumop-catb-after	278
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-632.45	203.23	1621.95 AMPS	1699.42 AMPS	08sumop-catb-after	293
=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=																
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.99	-654.30	210.22	1678.34 AMPS	1699.42 AMPS	08sumop-catb-after	294
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-604.57	196.16	1550.08 AMPS	1699.42 AMPS	08sumop-catb-before	295
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.93	-616.27	199.00	1580.09 AMPS	1699.42 AMPS	08sumop-catb-after	295
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.93	-619.38	198.26	1585.40 AMPS	1699.42 AMPS	08sumop-catb-before	296
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-628.00	201.34	1608.66 AMPS	1699.42 AMPS	08sumop-catb-after	296
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30829	"P0429 "	230	30	30835	"HERNDON "	230	30	"1 "	1.02	0.90	-363.74	54.36	882.93 AMPS	976.48 AMPS	08sumop-catb-after	153
=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=																

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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 #

30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.93   -371.33    66.22   906.53 AMPS  976.48 AMPS   08sumop-catb-after  17

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30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.94   -374.77    67.20   917.03 AMPS  976.48 AMPS   08sumop-catb-after   2

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30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.92   -369.08    62.95   900.62 AMPS  976.48 AMPS   08sumop-catb-after  87

34116 "LE GRAND"  115 30  34154 "DAIRYLND"  115 30  "1 "    0.78    0.91    -59.69    26.44   310.22 AMPS  340.89 AMPS   08sumop-catb-before 214
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=
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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 #
=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=																
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.90	-600.22	187.34	1531.52 AMPS	1699.42 AMPS	08sumop-catc-after	20
=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=																
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.93	-616.28	198.25	1575.26 AMPS	1699.42 AMPS	08sumop-catc-after	22
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.91	-607.53	191.68	1551.94 AMPS	1699.42 AMPS	08sumop-catc-after	23
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.93	-617.75	199.86	1584.86 AMPS	1699.42 AMPS	08sumop-catc-after	25
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.97	-638.53	210.32	1641.98 AMPS	1699.42 AMPS	08sumop-catc-before	26
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.99	-652.65	215.49	1680.67 AMPS	1699.42 AMPS	08sumop-catc-after	26
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.93	-618.81	196.05	1582.07 AMPS	1699.42 AMPS	08sumop-catc-before	27
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.96	-633.93	202.07	1623.90 AMPS	1699.42 AMPS	08sumop-catc-after	27
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.93	-620.55	198.97	1588.75 AMPS	1699.42 AMPS	08sumop-catc-before	28
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.96	-635.29	204.74	1629.51 AMPS	1699.42 AMPS	08sumop-catc-after	28
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.96	-637.17	202.03	1632.82 AMPS	1699.42 AMPS	08sumop-catc-before	30
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	1.00	-660.08	210.24	1695.42 AMPS	1699.42 AMPS	08sumop-catc-after	30
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.35	189.25	1535.71 AMPS	1699.42 AMPS	08sumop-catc-before	32
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.99	-654.30	210.30	1678.48 AMPS	1699.42 AMPS	08sumop-catc-after	32
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.35	189.25	1535.71 AMPS	1699.42 AMPS	08sumop-catc-before	33
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-632.47	202.80	1621.14 AMPS	1699.42 AMPS	08sumop-catc-after	33
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-604.57	196.16	1550.08 AMPS	1699.42 AMPS	08sumop-catc-before	35
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	1.02	-673.24	222.67	1734.73 AMPS	1699.42 AMPS	08sumop-catc-after	35
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-604.57	196.16	1550.08 AMPS	1699.42 AMPS	08sumop-catc-before	36
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.98	-647.96	213.64	1668.04 AMPS	1699.42 AMPS	08sumop-catc-after	36
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.91	-604.77	196.30	1550.66 AMPS	1699.42 AMPS	08sumop-catc-after	37
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-604.66	196.01	1550.15 AMPS	1699.42 AMPS	08sumop-catc-before	38
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-628.26	202.19	1611.36 AMPS	1699.42 AMPS	08sumop-catc-after	38
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.91	-602.37	189.84	1538.55 AMPS	1699.42 AMPS	08sumop-catc-after	39
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-626.94	200.36	1603.95 AMPS	1699.42 AMPS	08sumop-catc-after	45

--------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=																
30829	"P0429 "	230	30	30835	"HERNDON "	230	30	"1 "	1.02	0.95	-377.38	82.98	925.58 AMPS	976.48 AMPS	08sumop-catc-after	25
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30829	"P0429 "	230	30	30835	"HERNDON "	230	30	"1 "	1.02	0.92	-367.95	63.15	898.35 AMPS	976.48 AMPS	08sumop-catc-after	29
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30829	"P0429 "	230	30	30835	"HERNDON "	230	30	"1 "	1.02	0.93	-372.83	66.47	911.96 AMPS	976.48 AMPS	08sumop-catc-after	41
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30829	"P0429 "	230	30	30835	"HERNDON "	230	30	"1 "	1.02	0.91	-364.16	58.62	889.39 AMPS	976.48 AMPS	08sumop-catc-after	47
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30829	"P0429 "	230	30	30835	"HERNDON "	230	30	"1 "	1.02	1.06	-421.97	89.78	1035.50 AMPS	976.48 AMPS	08sumop-catc-after	51
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30829	"P0429 "	230	30	30835	"HERNDON "	230	30	"1 "	1.02	0.92	-369.14	62.73	900.79 AMPS	976.48 AMPS	08sumop-catc-after	58
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30829	"P0429 "	230	30	30835	"HERNDON "	230	30	"1 "	1.02	0.91	-363.96	58.51	888.02 AMPS	976.48 AMPS	08sumop-catc-after	59
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30829	"P0429 "	230	30	30835	"HERNDON "	230	30	"1 "	1.02	0.96	-384.26	64.54	938.93 AMPS	976.48 AMPS	08sumop-catc-after	6
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30829	"P0429 "	230	30	30835	"HERNDON "	230	30	"1 "	1.02	0.92	-369.59	65.34	902.47 AMPS	976.48 AMPS	08sumop-catc-after	7
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30829	"P0429 "	230	30	30835	"HERNDON "	230	30	"1 "	1.02	0.94	-375.94	65.24	918.21 AMPS	976.48 AMPS	08sumop-catc-after	8
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30835	"HERNDON "	230	30	30840	"FGRDN T1"	230	30	"1 "	0.27	1.01	338.80	-107.04	857.53 AMPS	850.96 AMPS	08sumop-catc-after	31
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30840	"FGRDN T1"	230	30	30850	"ASHLAN "	230	30	"1 "	0.14	0.90	309.44	-81.92	769.62 AMPS	850.96 AMPS	08sumop-catc-after	31
34116	"LE GRAND"	115	30	34154	"DAIRYLND"	115	30	"1 "	0.78	0.95	-72.62	31.49	379.03 AMPS	398.12 AMPS	08sumop-catc-before	26
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34116	"LE GRAND"	115	30	34154	"DAIRYLND"	115	30	"1 "	0.72	0.98	-74.69	32.64	390.30 AMPS	398.12 AMPS	08sumop-catc-after	35
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34118	"LE GRNDJ"	115	30	34136	"WILSON B"	115	30	"1 "	0.63	0.92	67.24	-39.40	366.34 AMPS	398.12 AMPS	08sumop-catc-after	35
34366	"SANGER "	115	30	34370	"MC CALL "	115	30	"2 "	0.48	1.21	-281.55	-10.94	1355.84 AMPS	1124.58 AMPS	08sumop-catc-before	59

--------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 #
34366	"SANGER "	115	30	34370	"MC CALL "	115	30	"2 "	0.44	1.11	-261.14	-10.05	1252.25 AMPS	1124.58 AMPS	08sumop-catc-after	59
34366	"SANGER "	115	30	34370	"MC CALL "	115	30	"3 "	0.76	1.22	-247.58	-2.10	1188.32 AMPS	973.97 AMPS	08sumop-catc-before	14
34366	"SANGER "	115	30	34370	"MC CALL "	115	30	"3 "	0.70	1.12	-228.39	-1.30	1091.81 AMPS	973.97 AMPS	08sumop-catc-after	14
34366	"SANGER "	115	30	34370	"MC CALL "	115	30	"3 "	0.76	0.91	-185.68	1.56	885.84 AMPS	973.97 AMPS	08sumop-catc-before	60
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34366	"SANGER "	115	30	34372	"MALAGA "	115	30	"1 "	0.64	1.03	-156.90	19.65	760.90 AMPS	739.01 AMPS	08sumop-catc-before	59
34366	"SANGER "	115	30	34372	"MALAGA "	115	30	"1 "	0.61	0.97	-147.97	20.18	715.57 AMPS	739.01 AMPS	08sumop-catc-after	59

--------FROM BUS--------				----------TO BUS----------					---BASE---		LOADING			
Bus #	NAME	KV	AREA	Bus #	NAME	KV	AREA	ID	MW	MVAR	P.U.	FLOW	RATING	------CASE------
30015	"TABLE MT"	500	30	30030	"VACA-DIX"	500	30	"1 "	2090	-143	0.91	2259 AMPS	2477.99 AMPS	bullardec-09sprpk-catb-before
30015	"TABLE MT"	500	30	30030	"VACA-DIX"	500	30	"1 "	2099	-141	0.92	2270 AMPS	2477.99 AMPS	bullardec-09sprpk-catb-after
31468	"CASCADE "	115	30	45087	"DELTA "	115	40	"1 "	81	-28	0.99	414 AMPS	416.70 AMPS	bullardec-09sprpk-catb-before
31468	"CASCADE "	115	30	45087	"DELTA "	115	40	"1 "	81	-28	0.99	414 AMPS	416.70 AMPS	bullardec-09sprpk-catb-after
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	2	0.91**	92 AMPS	101.04 AMPS	bullardec-09sprpk-catb-before
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	2	0.91**	92 AMPS	101.04 AMPS	bullardec-09sprpk-catb-after
32369	"COLFAXJT"	60	30	32380	"WEMR SWS"	60	30	"1 "	29	-3	0.98	274 AMPS	279.05 AMPS	bullardec-09sprpk-catb-before
32369	"COLFAXJT"	60	30	32380	"WEMR SWS"	60	30	"1 "	29	-3	0.98	274 AMPS	279.05 AMPS	bullardec-09sprpk-catb-after
33610	"VLLY SPS"	60	30	33619	"AMFOR_SW"	60	30	"1 "	29	5	0.99	277 AMPS	279.05 AMPS	bullardec-09sprpk-catb-before
33610	"VLLY SPS"	60	30	33619	"AMFOR_SW"	60	30	"1 "	29	5	0.99	277 AMPS	279.05 AMPS	bullardec-09sprpk-catb-after

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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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32374 "DRUM     "  60 30  32376 "BONNIE N"  60 30  "1 "   0.90     0.90     27.83     -3.97   252.89 AMPS  280.98 AMPS   09sprpk-catb-after 216

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34200 "ORO LOMA"  70 30  34218 "DOS PALS"  70 30  "1 "   0.79     0.92     33.27      0.41   259.64 AMPS  282.08 AMPS   09sprpk-catb-after 279

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34200 "ORO LOMA"  70 30  34218 "DOS PALS"  70 30  "1 "   0.79     0.92     33.23      0.42   259.38 AMPS  282.08 AMPS   09sprpk-catb-after  58

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34237 "CANANDGA"  70 30  34240 "GLASS   "  70 30  "1 "   0.66     0.95     44.85      6.47   361.15 AMPS  379.40 AMPS   09sprpk-catb-after 154

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34237 "CANANDGA"  70 30  34240 "GLASS   "  70 30  "1 "   0.66     1.04     49.55     -4.66   393.65 AMPS  379.40 AMPS   09sprpk-catb-after 346

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34237 "CANANDGA"  70 30  34255 "TRIGO J "  70 30  "1 "   0.53     0.94     43.98     -8.88   355.20 AMPS  379.40 AMPS   09sprpk-catb-after 346

34240 "GLASS   "  70 30  34252 "MADERA  "  70 30  "1 "   0.83     1.08    -51.32     -2.98   406.52 AMPS  376.93 AMPS   09sprpk-catb-before  11
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34240 "GLASS   "  70 30  34252 "MADERA  "  70 30  "1 "   0.83     1.09    -49.92    -12.76   410.57 AMPS  376.93 AMPS   09sprpk-catb-before 154
34240 "GLASS   "  70 30  34252 "MADERA  "  70 30  "1 "   0.87     1.16    -53.55    -11.17   435.95 AMPS  376.93 AMPS   09sprpk-catb-after 154

34240 "GLASS   "  70 30  34252 "MADERA  "  70 30  "1 "   0.83     0.94    -38.71     -3.17   305.59 AMPS  324.97 AMPS   09sprpk-catb-before 216
34240 "GLASS   "  70 30  34252 "MADERA  "  70 30  "1 "   0.87     0.99    -40.79     -1.94   321.21 AMPS  324.97 AMPS   09sprpk-catb-after 216

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34240 "GLASS   "  70 30  34252 "MADERA  "  70 30  "1 "   0.87     0.96    -45.90      0.05   360.69 AMPS  376.93 AMPS   09sprpk-catb-after 333

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34240 "GLASS   "  70 30  34252 "MADERA  "  70 30  "1 "   0.87     1.22    -58.25     -0.03   460.74 AMPS  376.93 AMPS   09sprpk-catb-after 346

34418 "KINGSBRG" 115 30  34420 "CORCORAN" 115 30  "1 "   0.69     0.96     80.14      1.39   382.39 AMPS  398.12 AMPS   09sprpk-catb-before 105
34418 "KINGSBRG" 115 30  34420 "CORCORAN" 115 30  "1 "   0.73     1.02     85.03      0.62   406.09 AMPS  398.12 AMPS   09sprpk-catb-after 105

34418 "KINGSBRG" 115 30  34420 "CORCORAN" 115 30  "2 "   0.71     0.97     81.04      1.35   386.72 AMPS  398.12 AMPS   09sprpk-catb-before 104
34418 "KINGSBRG" 115 30  34420 "CORCORAN" 115 30  "2 "   0.76     1.03     85.99      0.57   410.70 AMPS  398.12 AMPS   09sprpk-catb-after 104

34456 "HRDWK TP"  70 30  34576 "KNGLOBUS"  70 30  "1 "   0.28     0.94    -40.69    -11.41   355.61 AMPS  377.75 AMPS   09sprpk-catb-before 128
34456 "HRDWK TP"  70 30  34576 "KNGLOBUS"  70 30  "1 "   0.30     0.94    -40.70    -11.42   356.20 AMPS  377.75 AMPS   09sprpk-catb-after 128

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34473 "SNJQTP  "  70 30  34474 "HELM    "  70 30  "1 "   0.81     0.93    -40.52     24.51   353.42 AMPS  379.40 AMPS   09sprpk-catb-after  10

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34473 "SNJQTP  "  70 30  34474 "HELM    "  70 30  "1 "   0.81     0.91    -39.24     24.12   343.39 AMPS  379.40 AMPS   09sprpk-catb-after 315
```

```
--------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=1=1=1=1=1=1=
34473 "SNJQTP  "   70 30  34475 "AGRCJCT "   70 30  "1 "    0.81    0.93    -40.82    23.90   353.65 AMPS  379.40 AMPS   09sprpk-catb-after  10

=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=1=1=1=1=1=1=
34473 "SNJQTP  "   70 30  34475 "AGRCJCT "   70 30  "1 "    0.81    0.91    -39.53    23.55   343.63 AMPS  379.40 AMPS   09sprpk-catb-after 315

34475 "AGRCJCT "   70 30  34484 "KERMAN  "   70 30  "1 "    0.64    1.09     49.07    22.71   413.22 AMPS  379.40 AMPS   09sprpk-catb-before 154
34475 "AGRCJCT "   70 30  34484 "KERMAN  "   70 30  "1 "    0.56    1.06     46.91    23.59   401.62 AMPS  379.40 AMPS   09sprpk-catb-after 154

34518 "LEMOORE "   70 30  34522 "HNFRD SW"   70 30  "1 "    0.14    1.01    -30.22    -6.89   283.23 AMPS  280.43 AMPS   09sprpk-catb-before 128
34518 "LEMOORE "   70 30  34522 "HNFRD SW"   70 30  "1 "    0.16    1.01    -30.22    -6.89   283.72 AMPS  280.43 AMPS   09sprpk-catb-after 128
```

--------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 #
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.75	1.06	-159.32	10.21	159.65 MVA	150.00 MVA	09sprpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.79	1.16	-173.17	10.63	173.50 MVA	150.00 MVA	09sprpk-catc-after	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.75	1.06	-79.67	5.11	79.83 MVA	75.00 MVA	09sprpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.79	1.16	-86.60	5.32	86.76 MVA	75.00 MVA	09sprpk-catc-after	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.75	1.06	-79.67	5.11	79.83 MVA	75.00 MVA	09sprpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.79	1.16	-86.60	5.32	86.76 MVA	75.00 MVA	09sprpk-catc-after	23
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.42	1.39	490.92	22.78	1183.17 AMPS	849.96 AMPS	09sprpk-catc-before	31
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.41	1.14	402.85	20.24	969.93 AMPS	849.96 AMPS	09sprpk-catc-after	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.30	1.29	453.09	6.59	1098.38 AMPS	849.96 AMPS	09sprpk-catc-before	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.30	1.04	365.94	9.64	885.35 AMPS	849.96 AMPS	09sprpk-catc-after	31
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.13	1.25	96.44	-36.06	497.30 AMPS	396.61 AMPS	09sprpk-catc-before	10
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.12	1.25	96.43	-36.11	497.62 AMPS	396.61 AMPS	09sprpk-catc-after	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.50	1.66	123.89	-57.61	659.75 AMPS	396.61 AMPS	09sprpk-catc-before	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.53	1.66	123.87	-57.41	659.67 AMPS	396.61 AMPS	09sprpk-catc-after	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.13	1.25	-96.45	36.05	497.29 AMPS	396.61 AMPS	09sprpk-catc-before	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.12	1.25	-96.43	36.11	497.62 AMPS	396.61 AMPS	09sprpk-catc-after	10
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.14	1.33	-126.89	-33.12	678.57 AMPS	512.08 AMPS	09sprpk-catc-before	2
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.15	1.33	-126.89	-33.13	679.47 AMPS	512.08 AMPS	09sprpk-catc-after	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.29	1.10	-151.74	-49.05	814.50 AMPS	738.00 AMPS	09sprpk-catc-before	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.29	1.11	-151.74	-49.07	815.59 AMPS	738.00 AMPS	09sprpk-catc-after	2
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.55	1.14	108.32	-54.74	584.25 AMPS	512.08 AMPS	09sprpk-catc-before	10
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.54	1.11	105.12	-53.94	569.19 AMPS	512.08 AMPS	09sprpk-catc-after	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.03	1.32	-104.61	28.77	522.73 AMPS	396.61 AMPS	09sprpk-catc-before	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.05	1.32	-104.59	28.83	523.06 AMPS	396.61 AMPS	09sprpk-catc-after	10
34123	"K1-JCT "	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.26	0.91	-146.80	6.73	675.94 AMPS	743.03 AMPS	09sprpk-catc-before	10
34123	"K1-JCT "	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.27	0.91	-146.80	6.76	676.36 AMPS	743.03 AMPS	09sprpk-catc-after	10
34123	"K1-JCT "	115 30	34358	"KERCKHF2"	115 30	"2 "	0.26	0.91	-148.37	6.77	676.11 AMPS	743.03 AMPS	09sprpk-catc-before	10
34123	"K1-JCT "	115 30	34358	"KERCKHF2"	115 30	"2 "	0.27	0.91	-148.38	6.79	676.53 AMPS	743.03 AMPS	09sprpk-catc-after	10
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.39	1.03	95.15	39.59	486.29 AMPS	471.92 AMPS	09sprpk-catc-before	2
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.39	1.03	94.78	39.77	485.56 AMPS	471.92 AMPS	09sprpk-catc-after	2
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.35	0.93	84.74	37.76	437.79 AMPS	471.92 AMPS	09sprpk-catc-before	2
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.35	0.93	84.40	37.93	437.10 AMPS	471.92 AMPS	09sprpk-catc-after	2

--------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=														
34237	"CANANDGA"	70 30	34240	"GLASS "	70 30	"1 "	0.66	1.04	49.46	-4.81	393.39 AMPS	379.40 AMPS	09sprpk-catc-after	33
=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=														
34237	"CANANDGA"	70 30	34240	"GLASS "	70 30	"1 "	0.66	0.98	47.27	-2.61	372.73 AMPS	379.40 AMPS	09sprpk-catc-after	36
=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=														
34237	"CANANDGA"	70 30	34255	"TRIGO J "	70 30	"1 "	0.53	0.94	43.89	-9.03	355.01 AMPS	379.40 AMPS	09sprpk-catc-after	33
=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=														
34240	"GLASS "	70 30	34252	"MADERA "	70 30	"1 "	0.87	1.22	-58.16	0.11	460.42 AMPS	376.93 AMPS	09sprpk-catc-after	33
=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=														
34240	"GLASS "	70 30	34252	"MADERA "	70 30	"1 "	0.87	1.17	-55.97	-2.09	440.96 AMPS	376.93 AMPS	09sprpk-catc-after	36
=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=														
34473	"SNJQTP "	70 30	34474	"HELM "	70 30	"1 "	0.81	0.91	-39.07	24.52	343.41 AMPS	379.40 AMPS	09sprpk-catc-after	26
34473	"SNJQTP "	70 30	34474	"HELM "	70 30	"1 "	0.70	0.91	-39.59	23.69	344.89 AMPS	379.40 AMPS	09sprpk-catc-before	28
34473	"SNJQTP "	70 30	34474	"HELM "	70 30	"1 "	0.81	1.10	-48.48	27.13	416.71 AMPS	379.40 AMPS	09sprpk-catc-after	28
=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=														
34473	"SNJQTP "	70 30	34475	"AGRCJCT "	70 30	"1 "	0.81	0.91	-39.35	23.95	343.65 AMPS	379.40 AMPS	09sprpk-catc-after	26
34473	"SNJQTP "	70 30	34475	"AGRCJCT "	70 30	"1 "	0.70	0.91	-39.88	23.11	345.12 AMPS	379.40 AMPS	09sprpk-catc-before	28
34473	"SNJQTP "	70 30	34475	"AGRCJCT "	70 30	"1 "	0.81	1.10	-48.90	26.25	416.93 AMPS	379.40 AMPS	09sprpk-catc-after	28
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.64	1.03	52.00	1.17	388.94 AMPS	379.40 AMPS	09sprpk-catc-before	30
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.56	0.92	46.94	2.06	350.76 AMPS	379.40 AMPS	09sprpk-catc-after	30
34480	"KEARNEY "	70 30	34512	"CARUTHRS"	70 30	"1 "	0.64	0.96	37.08	2.81	285.60 AMPS	296.92 AMPS	09sprpk-catc-before	13
34480	"KEARNEY "	70 30	34512	"CARUTHRS"	70 30	"1 "	0.69	1.03	39.67	2.17	304.94 AMPS	296.92 AMPS	09sprpk-catc-after	13

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR 2008 SUMMER PEAK **NORMAL** OPERATING CONDITIONS
ALTERNATIVE 1 – PROJECT GENERATION REDUCTION – 98.0 MW

--------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 "		1549	-201	0.93	1679 AMPS	1800.18 AMPS	bullardec-08sumpk-catb-before
30005	"ROUND MT"	500 30	40687	"MALIN "	500 40	"2 "		1550	-200	0.93	1680 AMPS	1800.18 AMPS	bullardec-08sumpk-catb-after-alt1
30300	"TBL MT D"	230 30	30330	"RIO OSO "	230 30	"1 "		302	49	0.90	744 AMPS	825.86 AMPS	bullardec-08sumpk-catb-before
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=													
30335	"ATLANTC "	230 30	32412	"ATLANTIC"	60 30	"1 "		145	15	1.04**	146 MVA	139.50 MVA	bullardec-08sumpk-catb-before
30335	"ATLANTC "	230 30	32412	"ATLANTIC"	60 30	"1 "		145	15	1.04**	146 MVA	139.50 MVA	bullardec-08sumpk-catb-after-alt1
30705	"MONTAVIS"	230 30	35455	"MNTA VSA"	60 30	"5 "		115	58	0.96	129 MVA	134.40 MVA	bullardec-08sumpk-catb-before
30705	"MONTAVIS"	230 30	35455	"MNTA VSA"	60 30	"5 "		115	59	0.96	129 MVA	134.40 MVA	bullardec-08sumpk-catb-after-alt1
31468	"CASCADE "	115 30	45087	"DELTA "	115 40	"1 "		84	-21	1.01	422 AMPS	416.70 AMPS	bullardec-08sumpk-catb-before
31468	"CASCADE "	115 30	45087	"DELTA "	115 40	"1 "		84	-21	1.01	422 AMPS	416.70 AMPS	bullardec-08sumpk-catb-after-alt1
31482	"PALERMO "	115 30	32280	"E.MRY J2"	115 30	"1 "		65	-16	0.91	324 AMPS	356.45 AMPS	bullardec-08sumpk-catb-before
31482	"PALERMO "	115 30	32280	"E.MRY J2"	115 30	"1 "		65	-16	0.91	324 AMPS	356.45 AMPS	bullardec-08sumpk-catb-after-alt1
31998	"VACA-DIX"	115 30	32088	"VACA-DXN"	60 30	"5 "		72	16	0.92	74 MVA	80.00 MVA	bullardec-08sumpk-catb-before
31998	"VACA-DIX"	115 30	32088	"VACA-DXN"	60 30	"5 "		72	16	0.92	74 MVA	80.00 MVA	bullardec-08sumpk-catb-after-alt1
33912	"SPRNG GJ"	115 30	33914	"MI-WUK "	115 30	"1 "		97	12	0.92	450 AMPS	491.00 AMPS	bullardec-08sumpk-catb-before
33912	"SPRNG GJ"	115 30	33914	"MI-WUK "	115 30	"1 "		97	12	0.92	450 AMPS	491.00 AMPS	bullardec-08sumpk-catb-after-alt1
34204	"LIVNGSTN"	70 30	34212	"LVNGSTNT"	70 30	"1 "		-18	-4	0.91	167 AMPS	183.10 AMPS	bullardec-08sumpk-catb-before
34204	"LIVNGSTN"	70 30	34212	"LVNGSTNT"	70 30	"1 "		-18	-4	0.91	167 AMPS	183.10 AMPS	bullardec-08sumpk-catb-after-alt1
35647	"GILROY "	115 30	35660	"GILROYTP"	115 30	"1 "		-118	-20	0.92	581 AMPS	632.58 AMPS	bullardec-08sumpk-catb-before
35647	"GILROY "	115 30	35660	"GILROYTP"	115 30	"1 "		-118	-20	0.92	581 AMPS	632.58 AMPS	bullardec-08sumpk-catb-after-alt1
37014	"POCKET "	230 30	37117	"POCKET 2"	69 30	"2 "		196	48	0.90**	202 MVA	224.00 MVA	bullardec-08sumpk-catb-before
37014	"POCKET "	230 30	37117	"POCKET 2"	69 30	"2 "		196	48	0.90**	202 MVA	224.00 MVA	bullardec-08sumpk-catb-after-alt1
37558	"KESWICK "	230 30	37641	"SPRINGCR"	230 30	"2 "		-179	-47	0.90**	450 AMPS	500.04 AMPS	bullardec-08sumpk-catb-before
37558	"KESWICK "	230 30	37641	"SPRINGCR"	230 30	"2 "		-179	-47	0.90**	450 AMPS	500.04 AMPS	bullardec-08sumpk-catb-after-alt1

APPENDIX C - STEADY STATE POWER FLOW RESULTS

AUTCON OUTPUT FILES FOR **ISO CATEGORY B** 2008 SUMMER PEAK OPERATING CONDITIONS

ALTERNATIVE 1 – PROJECT GENERATION REDUCTION – 98.0 MW

--------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=																
30300	"TBL MT D"	230	30	30330	"RIO OSO "	230	30	"1 "	0.90	0.90	302.12	49.50	744.14 AMPS	825.86 AMPS	08sumpk-catb-after-alt1	202
=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=																
30300	"TBL MT D"	230	30	30330	"RIO OSO "	230	30	"1 "	0.90	0.90	302.22	49.58	744.45 AMPS	825.86 AMPS	08sumpk-catb-after-alt1	214
=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=																
30300	"TBL MT D"	230	30	30330	"RIO OSO "	230	30	"1 "	0.90	0.90	302.29	49.52	744.52 AMPS	825.86 AMPS	08sumpk-catb-after-alt1	223
=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=																
30300	"TBL MT D"	230	30	30330	"RIO OSO "	230	30	"1 "	0.90	0.91	305.06	49.85	751.10 AMPS	825.86 AMPS	08sumpk-catb-after-alt1	230
=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=																
30300	"TBL MT D"	230	30	30330	"RIO OSO "	230	30	"1 "	0.90	0.91	305.06	49.85	751.10 AMPS	825.86 AMPS	08sumpk-catb-after-alt1	231
=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=																
30300	"TBL MT D"	230	30	30330	"RIO OSO "	230	30	"1 "	0.90	0.91	305.06	49.85	751.10 AMPS	825.86 AMPS	08sumpk-catb-after-alt1	232
34390	"DANISHCM"	115	30	34402	"CAL AVE "	115	30	"1 "	0.12	0.94	-89.99	-26.42	480.16 AMPS	512.08 AMPS	08sumpk-catb-before	91
34390	"DANISHCM"	115	30	34402	"CAL AVE "	115	30	"1 "	0.12	0.94	-89.98	-26.41	479.89 AMPS	512.08 AMPS	08sumpk-catb-after-alt1	91
34409	"PNDLJ2 "	115	30	34412	"HERNDON "	115	30	"1 "	0.67	1.12	166.86	42.02	829.72 AMPS	743.03 AMPS	08sumpk-catb-before	101
34409	"PNDLJ2 "	115	30	34412	"HERNDON "	115	30	"1 "	0.67	1.11	166.85	41.93	828.24 AMPS	743.03 AMPS	08sumpk-catb-after-alt1	101
34409	"PNDLJ2 "	115	30	34416	"BULLARD "	115	30	"1 "	0.50	0.97	142.77	27.05	719.52 AMPS	743.03 AMPS	08sumpk-catb-before	101
34409	"PNDLJ2 "	115	30	34416	"BULLARD "	115	30	"1 "	0.50	0.97	142.77	27.00	718.23 AMPS	743.03 AMPS	08sumpk-catb-after-alt1	101
34411	"PNDLJ1 "	115	30	34412	"HERNDON "	115	30	"1 "	0.61	1.12	166.86	42.02	829.72 AMPS	743.03 AMPS	08sumpk-catb-before	99
34411	"PNDLJ1 "	115	30	34412	"HERNDON "	115	30	"1 "	0.61	1.11	166.85	41.93	828.24 AMPS	743.03 AMPS	08sumpk-catb-after-alt1	99
34411	"PNDLJ1 "	115	30	34416	"BULLARD "	115	30	"1 "	0.61	0.97	142.77	27.05	719.52 AMPS	743.03 AMPS	08sumpk-catb-before	99
34411	"PNDLJ1 "	115	30	34416	"BULLARD "	115	30	"1 "	0.61	0.97	142.77	27.00	718.23 AMPS	743.03 AMPS	08sumpk-catb-after-alt1	99
34420	"CORCORAN"	115	30	34528	"CORCORAN"	70	30	"2 "	0.79	1.09	35.36	10.58	36.91 MVA	33.80 MVA	08sumpk-catb-before	110
34420	"CORCORAN"	115	30	34528	"CORCORAN"	70	30	"2 "	0.79	1.09	35.36	10.58	36.91 MVA	33.80 MVA	08sumpk-catb-after-alt1	110
34478	"TVY VLLY"	70	30	34492	"REEDLEY "	70	30	"1 "	0.07	0.92	-34.29	-12.79	326.93 AMPS	354.66 AMPS	08sumpk-catb-before	339
34478	"TVY VLLY"	70	30	34492	"REEDLEY "	70	30	"1 "	0.05	0.92	-34.28	-12.78	326.64 AMPS	354.66 AMPS	08sumpk-catb-after-alt1	339
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.84	0.95	-326.02	-16.00	809.71 AMPS	849.96 AMPS	08sumpk-catb-before	140
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.86	0.95	-326.02	-16.17	809.81 AMPS	849.96 AMPS	08sumpk-catb-after-alt1	140
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.84	0.95	-326.03	-14.75	809.03 AMPS	849.96 AMPS	08sumpk-catb-before	289
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.86	0.95	-326.03	-14.74	809.03 AMPS	849.96 AMPS	08sumpk-catb-after-alt1	289
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.84	0.95	-326.02	-15.76	809.58 AMPS	849.96 AMPS	08sumpk-catb-before	307

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR **ISO CATEGORY B** 2008 SUMMER PEAK OPERATING CONDITIONS
ALTERNATIVE 1 – PROJECT GENERATION REDUCTION – 98.0 MW

--------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 #
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.86	0.95	-326.02	-15.82	809.62 AMPS	849.96 AMPS	08sumpk-catb-after-alt1	307
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.84	0.95	-326.02	-16.27	809.86 AMPS	849.96 AMPS	08sumpk-catb-before	323
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.86	0.95	-326.02	-16.36	809.91 AMPS	849.96 AMPS	08sumpk-catb-after-alt1	323
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.84	0.95	-326.02	-16.00	809.71 AMPS	849.96 AMPS	08sumpk-catb-before	357
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.86	0.95	-326.02	-16.00	809.72 AMPS	849.96 AMPS	08sumpk-catb-after-alt1	357

--------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 #
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.49	0.99	147.67	14.12	148.34 MVA	150.00 MVA	08sumpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.51	1.03	154.24	14.81	154.95 MVA	150.00 MVA	08sumpk-catc-after-alt1	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.49	0.99	73.84	7.06	74.18 MVA	75.00 MVA	08sumpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.51	1.03	77.13	7.41	77.48 MVA	75.00 MVA	08sumpk-catc-after-alt1	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.49	0.99	73.84	7.06	74.18 MVA	75.00 MVA	08sumpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.51	1.03	77.13	7.41	77.48 MVA	75.00 MVA	08sumpk-catc-after-alt1	23
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.26	0.94	331.06	28.01	800.72 AMPS	850.96 AMPS	08sumpk-catc-before	22
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.23	0.94	331.06	26.83	800.32 AMPS	850.96 AMPS	08sumpk-catc-after-alt1	22
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.26	0.94	331.06	26.42	800.19 AMPS	850.96 AMPS	08sumpk-catc-before	23
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.23	0.94	331.06	25.92	800.03 AMPS	850.96 AMPS	08sumpk-catc-after-alt1	23
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.49	1.33	465.78	60.48	1134.36 AMPS	849.96 AMPS	08sumpk-catc-before	31
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.48	1.21	423.17	48.42	1025.64 AMPS	849.96 AMPS	08sumpk-catc-after-alt1	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.35	1.21	419.94	43.68	1029.18 AMPS	849.96 AMPS	08sumpk-catc-before	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.34	1.08	377.80	34.53	920.83 AMPS	849.96 AMPS	08sumpk-catc-after-alt1	31
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.15	0.90	69.82	-25.28	358.36 AMPS	396.61 AMPS	08sumpk-catc-before	10
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.15	0.90	69.83	-25.25	358.19 AMPS	396.61 AMPS	08sumpk-catc-after-alt1	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.50	1.28	93.57	-47.89	507.19 AMPS	396.61 AMPS	08sumpk-catc-before	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.52	1.28	93.57	-48.04	507.33 AMPS	396.61 AMPS	08sumpk-catc-after-alt1	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.15	0.90	-69.82	25.27	358.36 AMPS	396.61 AMPS	08sumpk-catc-before	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.15	0.90	-69.83	25.24	358.19 AMPS	396.61 AMPS	08sumpk-catc-after-alt1	10
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.19	1.73	-158.86	-42.16	886.14 AMPS	512.08 AMPS	08sumpk-catc-before	2
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.19	1.73	-158.86	-42.15	885.24 AMPS	512.08 AMPS	08sumpk-catc-after-alt1	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.35	1.41	-187.25	-60.93	1042.86 AMPS	738.00 AMPS	08sumpk-catc-before	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.35	1.41	-187.24	-60.90	1041.79 AMPS	738.00 AMPS	08sumpk-catc-after-alt1	2
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.69	1.07	101.41	-51.38	546.29 AMPS	512.08 AMPS	08sumpk-catc-before	10
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.68	1.05	99.71	-51.28	538.56 AMPS	512.08 AMPS	08sumpk-catc-after-alt1	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.08	0.97	-77.29	19.57	384.08 AMPS	396.61 AMPS	08sumpk-catc-before	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.09	0.97	-77.30	19.55	383.92 AMPS	396.61 AMPS	08sumpk-catc-after-alt1	10
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.35	122.80	54.06	638.57 AMPS	471.92 AMPS	08sumpk-catc-before	2
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.35	122.82	54.03	638.12 AMPS	471.92 AMPS	08sumpk-catc-after-alt1	2
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.17	111.17	34.25	553.17 AMPS	471.92 AMPS	08sumpk-catc-before	54

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR **ISO CATEGORY C** 2008 SUMMER PEAK OPERATING CONDITIONS
ALTERNATIVE 1 – PROJECT GENERATION REDUCTION – 98.0 MW

--------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 #
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.17	111.23	34.24	553.12 AMPS	471.92 AMPS	08sumpk-catc-after-alt1	54
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.45	1.22	109.36	51.22	574.80 AMPS	471.92 AMPS	08sumpk-catc-before	2
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.45	1.22	109.38	51.19	574.38 AMPS	471.92 AMPS	08sumpk-catc-after-alt1	2
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.45	0.99	90.82	31.05	469.35 AMPS	471.92 AMPS	08sumpk-catc-before	53
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.45	0.99	90.95	31.04	469.48 AMPS	471.92 AMPS	08sumpk-catc-after-alt1	53
34390	"DANISHCM"	115 30	34402	"CAL AVE "	115 30	"1 "	0.12	0.95	-89.99	-26.52	484.79 AMPS	512.08 AMPS	08sumpk-catc-before	58
34390	"DANISHCM"	115 30	34402	"CAL AVE "	115 30	"1 "	0.12	0.95	-90.00	-26.51	484.38 AMPS	512.08 AMPS	08sumpk-catc-after-alt1	58
34390	"DANISHCM"	115 30	34407	"WFRES J2"	115 30	"1 "	0.07	0.90	-86.12	-23.20	461.03 AMPS	512.08 AMPS	08sumpk-catc-before	58
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34409	"PNDLJ2 "	115 30	34412	"HERNDON "	115 30	"1 "	0.67	1.11	166.84	41.63	828.10 AMPS	743.03 AMPS	08sumpk-catc-before	61
34409	"PNDLJ2 "	115 30	34412	"HERNDON "	115 30	"1 "	0.67	1.11	166.83	41.54	826.58 AMPS	743.03 AMPS	08sumpk-catc-after-alt1	61
34409	"PNDLJ2 "	115 30	34416	"BULLARD "	115 30	"1 "	0.50	0.97	142.77	26.70	718.08 AMPS	743.03 AMPS	08sumpk-catc-before	61
34409	"PNDLJ2 "	115 30	34416	"BULLARD "	115 30	"1 "	0.50	0.96	142.77	26.65	716.76 AMPS	743.03 AMPS	08sumpk-catc-after-alt1	61
34411	"PNDLJ1 "	115 30	34412	"HERNDON "	115 30	"1 "	0.61	1.12	167.18	43.31	833.64 AMPS	743.03 AMPS	08sumpk-catc-before	62
34411	"PNDLJ1 "	115 30	34412	"HERNDON "	115 30	"1 "	0.61	1.12	167.17	43.27	832.93 AMPS	743.03 AMPS	08sumpk-catc-after-alt1	62
34411	"PNDLJ1 "	115 30	34416	"BULLARD "	115 30	"1 "	0.61	1.12	164.92	33.21	834.36 AMPS	743.03 AMPS	08sumpk-catc-before	62
34411	"PNDLJ1 "	115 30	34416	"BULLARD "	115 30	"1 "	0.61	1.12	164.92	33.19	833.65 AMPS	743.03 AMPS	08sumpk-catc-after-alt1	62
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.84	0.95	-326.02	-15.73	809.56 AMPS	849.96 AMPS	08sumpk-catc-before	24
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.86	0.95	-326.02	-15.93	809.68 AMPS	849.96 AMPS	08sumpk-catc-after-alt1	24

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR 2008 SUMMER OFF-PEAK **NORMAL** OPERATING CONDITIONS
ALTERNATIVE 1 – PROJECT GENERATION REDUCTION – 98.0 MW

--------FROM BUS--------				----------TO BUS----------					---BASE---		LOADING			
Bus #	NAME	KV	AREA	Bus #	NAME	KV	AREA	ID	MW	MVAR	P.U.	FLOW	RATING	------CASE------
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	-564	178	0.97	1437 AMPS	1483.54 AMPS	bullardec-08sumop-catb-before
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	-575	181	0.99	1467 AMPS	1483.54 AMPS	bullardec-08sumop-catb-after-alt1
30735	"METCALF "	230	30	30750	"MOSSLND2"	230	30	"1 "	-329	57	0.92	819 AMPS	890.87 AMPS	bullardec-08sumop-catb-before
30735	"METCALF "	230	30	30750	"MOSSLND2"	230	30	"1 "	-332	58	0.93	828 AMPS	890.87 AMPS	bullardec-08sumop-catb-after-alt1
30735	"METCALF "	230	30	30755	"MOSSLND1"	230	30	"1 "	-329	57	0.92	819 AMPS	890.87 AMPS	bullardec-08sumop-catb-before
30735	"METCALF "	230	30	30755	"MOSSLND1"	230	30	"1 "	-332	58	0.93	828 AMPS	890.87 AMPS	bullardec-08sumop-catb-after-alt1
31260	"MNDCNO M"	115	30	31300	"MENDOCNO"	60	30	"1 "	-6	-75	0.93	75 MVA	80.00 MVA	bullardec-08sumop-catb-before
31260	"MNDCNO M"	115	30	31300	"MENDOCNO"	60	30	"1 "	-6	-75	0.93	75 MVA	80.00 MVA	bullardec-08sumop-catb-after-alt1
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	4	0.94**	95 AMPS	101.04 AMPS	bullardec-08sumop-catb-before
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	4	0.94**	95 AMPS	101.04 AMPS	bullardec-08sumop-catb-after-alt1
34473	"SNJQTP "	70	30	34474	"HELM "	70	30	"1 "	-39	16	0.98	314 AMPS	321.67 AMPS	bullardec-08sumop-catb-before
34473	"SNJQTP "	70	30	34474	"HELM "	70	30	"1 "	-39	16	0.98	315 AMPS	321.67 AMPS	bullardec-08sumop-catb-after-alt1
34473	"SNJQTP "	70	30	34475	"AGRCJCT "	70	30	"1 "	-39	15	0.98	314 AMPS	321.67 AMPS	bullardec-08sumop-catb-before
34473	"SNJQTP "	70	30	34475	"AGRCJCT "	70	30	"1 "	-39	16	0.98	315 AMPS	321.67 AMPS	bullardec-08sumop-catb-after-alt1

AUTCON OUTPUT FILES FOR **ISO CATEGORY B** 2008 SUMMER OFF-PEAK OPERATING CONDITIONS

ALTERNATIVE 1 – PROJECT GENERATION REDUCTION – 98.0 MW

--------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 #
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.93	-619.38	198.26	1585.40 AMPS	1699.42 AMPS	08sumop-catb-before	10
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.95	-627.61	201.19	1607.60 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	10
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.93	-614.97	196.21	1573.24 AMPS	1699.42 AMPS	08sumop-catb-before	11
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.39	188.96	1535.48 AMPS	1699.42 AMPS	08sumop-catb-before	150
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.92	-612.59	192.14	1564.75 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	150
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.39	188.96	1535.49 AMPS	1699.42 AMPS	08sumop-catb-before	151
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.92	-612.59	192.15	1564.75 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	151
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.24	188.20	1534.11 AMPS	1699.42 AMPS	08sumop-catb-before	19
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.92	-612.16	193.00	1564.77 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	19
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.24	188.20	1534.12 AMPS	1699.42 AMPS	08sumop-catb-before	20
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.92	-612.16	193.00	1564.77 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	20
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-604.57	196.16	1550.08 AMPS	1699.42 AMPS	08sumop-catb-before	24
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.93	-615.74	198.87	1578.72 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	24
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.31	191.67	1549.21 AMPS	1699.42 AMPS	08sumop-catb-before	260
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.93	-617.27	194.78	1577.86 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	260
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-602.19	189.29	1537.68 AMPS	1699.42 AMPS	08sumop-catb-before	261
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.92	-613.39	192.48	1566.94 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	261
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.91	-608.39	190.23	1552.79 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	262
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.92	-609.96	192.20	1558.88 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	263
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.91	-609.48	189.21	1554.96 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	264
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.90	-597.74	191.92	1530.47 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	268
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.81	193.73	1552.46 AMPS	1699.42 AMPS	08sumop-catb-before	269
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.93	-619.04	197.22	1584.41 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	269
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.91	-606.76	193.49	1552.57 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	270
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.82	189.64	1537.51 AMPS	1699.42 AMPS	08sumop-catb-before	272
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.92	-613.94	193.07	1569.07 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	272

ALTERNATIVE 1 – PROJECT GENERATION REDUCTION – 98.0 MW

--------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 #
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.27	190.81	1548.96 AMPS	1699.42 AMPS	08sumop-catb-before	273
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.93	-618.72	194.39	1581.54 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	273
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.08	190.45	1547.99 AMPS	1699.42 AMPS	08sumop-catb-before	274
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.93	-618.24	194.06	1579.92 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	274
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.92	-610.44	195.96	1561.02 AMPS	1699.42 AMPS	08sumop-catb-before	275
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.94	-625.56	200.33	1600.50 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	275
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.35	188.98	1535.41 AMPS	1699.42 AMPS	08sumop-catb-before	276
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.92	-612.55	192.17	1564.68 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	276
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-602.27	188.16	1536.55 AMPS	1699.42 AMPS	08sumop-catb-before	277
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.92	-613.48	191.38	1565.85 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	277
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-602.20	189.49	1537.81 AMPS	1699.42 AMPS	08sumop-catb-before	278
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.92	-613.37	192.65	1566.99 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	278
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.94	-623.18	199.16	1595.43 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	293
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.95	-634.13	200.37	1621.82 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	294
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-604.57	196.16	1550.08 AMPS	1699.42 AMPS	08sumop-catb-before	295
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.91	-604.15	196.23	1549.17 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	295
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.93	-619.38	198.26	1585.40 AMPS	1699.42 AMPS	08sumop-catb-before	296
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.99	0.93	-618.97	198.16	1584.37 AMPS	1699.42 AMPS	08sumop-catb-after-alt1	296
34116	"LE GRAND"	115	30	34154	"DAIRYLND"	115	30	"1 "	0.78	0.91	-59.69	26.44	310.22 AMPS	340.89 AMPS	08sumop-catb-before	214
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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 "	0.99	0.91	-604.72	196.62	1551.24 AMPS	1699.42 AMPS	08sumop-catc-after-alt1	25
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.97	-638.53	210.32	1641.98 AMPS	1699.42 AMPS	08sumop-catc-before	26
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.99	0.98	-645.19	212.69	1659.76 AMPS	1699.42 AMPS	08sumop-catc-after-alt1	26
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.93	-618.81	196.05	1582.07 AMPS	1699.42 AMPS	08sumop-catc-before	27
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.99	0.94	-625.91	198.78	1601.48 AMPS	1699.42 AMPS	08sumop-catc-after-alt1	27
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.93	-620.55	198.97	1588.75 AMPS	1699.42 AMPS	08sumop-catc-before	28
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.99	0.95	-627.47	201.58	1607.66 AMPS	1699.42 AMPS	08sumop-catc-after-alt1	28
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.96	-637.17	202.03	1632.82 AMPS	1699.42 AMPS	08sumop-catc-before	30
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.99	0.98	-647.96	205.50	1661.77 AMPS	1699.42 AMPS	08sumop-catc-after-alt1	30
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.90	-601.35	189.25	1535.71 AMPS	1699.42 AMPS	08sumop-catc-before	32
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.99	0.95	-634.13	200.46	1621.96 AMPS	1699.42 AMPS	08sumop-catc-after-alt1	32
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.90	-601.35	189.25	1535.71 AMPS	1699.42 AMPS	08sumop-catc-before	33
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.99	0.94	-623.18	199.23	1595.54 AMPS	1699.42 AMPS	08sumop-catc-after-alt1	33
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.91	-604.57	196.16	1550.08 AMPS	1699.42 AMPS	08sumop-catc-before	35
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.99	0.99	-653.07	212.39	1677.83 AMPS	1699.42 AMPS	08sumop-catc-after-alt1	35
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.91	-604.57	196.16	1550.08 AMPS	1699.42 AMPS	08sumop-catc-before	36
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.99	0.97	-640.45	210.86	1647.51 AMPS	1699.42 AMPS	08sumop-catc-after-alt1	36
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30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.99	0.91	-604.77	196.32	1550.70 AMPS	1699.42 AMPS	08sumop-catc-after-alt1	37
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.91	-604.66	196.01	1550.15 AMPS	1699.42 AMPS	08sumop-catc-before	38
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.99	0.93	-615.84	198.61	1578.69 AMPS	1699.42 AMPS	08sumop-catc-after-alt1	38
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30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.99	0.91	-606.56	190.72	1547.52 AMPS	1699.42 AMPS	08sumop-catc-after-alt1	45
34116	"LE GRAND"	115 30	34154	"DAIRYLND"	115 30	"1 "	0.78	0.95	-72.62	31.49	379.03 AMPS	398.12 AMPS	08sumop-catc-before	26
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34116	"LE GRAND"	115 30	34154	"DAIRYLND"	115 30	"1 "	0.75	0.95	-72.66	31.59	378.93 AMPS	398.12 AMPS	08sumop-catc-after-alt1	35
34366	"SANGER "	115 30	34370	"MC CALL "	115 30	"2 "	0.48	1.21	-281.55	-10.94	1355.84 AMPS	1124.58 AMPS	08sumop-catc-before	59
34366	"SANGER "	115 30	34370	"MC CALL "	115 30	"2 "	0.46	1.16	-272.26	-9.60	1307.40 AMPS	1124.58 AMPS	08sumop-catc-after-alt1	59
34366	"SANGER "	115 30	34370	"MC CALL "	115 30	"3 "	0.76	1.22	-247.58	-2.10	1188.32 AMPS	973.97 AMPS	08sumop-catc-before	14

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR **ISO CATEGORY C** 2008 SUMMER OFF-PEAK OPERATING CONDITIONS
ALTERNATIVE 1 – PROJECT GENERATION REDUCTION – 98.0 MW

--------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 #
34366	"SANGER "	115	30	34370	"MC CALL "	115	30	"3 "	0.74	1.17	-238.78	-0.81	1143.17 AMPS	973.97 AMPS	08sumop-catc-after-alt1	14
34366	"SANGER "	115	30	34370	"MC CALL "	115	30	"3 "	0.76	0.91	-185.68	1.56	885.84 AMPS	973.97 AMPS	08sumop-catc-before	60
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34366	"SANGER "	115	30	34372	"MALAGA "	115	30	"1 "	0.64	1.03	-156.90	19.65	760.90 AMPS	739.01 AMPS	08sumop-catc-before	59
34366	"SANGER "	115	30	34372	"MALAGA "	115	30	"1 "	0.63	1.00	-152.76	20.54	739.73 AMPS	739.01 AMPS	08sumop-catc-after-alt1	59

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR 2009 SPRING PEAK **NORMAL** OPERATING CONDITIONS
ALTERNATIVE 1 – PROJECT GENERATION REDUCTION – 98.0 MW

--------FROM BUS--------				----------TO BUS----------					---BASE---		LOADING			
Bus #	NAME	KV	AREA	Bus #	NAME	KV	AREA	ID	MW	MVAR	P.U.	FLOW	RATING	------CASE------
30015	"TABLE MT"	500	30	30030	"VACA-DIX"	500	30	"1 "	2090	-143	0.91	2259 AMPS	2477.99 AMPS	bullardec-09sprpk-catb-before
30015	"TABLE MT"	500	30	30030	"VACA-DIX"	500	30	"1 "	2094	-142	0.91	2264 AMPS	2477.99 AMPS	bullardec-09sprpk-catb-after-alt1
31468	"CASCADE "	115	30	45087	"DELTA "	115	40	"1 "	81	-28	0.99	414 AMPS	416.70 AMPS	bullardec-09sprpk-catb-before
31468	"CASCADE "	115	30	45087	"DELTA "	115	40	"1 "	81	-28	0.99	414 AMPS	416.70 AMPS	bullardec-09sprpk-catb-after-alt1
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	2	0.91**	92 AMPS	101.04 AMPS	bullardec-09sprpk-catb-before
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	2	0.91**	92 AMPS	101.04 AMPS	bullardec-09sprpk-catb-after-alt1
32369	"COLFAXJT"	60	30	32380	"WEMR SWS"	60	30	"1 "	29	-3	0.98	274 AMPS	279.05 AMPS	bullardec-09sprpk-catb-before
32369	"COLFAXJT"	60	30	32380	"WEMR SWS"	60	30	"1 "	29	-3	0.98	274 AMPS	279.05 AMPS	bullardec-09sprpk-catb-after-alt1
33610	"VLLY SPS"	60	30	33619	"AMFOR_SW"	60	30	"1 "	29	5	0.99	277 AMPS	279.05 AMPS	bullardec-09sprpk-catb-before
33610	"VLLY SPS"	60	30	33619	"AMFOR_SW"	60	30	"1 "	29	5	0.99	277 AMPS	279.05 AMPS	bullardec-09sprpk-catb-after-alt1

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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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34237 "CANANDGA"   70 30  34240 "GLASS   "   70 30  "1 "    0.63    0.91     42.96     7.41   347.14 AMPS  379.40 AMPS   09sprpk-catb-after-alt1 154

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34237 "CANANDGA"   70 30  34240 "GLASS   "   70 30  "1 "    0.63    0.96     45.92    -2.62   363.53 AMPS  379.40 AMPS   09sprpk-catb-after-alt1 346

34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.83    1.08    -51.32    -2.98   406.52 AMPS  376.93 AMPS   09sprpk-catb-before  11
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34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.83    1.09    -49.92   -12.76   410.57 AMPS  376.93 AMPS   09sprpk-catb-before 154
34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.85    1.12    -51.66   -12.11   422.52 AMPS  376.93 AMPS   09sprpk-catb-after-alt1 154

34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.83    0.94    -38.71    -3.17   305.59 AMPS  324.97 AMPS   09sprpk-catb-before 216
34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.85    0.96    -39.77    -2.59   313.28 AMPS  324.97 AMPS   09sprpk-catb-after-alt1 216

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34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.85    0.92    -44.32    -0.82   348.05 AMPS  376.93 AMPS   09sprpk-catb-after-alt1 333

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34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.85    1.15    -54.62    -2.08   432.02 AMPS  376.93 AMPS   09sprpk-catb-after-alt1 346

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34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.85    0.96    -45.62    -2.60   360.50 AMPS  376.93 AMPS   09sprpk-catb-after-alt1 347

34418 "KINGSBRG"  115 30  34420 "CORCORAN"  115 30  "1 "    0.69    0.96     80.14     1.39   382.39 AMPS  398.12 AMPS   09sprpk-catb-before 105
34418 "KINGSBRG"  115 30  34420 "CORCORAN"  115 30  "1 "    0.71    0.99     82.43     1.06   393.42 AMPS  398.12 AMPS   09sprpk-catb-after-alt1 105

34418 "KINGSBRG"  115 30  34420 "CORCORAN"  115 30  "2 "    0.71    0.97     81.04     1.35   386.72 AMPS  398.12 AMPS   09sprpk-catb-before 104
34418 "KINGSBRG"  115 30  34420 "CORCORAN"  115 30  "2 "    0.73    1.00     83.37     1.01   397.88 AMPS  398.12 AMPS   09sprpk-catb-after-alt1 104

34456 "HRDWK TP"   70 30  34576 "KNGLOBUS"   70 30  "1 "    0.28    0.94    -40.69   -11.41   355.61 AMPS  377.75 AMPS   09sprpk-catb-before 128
34456 "HRDWK TP"   70 30  34576 "KNGLOBUS"   70 30  "1 "    0.29    0.94    -40.69   -11.41   355.76 AMPS  377.75 AMPS   09sprpk-catb-after-alt1 128

34475 "AGRCJCT "   70 30  34484 "KERMAN  "   70 30  "1 "    0.64    1.09     49.07    22.71   413.22 AMPS  379.40 AMPS   09sprpk-catb-before 154
34475 "AGRCJCT "   70 30  34484 "KERMAN  "   70 30  "1 "    0.60    1.07     48.04    23.06   407.31 AMPS  379.40 AMPS   09sprpk-catb-after-alt1 154

34518 "LEMOORE "   70 30  34522 "HNFRD SW"   70 30  "1 "    0.14    1.01    -30.22    -6.89   283.23 AMPS  280.43 AMPS   09sprpk-catb-before 128
34518 "LEMOORE "   70 30  34522 "HNFRD SW"   70 30  "1 "    0.15    1.01    -30.22    -6.89   283.36 AMPS  280.43 AMPS   09sprpk-catb-after-alt1 128
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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 #
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.75	1.06	-159.32	10.21	159.65 MVA	150.00 MVA	09sprpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.77	1.11	-165.81	10.24	166.13 MVA	150.00 MVA	09sprpk-catc-after-alt1	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.75	1.06	-79.67	5.11	79.83 MVA	75.00 MVA	09sprpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.77	1.11	-82.92	5.12	83.08 MVA	75.00 MVA	09sprpk-catc-after-alt1	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.75	1.06	-79.67	5.11	79.83 MVA	75.00 MVA	09sprpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.77	1.11	-82.92	5.12	83.08 MVA	75.00 MVA	09sprpk-catc-after-alt1	23
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.42	1.39	490.92	22.78	1183.17 AMPS	849.96 AMPS	09sprpk-catc-before	31
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.41	1.27	449.97	18.47	1082.94 AMPS	849.96 AMPS	09sprpk-catc-after-alt1	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.30	1.29	453.09	6.59	1098.38 AMPS	849.96 AMPS	09sprpk-catc-before	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.30	1.17	412.60	5.06	998.29 AMPS	849.96 AMPS	09sprpk-catc-after-alt1	31
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.13	1.25	96.44	-36.06	497.30 AMPS	396.61 AMPS	09sprpk-catc-before	10
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.12	1.25	96.45	-36.06	497.29 AMPS	396.61 AMPS	09sprpk-catc-after-alt1	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.50	1.66	123.89	-57.61	659.75 AMPS	396.61 AMPS	09sprpk-catc-before	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.52	1.66	123.89	-57.62	659.75 AMPS	396.61 AMPS	09sprpk-catc-after-alt1	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.13	1.25	-96.45	36.05	497.29 AMPS	396.61 AMPS	09sprpk-catc-before	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.12	1.25	-96.45	36.05	497.28 AMPS	396.61 AMPS	09sprpk-catc-after-alt1	10
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.14	1.33	-126.89	-33.12	678.57 AMPS	512.08 AMPS	09sprpk-catc-before	2
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.15	1.32	-126.89	-33.12	678.48 AMPS	512.08 AMPS	09sprpk-catc-after-alt1	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.29	1.10	-151.74	-49.05	814.50 AMPS	738.00 AMPS	09sprpk-catc-before	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.29	1.10	-151.74	-49.04	814.40 AMPS	738.00 AMPS	09sprpk-catc-after-alt1	2
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.55	1.14	108.32	-54.74	584.25 AMPS	512.08 AMPS	09sprpk-catc-before	10
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.55	1.13	106.81	-54.63	577.54 AMPS	512.08 AMPS	09sprpk-catc-after-alt1	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.03	1.32	-104.61	28.77	522.73 AMPS	396.61 AMPS	09sprpk-catc-before	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.04	1.32	-104.61	28.77	522.72 AMPS	396.61 AMPS	09sprpk-catc-after-alt1	10
34123	"K1-JCT "	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.26	0.91	-146.80	6.73	675.94 AMPS	743.03 AMPS	09sprpk-catc-before	10
34123	"K1-JCT "	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.27	0.91	-146.80	6.73	675.92 AMPS	743.03 AMPS	09sprpk-catc-after-alt1	10
34123	"K1-JCT "	115 30	34358	"KERCKHF2"	115 30	"2 "	0.26	0.91	-148.37	6.77	676.11 AMPS	743.03 AMPS	09sprpk-catc-before	10
34123	"K1-JCT "	115 30	34358	"KERCKHF2"	115 30	"2 "	0.27	0.91	-148.38	6.77	676.10 AMPS	743.03 AMPS	09sprpk-catc-after-alt1	10
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.39	1.03	95.15	39.59	486.29 AMPS	471.92 AMPS	09sprpk-catc-before	2
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.39	1.03	94.96	39.66	485.58 AMPS	471.92 AMPS	09sprpk-catc-after-alt1	2

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR **ISO CATEGORY C** 2009 SPRING PEAK OPERATING CONDITIONS
ALTERNATIVE 1 – PROJECT GENERATION REDUCTION – 98.0 MW

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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 #

34136 "WILSON B"  115 30  34144 "MERCED   "  115 30  "2 "    0.35     0.93     84.74     37.76   437.79 AMPS  471.92 AMPS   09sprpk-catc-before    2
34136 "WILSON B"  115 30  34144 "MERCED   "  115 30  "2 "    0.35     0.93     84.57     37.83   437.14 AMPS  471.92 AMPS   09sprpk-catc-after-alt1    2

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34237 "CANANDGA"   70 30  34240 "GLASS    "   70 30  "1 "    0.63     0.96     45.83     -2.76   363.19 AMPS  379.40 AMPS   09sprpk-catc-after-alt1  33

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34240 "GLASS    "   70 30  34252 "MADERA   "   70 30  "1 "    0.85     0.96    -45.53     -2.42   360.04 AMPS  376.93 AMPS   09sprpk-catc-after-alt1  32

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34240 "GLASS    "   70 30  34252 "MADERA   "   70 30  "1 "    0.85     1.15    -54.53     -1.94   431.64 AMPS  376.93 AMPS   09sprpk-catc-after-alt1  33

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34240 "GLASS    "   70 30  34252 "MADERA   "   70 30  "1 "    0.85     1.06    -50.55     -3.99   398.87 AMPS  376.93 AMPS   09sprpk-catc-after-alt1  36

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34240 "GLASS    "   70 30  34252 "MADERA   "   70 30  "1 "    0.85     0.99    -47.46     -1.73   374.80 AMPS  376.93 AMPS   09sprpk-catc-after-alt1  45

34473 "SNJQTP   "   70 30  34474 "HELM     "   70 30  "1 "    0.70     0.91    -39.59     23.69   344.89 AMPS  379.40 AMPS   09sprpk-catc-before   28
34473 "SNJQTP   "   70 30  34474 "HELM     "   70 30  "1 "    0.75     1.00    -43.75     25.12   377.62 AMPS  379.40 AMPS   09sprpk-catc-after-alt1  28

34473 "SNJQTP   "   70 30  34475 "AGRCJCT "   70 30  "1 "    0.70     0.91    -39.88     23.11   345.12 AMPS  379.40 AMPS   09sprpk-catc-before   28
34473 "SNJQTP   "   70 30  34475 "AGRCJCT "   70 30  "1 "    0.75     1.00    -44.10     24.41   377.84 AMPS  379.40 AMPS   09sprpk-catc-after-alt1  28

34475 "AGRCJCT "   70 30  34484 "KERMAN   "   70 30  "1 "    0.64     1.03     52.00      1.17   388.94 AMPS  379.40 AMPS   09sprpk-catc-before   30
34475 "AGRCJCT "   70 30  34484 "KERMAN   "   70 30  "1 "    0.60     0.98     49.67      1.65   371.31 AMPS  379.40 AMPS   09sprpk-catc-after-alt1  30

34480 "KEARNEY "   70 30  34512 "CARUTHRS"   70 30  "1 "    0.64     0.96     37.08      2.81   285.60 AMPS  296.92 AMPS   09sprpk-catc-before   13
34480 "KEARNEY "   70 30  34512 "CARUTHRS"   70 30  "1 "    0.66     0.99     38.29      2.59   294.39 AMPS  296.92 AMPS   09sprpk-catc-after-alt1  13
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APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR 2008 SUMMER PEAK **NORMAL** OPERATING CONDITIONS
ALTERNATIVE 2 – RECONDUCTOR OPTION

--------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 "		1549	-201	0.93	1679 AMPS	1800.18 AMPS	bullardec-08sumpk-catb-before
30005	"ROUND MT"	500 30	40687	"MALIN "	500 40	"2 "		1551	-200	0.93	1681 AMPS	1800.18 AMPS	bullardec-08sumpk-catb-after-alt2
30300	"TBL MT D"	230 30	30330	"RIO OSO "	230 30	"1 "		302	49	0.90	744 AMPS	825.86 AMPS	bullardec-08sumpk-catb-before
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30335	"ATLANTC "	230 30	32412	"ATLANTIC"	60 30	"1 "		145	15	1.04**	146 MVA	139.50 MVA	bullardec-08sumpk-catb-before
30335	"ATLANTC "	230 30	32412	"ATLANTIC"	60 30	"1 "		145	15	1.04**	146 MVA	139.50 MVA	bullardec-08sumpk-catb-after-alt2
30705	"MONTAVIS"	230 30	35455	"MNTA VSA"	60 30	"5 "		115	58	0.96	129 MVA	134.40 MVA	bullardec-08sumpk-catb-before
30705	"MONTAVIS"	230 30	35455	"MNTA VSA"	60 30	"5 "		115	59	0.96	129 MVA	134.40 MVA	bullardec-08sumpk-catb-after-alt2
31468	"CASCADE "	115 30	45087	"DELTA "	115 40	"1 "		84	-21	1.01	422 AMPS	416.70 AMPS	bullardec-08sumpk-catb-before
31468	"CASCADE "	115 30	45087	"DELTA "	115 40	"1 "		84	-21	1.01	422 AMPS	416.70 AMPS	bullardec-08sumpk-catb-after-alt2
31482	"PALERMO "	115 30	32280	"E.MRY J2"	115 30	"1 "		65	-16	0.91	324 AMPS	356.45 AMPS	bullardec-08sumpk-catb-before
31482	"PALERMO "	115 30	32280	"E.MRY J2"	115 30	"1 "		65	-16	0.91	323 AMPS	356.45 AMPS	bullardec-08sumpk-catb-after-alt2
31998	"VACA-DIX"	115 30	32088	"VACA-DXN"	60 30	"5 "		72	16	0.92	74 MVA	80.00 MVA	bullardec-08sumpk-catb-before
31998	"VACA-DIX"	115 30	32088	"VACA-DXN"	60 30	"5 "		72	16	0.92	74 MVA	80.00 MVA	bullardec-08sumpk-catb-after-alt2
33912	"SPRNG GJ"	115 30	33914	"MI-WUK "	115 30	"1 "		97	12	0.92	450 AMPS	491.00 AMPS	bullardec-08sumpk-catb-before
33912	"SPRNG GJ"	115 30	33914	"MI-WUK "	115 30	"1 "		97	12	0.92	450 AMPS	491.00 AMPS	bullardec-08sumpk-catb-after-alt2
34204	"LIVNGSTN"	70 30	34212	"LVNGSTNT"	70 30	"1 "		-18	-4	0.91	167 AMPS	183.10 AMPS	bullardec-08sumpk-catb-before
34204	"LIVNGSTN"	70 30	34212	"LVNGSTNT"	70 30	"1 "		-18	-4	0.92	168 AMPS	183.10 AMPS	bullardec-08sumpk-catb-after-alt2
35647	"GILROY "	115 30	35660	"GILROYTP"	115 30	"1 "		-118	-20	0.92	581 AMPS	632.58 AMPS	bullardec-08sumpk-catb-before
35647	"GILROY "	115 30	35660	"GILROYTP"	115 30	"1 "		-118	-20	0.92	582 AMPS	632.58 AMPS	bullardec-08sumpk-catb-after-alt2
37014	"POCKET "	230 30	37117	"POCKET 2"	69 30	"2 "		196	48	0.90**	202 MVA	224.00 MVA	bullardec-08sumpk-catb-before
37014	"POCKET "	230 30	37117	"POCKET 2"	69 30	"2 "		196	48	0.90**	202 MVA	224.00 MVA	bullardec-08sumpk-catb-after-alt2
37558	"KESWICK "	230 30	37641	"SPRINGCR"	230 30	"2 "		-179	-47	0.90**	450 AMPS	500.04 AMPS	bullardec-08sumpk-catb-before
37558	"KESWICK "	230 30	37641	"SPRINGCR"	230 30	"2 "		-179	-47	0.90**	450 AMPS	500.04 AMPS	bullardec-08sumpk-catb-after-alt2

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR **ISO CATEGORY B** 2008 SUMMER PEAK OPERATING CONDITIONS
ALTERNATIVE 2 – RECONDUCTOR OPTION

--------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=1=1=1=														
30300	"TBL MT D"	230 30	30330	"RIO OSO "	230 30	"1 "	0.89	0.90	303.50	49.56	747.32 AMPS	825.86 AMPS	08sumpk-catb-after-alt2	230
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30300	"TBL MT D"	230 30	30330	"RIO OSO "	230 30	"1 "	0.89	0.90	303.50	49.56	747.32 AMPS	825.86 AMPS	08sumpk-catb-after-alt2	231
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30300	"TBL MT D"	230 30	30330	"RIO OSO "	230 30	"1 "	0.89	0.90	303.50	49.56	747.32 AMPS	825.86 AMPS	08sumpk-catb-after-alt2	232
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34200	"ORO LOMA"	70 30	34218	"DOS PALS"	70 30	"1 "	0.80	0.90	32.29	3.27	254.58 AMPS	282.08 AMPS	08sumpk-catb-after-alt2	277
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34200	"ORO LOMA"	70 30	34218	"DOS PALS"	70 30	"1 "	0.80	0.90	32.26	3.28	254.34 AMPS	282.08 AMPS	08sumpk-catb-after-alt2	57
34390	"DANISHCM"	115 30	34402	"CAL AVE "	115 30	"1 "	0.12	0.94	-89.99	-26.42	480.16 AMPS	512.08 AMPS	08sumpk-catb-before	91
34390	"DANISHCM"	115 30	34402	"CAL AVE "	115 30	"1 "	0.12	0.94	-89.99	-26.41	480.09 AMPS	512.08 AMPS	08sumpk-catb-after-alt2	91
34409	"PNDLJ2 "	115 30	34412	"HERNDON "	115 30	"1 "	0.67	1.12	166.86	42.02	829.72 AMPS	743.03 AMPS	08sumpk-catb-before	101
34409	"PNDLJ2 "	115 30	34412	"HERNDON "	115 30	"1 "	0.67	1.11	166.85	41.94	828.35 AMPS	743.03 AMPS	08sumpk-catb-after-alt2	101
34409	"PNDLJ2 "	115 30	34416	"BULLARD "	115 30	"1 "	0.50	0.97	142.77	27.05	719.52 AMPS	743.03 AMPS	08sumpk-catb-before	101
34409	"PNDLJ2 "	115 30	34416	"BULLARD "	115 30	"1 "	0.50	0.97	142.77	27.00	718.33 AMPS	743.03 AMPS	08sumpk-catb-after-alt2	101
34411	"PNDLJ1 "	115 30	34412	"HERNDON "	115 30	"1 "	0.61	1.12	166.86	42.02	829.72 AMPS	743.03 AMPS	08sumpk-catb-before	99
34411	"PNDLJ1 "	115 30	34412	"HERNDON "	115 30	"1 "	0.61	1.11	166.85	41.94	828.35 AMPS	743.03 AMPS	08sumpk-catb-after-alt2	99
34411	"PNDLJ1 "	115 30	34416	"BULLARD "	115 30	"1 "	0.61	0.97	142.77	27.05	719.52 AMPS	743.03 AMPS	08sumpk-catb-before	99
34411	"PNDLJ1 "	115 30	34416	"BULLARD "	115 30	"1 "	0.61	0.97	142.77	27.00	718.33 AMPS	743.03 AMPS	08sumpk-catb-after-alt2	99
34420	"CORCORAN"	115 30	34528	"CORCORAN"	70 30	"2 "	0.79	1.09	35.36	10.58	36.91 MVA	33.80 MVA	08sumpk-catb-before	110
34420	"CORCORAN"	115 30	34528	"CORCORAN"	70 30	"2 "	0.79	1.09	35.35	10.51	36.88 MVA	33.80 MVA	08sumpk-catb-after-alt2	110
34478	"TVY VLLY"	70 30	34492	"REEDLEY "	70 30	"1 "	0.07	0.92	-34.29	-12.79	326.93 AMPS	354.66 AMPS	08sumpk-catb-before	339
34478	"TVY VLLY"	70 30	34492	"REEDLEY "	70 30	"1 "	0.03	0.92	-34.29	-12.78	326.83 AMPS	354.66 AMPS	08sumpk-catb-after-alt2	339
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.84	0.95	-326.02	-16.00	809.71 AMPS	849.96 AMPS	08sumpk-catb-before	140
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.89	0.95	-326.02	-16.69	810.10 AMPS	849.96 AMPS	08sumpk-catb-after-alt2	140
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.84	0.95	-326.03	-14.75	809.03 AMPS	849.96 AMPS	08sumpk-catb-before	289
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.89	0.95	-326.03	-14.97	809.15 AMPS	849.96 AMPS	08sumpk-catb-after-alt2	289
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.84	0.95	-326.02	-15.76	809.58 AMPS	849.96 AMPS	08sumpk-catb-before	307
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.89	0.95	-326.02	-16.25	809.85 AMPS	849.96 AMPS	08sumpk-catb-after-alt2	307

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR **ISO CATEGORY B** 2008 SUMMER PEAK OPERATING CONDITIONS
ALTERNATIVE 2 – RECONDUCTOR OPTION

--------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 #
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.84	0.95	-326.02	-16.27	809.86 AMPS	849.96 AMPS	08sumpk-catb-before	323
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.89	0.95	-326.02	-16.82	810.17 AMPS	849.96 AMPS	08sumpk-catb-after-alt2	323
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.84	0.95	-326.02	-16.00	809.71 AMPS	849.96 AMPS	08sumpk-catb-before	357
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.89	0.95	-326.02	-16.19	809.82 AMPS	849.96 AMPS	08sumpk-catb-after-alt2	357

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR **ISO CATEGORY C** 2008 SUMMER PEAK OPERATING CONDITIONS
ALTERNATIVE 2 – RECONDUCTOR OPTION

--------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 #
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.49	0.99	147.67	14.12	148.34 MVA	150.00 MVA	08sumpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.53	1.08	161.68	15.24	162.40 MVA	150.00 MVA	08sumpk-catc-after-alt2	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.49	0.99	73.84	7.06	74.18 MVA	75.00 MVA	08sumpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.53	1.08	80.85	7.62	81.21 MVA	75.00 MVA	08sumpk-catc-after-alt2	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.49	0.99	73.84	7.06	74.18 MVA	75.00 MVA	08sumpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.53	1.08	80.85	7.62	81.21 MVA	75.00 MVA	08sumpk-catc-after-alt2	23
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.26	0.94	331.06	28.01	800.72 AMPS	850.96 AMPS	08sumpk-catc-before	22
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.21	0.94	331.06	27.54	800.56 AMPS	850.96 AMPS	08sumpk-catc-after-alt2	22
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.26	0.94	331.06	26.42	800.19 AMPS	850.96 AMPS	08sumpk-catc-before	23
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.21	0.94	331.06	26.91	800.35 AMPS	850.96 AMPS	08sumpk-catc-after-alt2	23
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.49	1.33	465.78	60.48	1134.36 AMPS	849.96 AMPS	08sumpk-catc-before	31
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.48	1.07	373.92	50.72	908.22 AMPS	849.96 AMPS	08sumpk-catc-after-alt2	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.35	1.21	419.94	43.68	1029.18 AMPS	849.96 AMPS	08sumpk-catc-before	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.34	0.95	329.00	39.60	803.69 AMPS	849.96 AMPS	08sumpk-catc-after-alt2	31
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.15	0.90	69.82	-25.28	358.36 AMPS	396.61 AMPS	08sumpk-catc-before	10
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.15	0.90	69.82	-25.26	358.30 AMPS	396.61 AMPS	08sumpk-catc-after-alt2	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.50	1.28	93.57	-47.89	507.19 AMPS	396.61 AMPS	08sumpk-catc-before	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.53	1.28	93.57	-47.94	507.24 AMPS	396.61 AMPS	08sumpk-catc-after-alt2	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.15	0.90	-69.82	25.27	358.36 AMPS	396.61 AMPS	08sumpk-catc-before	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.15	0.90	-69.82	25.26	358.30 AMPS	396.61 AMPS	08sumpk-catc-after-alt2	10
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.19	1.73	-158.86	-42.16	886.14 AMPS	512.08 AMPS	08sumpk-catc-before	2
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.19	1.73	-158.86	-42.16	886.09 AMPS	512.08 AMPS	08sumpk-catc-after-alt2	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.35	1.41	-187.25	-60.93	1042.86 AMPS	738.00 AMPS	08sumpk-catc-before	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.35	1.41	-187.25	-60.92	1042.80 AMPS	738.00 AMPS	08sumpk-catc-after-alt2	2
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.69	1.07	101.41	-51.38	546.29 AMPS	512.08 AMPS	08sumpk-catc-before	10
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.67	1.03	97.82	-50.42	528.75 AMPS	512.08 AMPS	08sumpk-catc-after-alt2	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.08	0.97	-77.29	19.57	384.08 AMPS	396.61 AMPS	08sumpk-catc-before	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.10	0.97	-77.29	19.56	384.03 AMPS	396.61 AMPS	08sumpk-catc-after-alt2	10
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.35	122.80	54.06	638.57 AMPS	471.92 AMPS	08sumpk-catc-before	2
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.35	122.87	54.03	638.79 AMPS	471.92 AMPS	08sumpk-catc-after-alt2	2
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.17	111.17	34.25	553.17 AMPS	471.92 AMPS	08sumpk-catc-before	54

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR **ISO CATEGORY C** 2008 SUMMER PEAK OPERATING CONDITIONS
ALTERNATIVE 2 – RECONDUCTOR OPTION

--------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 #
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.17	111.31	34.17	553.79 AMPS	471.92 AMPS	08sumpk-catc-after-alt2	54
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.45	1.22	109.36	51.22	574.80 AMPS	471.92 AMPS	08sumpk-catc-before	2
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.46	1.22	109.42	51.20	574.97 AMPS	471.92 AMPS	08sumpk-catc-after-alt2	2
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.45	0.99	90.82	31.05	469.35 AMPS	471.92 AMPS	08sumpk-catc-before	53
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.46	1.00	91.10	30.91	470.34 AMPS	471.92 AMPS	08sumpk-catc-after-alt2	53
34390	"DANISHCM"	115 30	34402	"CAL AVE "	115 30	"1 "	0.12	0.95	-89.99	-26.52	484.79 AMPS	512.08 AMPS	08sumpk-catc-before	58
34390	"DANISHCM"	115 30	34402	"CAL AVE "	115 30	"1 "	0.12	0.95	-89.99	-26.51	484.42 AMPS	512.08 AMPS	08sumpk-catc-after-alt2	58
34390	"DANISHCM"	115 30	34407	"WFRES J2"	115 30	"1 "	0.07	0.90	-86.12	-23.20	461.03 AMPS	512.08 AMPS	08sumpk-catc-before	58
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34409	"PNDLJ2 "	115 30	34412	"HERNDON "	115 30	"1 "	0.67	1.11	166.84	41.63	828.10 AMPS	743.03 AMPS	08sumpk-catc-before	61
34409	"PNDLJ2 "	115 30	34412	"HERNDON "	115 30	"1 "	0.67	1.11	166.83	41.54	826.63 AMPS	743.03 AMPS	08sumpk-catc-after-alt2	61
34409	"PNDLJ2 "	115 30	34416	"BULLARD "	115 30	"1 "	0.50	0.97	142.77	26.70	718.08 AMPS	743.03 AMPS	08sumpk-catc-before	61
34409	"PNDLJ2 "	115 30	34416	"BULLARD "	115 30	"1 "	0.50	0.96	142.77	26.65	716.80 AMPS	743.03 AMPS	08sumpk-catc-after-alt2	61
34411	"PNDLJ1 "	115 30	34412	"HERNDON "	115 30	"1 "	0.61	1.12	167.18	43.31	833.64 AMPS	743.03 AMPS	08sumpk-catc-before	62
34411	"PNDLJ1 "	115 30	34412	"HERNDON "	115 30	"1 "	0.61	1.12	167.17	43.30	833.52 AMPS	743.03 AMPS	08sumpk-catc-after-alt2	62
34411	"PNDLJ1 "	115 30	34416	"BULLARD "	115 30	"1 "	0.61	1.12	164.92	33.21	834.36 AMPS	743.03 AMPS	08sumpk-catc-before	62
34411	"PNDLJ1 "	115 30	34416	"BULLARD "	115 30	"1 "	0.61	1.12	164.92	33.21	834.24 AMPS	743.03 AMPS	08sumpk-catc-after-alt2	62
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.84	0.95	-326.02	-15.73	809.56 AMPS	849.96 AMPS	08sumpk-catc-before	24
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.89	0.95	-326.02	-16.26	809.86 AMPS	849.96 AMPS	08sumpk-catc-after-alt2	24

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR 2008 SUMMER OFF-PEAK **NORMAL** OPERATING CONDITIONS
ALTERNATIVE 2 – RECONDUCTOR OPTION

--------FROM BUS--------				----------TO BUS----------					---BASE---		LOADING			
Bus #	NAME	KV	AREA	Bus #	NAME	KV	AREA	ID	MW	MVAR	P.U.	FLOW	RATING	------CASE------
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	-564	178	0.97	1437 AMPS	1483.54 AMPS	bullardec-08sumop-catb-before
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	-588	184	1.01	1500 AMPS	1483.54 AMPS	bullardec-08sumop-catb-after-alt2
30735	"METCALF "	230	30	30750	"MOSSLND2"	230	30	"1 "	-329	57	0.92	819 AMPS	890.87 AMPS	bullardec-08sumop-catb-before
30735	"METCALF "	230	30	30750	"MOSSLND2"	230	30	"1 "	-336	59	0.94	838 AMPS	890.87 AMPS	bullardec-08sumop-catb-after-alt2
30735	"METCALF "	230	30	30755	"MOSSLND1"	230	30	"1 "	-329	57	0.92	819 AMPS	890.87 AMPS	bullardec-08sumop-catb-before
30735	"METCALF "	230	30	30755	"MOSSLND1"	230	30	"1 "	-336	59	0.94	838 AMPS	890.87 AMPS	bullardec-08sumop-catb-after-alt2
31260	"MNDCNO M"	115	30	31300	"MENDOCNO"	60	30	"1 "	-6	-75	0.93	75 MVA	80.00 MVA	bullardec-08sumop-catb-before
31260	"MNDCNO M"	115	30	31300	"MENDOCNO"	60	30	"1 "	-6	-75	0.93	75 MVA	80.00 MVA	bullardec-08sumop-catb-after-alt2
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	4	0.94**	95 AMPS	101.04 AMPS	bullardec-08sumop-catb-before
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	4	0.94**	95 AMPS	101.04 AMPS	bullardec-08sumop-catb-after-alt2
34473	"SNJQTP "	70	30	34474	"HELM "	70	30	"1 "	-39	16	0.98	314 AMPS	321.67 AMPS	bullardec-08sumop-catb-before
34473	"SNJQTP "	70	30	34474	"HELM "	70	30	"1 "	-39	16	0.98	315 AMPS	321.67 AMPS	bullardec-08sumop-catb-after-alt2
34473	"SNJQTP "	70	30	34475	"AGRCJCT "	70	30	"1 "	-39	15	0.98	314 AMPS	321.67 AMPS	bullardec-08sumop-catb-before
34473	"SNJQTP "	70	30	34475	"AGRCJCT "	70	30	"1 "	-39	16	0.98	315 AMPS	321.67 AMPS	bullardec-08sumop-catb-after-alt2

APPENDIX C - STEADY STATE POWER FLOW RESULTS

AUTCON OUTPUT FILES FOR **ISO CATEGORY B** 2008 SUMMER OFF-PEAK OPERATING CONDITIONS

ALTERNATIVE 2 – RECONDUCTOR OPTION

--------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 #
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.93	-619.38	198.26	1585.40 AMPS	1699.42 AMPS	08sumop-catb-before	10
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.96	-636.93	204.76	1633.27 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	10
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.93	-614.97	196.21	1573.24 AMPS	1699.42 AMPS	08sumop-catb-before	11
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.39	188.96	1535.48 AMPS	1699.42 AMPS	08sumop-catb-before	150
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.14	196.32	1598.38 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	150
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.39	188.96	1535.49 AMPS	1699.42 AMPS	08sumop-catb-before	151
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.14	196.32	1598.38 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	151
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.24	188.20	1534.11 AMPS	1699.42 AMPS	08sumop-catb-before	19
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-624.71	197.17	1598.40 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	19
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.24	188.20	1534.12 AMPS	1699.42 AMPS	08sumop-catb-before	20
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-624.71	197.17	1598.40 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	20
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-604.57	196.16	1550.08 AMPS	1699.42 AMPS	08sumop-catb-before	24
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-628.18	202.46	1611.41 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	24
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.31	191.67	1549.21 AMPS	1699.42 AMPS	08sumop-catb-before	260
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-629.54	198.85	1610.76 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	260
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-602.19	189.29	1537.68 AMPS	1699.42 AMPS	08sumop-catb-before	261
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.92	196.66	1600.56 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	261
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.93	-621.02	194.37	1586.51 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	262
=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=1=1=1=																
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-622.78	196.34	1593.08 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	263
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.93	-621.46	193.25	1587.18 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	264
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.92	-609.97	191.66	1559.61 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	265
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.92	-609.97	191.66	1559.61 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	266
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.92	-607.33	196.61	1557.77 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	267
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.92	-609.12	195.91	1561.25 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	268

ALTERNATIVE 2 – RECONDUCTOR OPTION

--------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 #
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.81	193.73	1552.46 AMPS	1699.42 AMPS	08sumop-catb-before	269
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-632.73	201.89	1621.19 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	269
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.93	-619.81	197.81	1587.49 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	270
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.91	-603.84	195.32	1548.59 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	271
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.82	189.64	1537.51 AMPS	1699.42 AMPS	08sumop-catb-before	272
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-627.48	197.63	1605.37 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	272
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.27	190.81	1548.96 AMPS	1699.42 AMPS	08sumop-catb-before	273
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-632.67	199.25	1619.09 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	273
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.08	190.45	1547.99 AMPS	1699.42 AMPS	08sumop-catb-before	274
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-631.89	198.79	1616.65 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	274
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.92	-610.44	195.96	1561.02 AMPS	1699.42 AMPS	08sumop-catb-before	275
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.97	-642.48	206.29	1645.90 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	275
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.35	188.98	1535.41 AMPS	1699.42 AMPS	08sumop-catb-before	276
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.10	196.34	1598.31 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	276
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-602.27	188.16	1536.55 AMPS	1699.42 AMPS	08sumop-catb-before	277
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-626.03	195.57	1599.51 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	277
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-602.20	189.49	1537.81 AMPS	1699.42 AMPS	08sumop-catb-before	278
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.88	196.80	1600.52 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	278
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-632.46	203.23	1621.98 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	293
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.99	-654.32	210.22	1678.38 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	294
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-604.57	196.16	1550.08 AMPS	1699.42 AMPS	08sumop-catb-before	295
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.93	-616.27	198.94	1580.04 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	295
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.93	-619.38	198.26	1585.40 AMPS	1699.42 AMPS	08sumop-catb-before	296
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-628.02	201.34	1608.70 AMPS	1699.42 AMPS	08sumop-catb-after-alt2	296
34116	"LE GRAND"	115	30	34154	"DAIRYLND"	115	30	"1 "	0.78	0.91	-59.69	26.44	310.22 AMPS	340.89 AMPS	08sumop-catb-before	214
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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 "	1.01	0.90	-600.22	187.29	1531.46 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	20
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30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	1.01	0.93	-616.28	198.20	1575.21 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	22
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30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	1.01	0.91	-607.52	191.62	1551.87 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	23
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30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	1.01	0.93	-617.73	199.78	1584.76 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	25
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.97	-638.53	210.32	1641.98 AMPS	1699.42 AMPS	08sumop-catc-before	26
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	1.01	0.99	-652.66	215.48	1680.69 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	26
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.93	-618.81	196.05	1582.07 AMPS	1699.42 AMPS	08sumop-catc-before	27
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	1.01	0.96	-633.94	202.07	1623.92 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	27
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.93	-620.55	198.97	1588.75 AMPS	1699.42 AMPS	08sumop-catc-before	28
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	1.01	0.96	-635.30	204.74	1629.53 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	28
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.96	-637.17	202.03	1632.82 AMPS	1699.42 AMPS	08sumop-catc-before	30
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	1.01	1.00	-660.09	210.20	1695.41 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	30
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.90	-601.35	189.25	1535.71 AMPS	1699.42 AMPS	08sumop-catc-before	32
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	1.01	0.99	-654.32	210.30	1678.52 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	32
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.90	-601.35	189.25	1535.71 AMPS	1699.42 AMPS	08sumop-catc-before	33
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	1.01	0.95	-632.48	202.80	1621.17 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	33
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.91	-604.57	196.16	1550.08 AMPS	1699.42 AMPS	08sumop-catc-before	35
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	1.01	1.02	-673.26	222.47	1734.85 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	35
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.91	-604.57	196.16	1550.08 AMPS	1699.42 AMPS	08sumop-catc-before	36
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	1.01	0.98	-647.97	213.64	1668.06 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	36
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30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	1.01	0.91	-604.78	196.25	1550.63 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	37
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	0.97	0.91	-604.66	196.01	1550.15 AMPS	1699.42 AMPS	08sumop-catc-before	38
30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	1.01	0.95	-628.25	202.12	1611.28 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	38
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30670	"WESTLEY "	230 30	30765	"LOSBANOS"	230 30	"1 "	1.01	0.91	-602.35	189.79	1538.47 AMPS	1699.42 AMPS	08sumop-catc-after-alt2	39
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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 #

30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "    1.01    0.94   -626.96   200.35  1603.98 AMPS 1699.42 AMPS   08sumop-catc-after-alt2  45

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30835 "HERNDON "  230 30  30840 "FGRDN T1"  230 30  "1 "    0.27    1.01    338.84  -107.43   858.02 AMPS  850.96 AMPS   08sumop-catc-after-alt2  31

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30840 "FGRDN T1"  230 30  30850 "ASHLAN  "  230 30  "1 "    0.14    0.90    309.47   -82.33   770.04 AMPS  850.96 AMPS   08sumop-catc-after-alt2  31

34116 "LE GRAND"  115 30  34154 "DAIRYLND"  115 30  "1 "    0.78    0.95    -72.62    31.49   379.03 AMPS  398.12 AMPS   08sumop-catc-before  26
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34116 "LE GRAND"  115 30  34154 "DAIRYLND"  115 30  "1 "    0.72    0.98    -74.69    32.64   390.31 AMPS  398.12 AMPS   08sumop-catc-after-alt2  35

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34118 "LE GRNDJ"  115 30  34136 "WILSON B"  115 30  "1 "    0.63    0.92     67.24   -39.41   366.36 AMPS  398.12 AMPS   08sumop-catc-after-alt2  35

34366 "SANGER  "  115 30  34370 "MC CALL "  115 30  "2 "    0.48    1.21   -281.55   -10.94  1355.84 AMPS 1124.58 AMPS   08sumop-catc-before  59
34366 "SANGER  "  115 30  34370 "MC CALL "  115 30  "2 "    0.44    1.11   -261.14   -10.16  1252.26 AMPS 1124.58 AMPS   08sumop-catc-after-alt2  59

34366 "SANGER  "  115 30  34370 "MC CALL "  115 30  "3 "    0.76    1.22   -247.58    -2.10  1188.32 AMPS  973.97 AMPS   08sumop-catc-before  14
34366 "SANGER  "  115 30  34370 "MC CALL "  115 30  "3 "    0.70    1.12   -228.38    -1.42  1091.81 AMPS  973.97 AMPS   08sumop-catc-after-alt2  14

34366 "SANGER  "  115 30  34370 "MC CALL "  115 30  "3 "    0.76    0.91   -185.68     1.56   885.84 AMPS  973.97 AMPS   08sumop-catc-before  60
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34366 "SANGER  "  115 30  34372 "MALAGA  "  115 30  "1 "    0.64    1.03   -156.90    19.65   760.90 AMPS  739.01 AMPS   08sumop-catc-before  59
34366 "SANGER  "  115 30  34372 "MALAGA  "  115 30  "1 "    0.61    0.97   -147.97    20.12   715.57 AMPS  739.01 AMPS   08sumop-catc-after-alt2  59
```

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR 2009 SPRING PEAK **NORMAL** OPERATING CONDITIONS
ALTERNATIVE 2 – RECONDUCTOR OPTION

--------FROM BUS--------				----------TO BUS----------					---BASE---		LOADING			
Bus #	NAME	KV	AREA	Bus #	NAME	KV	AREA	ID	MW	MVAR	P.U.	FLOW	RATING	------CASE------
30015	"TABLE MT"	500	30	30030	"VACA-DIX"	500	30	"1 "	2090	-143	0.91	2259 AMPS	2477.99 AMPS	bullardec-09sprpk-catb-before
30015	"TABLE MT"	500	30	30030	"VACA-DIX"	500	30	"1 "	2099	-141	0.92	2270 AMPS	2477.99 AMPS	bullardec-09sprpk-catb-after-alt2
31468	"CASCADE "	115	30	45087	"DELTA "	115	40	"1 "	81	-28	0.99	414 AMPS	416.70 AMPS	bullardec-09sprpk-catb-before
31468	"CASCADE "	115	30	45087	"DELTA "	115	40	"1 "	81	-28	0.99	414 AMPS	416.70 AMPS	bullardec-09sprpk-catb-after-alt2
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	2	0.91**	92 AMPS	101.04 AMPS	bullardec-09sprpk-catb-before
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	2	0.91**	92 AMPS	101.04 AMPS	bullardec-09sprpk-catb-after-alt2
32369	"COLFAXJT"	60	30	32380	"WEMR SWS"	60	30	"1 "	29	-3	0.98	274 AMPS	279.05 AMPS	bullardec-09sprpk-catb-before
32369	"COLFAXJT"	60	30	32380	"WEMR SWS"	60	30	"1 "	29	-3	0.98	274 AMPS	279.05 AMPS	bullardec-09sprpk-catb-after-alt2
33610	"VLLY SPS"	60	30	33619	"AMFOR_SW"	60	30	"1 "	29	5	0.99	277 AMPS	279.05 AMPS	bullardec-09sprpk-catb-before
33610	"VLLY SPS"	60	30	33619	"AMFOR_SW"	60	30	"1 "	29	5	0.99	277 AMPS	279.05 AMPS	bullardec-09sprpk-catb-after-alt2

```
--------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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32374 "DRUM    "   60 30  32376 "BONNIE N"   60 30  "1 "    0.90    0.90     27.83    -3.97   252.90 AMPS  280.98 AMPS   09sprpk-catb-after-alt2 216

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34200 "ORO LOMA"   70 30  34218 "DOS PALS"   70 30  "1 "    0.79    0.92     33.25     0.41   259.50 AMPS  282.08 AMPS   09sprpk-catb-after-alt2 279

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34200 "ORO LOMA"   70 30  34218 "DOS PALS"   70 30  "1 "    0.79    0.92     33.21     0.42   259.24 AMPS  282.08 AMPS   09sprpk-catb-after-alt2  58

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34237 "CANANDGA"   70 30  34255 "TRIGO J "   70 30  "1 "    0.53    0.95     44.69    -8.37   358.90 AMPS  379.40 AMPS   09sprpk-catb-after-alt2 346

34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.83    1.08    -51.32    -2.98   406.52 AMPS  376.93 AMPS   09sprpk-catb-before  11
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34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.83    1.09    -49.92   -12.76   410.57 AMPS  376.93 AMPS   09sprpk-catb-before 154
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34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.83    0.94    -38.71    -3.17   305.59 AMPS  324.97 AMPS   09sprpk-catb-before 216
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34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.65    0.91    -58.96    -0.55   465.06 AMPS  513.84 AMPS   09sprpk-catb-after-alt2 346

34418 "KINGSBRG"  115 30  34420 "CORCORAN"  115 30  "1 "    0.69    0.96     80.14     1.39   382.39 AMPS  398.12 AMPS   09sprpk-catb-before 105
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34418 "KINGSBRG"  115 30  34420 "CORCORAN"  115 30  "2 "    0.71    0.97     81.04     1.35   386.72 AMPS  398.12 AMPS   09sprpk-catb-before 104
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34456 "HRDWK TP"   70 30  34576 "KNGLOBUS"   70 30  "1 "    0.28    0.94    -40.69   -11.41   355.61 AMPS  377.75 AMPS   09sprpk-catb-before 128
34456 "HRDWK TP"   70 30  34576 "KNGLOBUS"   70 30  "1 "    0.29    0.95    -40.71   -11.44   357.08 AMPS  377.75 AMPS   09sprpk-catb-after-alt2 128

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34473 "SNJQTP  "   70 30  34474 "HELM    "   70 30  "1 "    0.81    0.93    -40.49    24.45   353.01 AMPS  379.40 AMPS   09sprpk-catb-after-alt2  10

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34473 "SNJQTP  "   70 30  34474 "HELM    "   70 30  "1 "    0.81    0.90    -39.23    24.06   343.07 AMPS  379.40 AMPS   09sprpk-catb-after-alt2 315

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34473 "SNJQTP  "   70 30  34475 "AGRCJCT "   70 30  "1 "    0.81    0.93    -40.79    23.83   353.25 AMPS  379.40 AMPS   09sprpk-catb-after-alt2  10

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34473 "SNJQTP  "   70 30  34475 "AGRCJCT "   70 30  "1 "    0.81    0.90    -39.51    23.48   343.30 AMPS  379.40 AMPS   09sprpk-catb-after-alt2 315
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APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR **ISO CATEGORY B** 2009 SPRING PEAK OPERATING CONDITIONS
ALTERNATIVE 2 – RECONDUCTOR OPTION

--------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 "	0.64	1.09	49.07	22.71	413.22 AMPS	379.40 AMPS	09sprpk-catb-before	154
34475	"AGRCJCT "	70 30	34484	"KERMAN "	70 30	"1 "	0.56	1.06	46.84	23.42	400.48 AMPS	379.40 AMPS	09sprpk-catb-after-alt2	154
34518	"LEMOORE "	70 30	34522	"HNFRD SW"	70 30	"1 "	0.14	1.01	-30.22	-6.89	283.23 AMPS	280.43 AMPS	09sprpk-catb-before	128
34518	"LEMOORE "	70 30	34522	"HNFRD SW"	70 30	"1 "	0.16	1.01	-30.22	-6.89	284.45 AMPS	280.43 AMPS	09sprpk-catb-after-alt2	128

--------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 #
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.75	1.06	-159.32	10.21	159.65 MVA	150.00 MVA	09sprpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.79	1.16	-173.09	10.64	173.42 MVA	150.00 MVA	09sprpk-catc-after-alt2	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.75	1.06	-79.67	5.11	79.83 MVA	75.00 MVA	09sprpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.79	1.16	-86.56	5.32	86.72 MVA	75.00 MVA	09sprpk-catc-after-alt2	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.75	1.06	-79.67	5.11	79.83 MVA	75.00 MVA	09sprpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.79	1.16	-86.56	5.32	86.72 MVA	75.00 MVA	09sprpk-catc-after-alt2	23
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.42	1.39	490.92	22.78	1183.17 AMPS	849.96 AMPS	09sprpk-catc-before	31
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.41	1.14	403.00	20.45	970.41 AMPS	849.96 AMPS	09sprpk-catc-after-alt2	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.30	1.29	453.09	6.59	1098.38 AMPS	849.96 AMPS	09sprpk-catc-before	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.30	1.04	366.09	9.83	885.83 AMPS	849.96 AMPS	09sprpk-catc-after-alt2	31
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.13	1.25	96.44	-36.06	497.30 AMPS	396.61 AMPS	09sprpk-catc-before	10
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.12	1.25	96.43	-36.11	497.62 AMPS	396.61 AMPS	09sprpk-catc-after-alt2	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.50	1.66	123.89	-57.61	659.75 AMPS	396.61 AMPS	09sprpk-catc-before	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.53	1.66	123.87	-57.41	659.67 AMPS	396.61 AMPS	09sprpk-catc-after-alt2	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.13	1.25	-96.45	36.05	497.29 AMPS	396.61 AMPS	09sprpk-catc-before	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.12	1.25	-96.43	36.11	497.62 AMPS	396.61 AMPS	09sprpk-catc-after-alt2	10
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.14	1.33	-126.89	-33.12	678.57 AMPS	512.08 AMPS	09sprpk-catc-before	2
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.15	1.33	-126.89	-33.13	679.46 AMPS	512.08 AMPS	09sprpk-catc-after-alt2	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.29	1.10	-151.74	-49.05	814.50 AMPS	738.00 AMPS	09sprpk-catc-before	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.29	1.11	-151.74	-49.07	815.58 AMPS	738.00 AMPS	09sprpk-catc-after-alt2	2
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.55	1.14	108.32	-54.74	584.25 AMPS	512.08 AMPS	09sprpk-catc-before	10
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.54	1.11	105.18	-53.94	569.44 AMPS	512.08 AMPS	09sprpk-catc-after-alt2	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.03	1.32	-104.61	28.77	522.73 AMPS	396.61 AMPS	09sprpk-catc-before	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.05	1.32	-104.59	28.83	523.06 AMPS	396.61 AMPS	09sprpk-catc-after-alt2	10
34123	"K1-JCT "	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.26	0.91	-146.80	6.73	675.94 AMPS	743.03 AMPS	09sprpk-catc-before	10
34123	"K1-JCT "	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.27	0.91	-146.79	6.76	676.36 AMPS	743.03 AMPS	09sprpk-catc-after-alt2	10
34123	"K1-JCT "	115 30	34358	"KERCKHF2"	115 30	"2 "	0.26	0.91	-148.37	6.77	676.11 AMPS	743.03 AMPS	09sprpk-catc-before	10
34123	"K1-JCT "	115 30	34358	"KERCKHF2"	115 30	"2 "	0.27	0.91	-148.37	6.79	676.52 AMPS	743.03 AMPS	09sprpk-catc-after-alt2	10
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.39	1.03	95.15	39.59	486.29 AMPS	471.92 AMPS	09sprpk-catc-before	2
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.39	1.03	94.74	39.73	485.30 AMPS	471.92 AMPS	09sprpk-catc-after-alt2	2

ALTERNATIVE 2 – RECONDUCTOR OPTION

--------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 #
34136	"WILSON B"	115	30	34144	"MERCED "	115	30	"2 "	0.35	0.93	84.74	37.76	437.79 AMPS	471.92 AMPS	09sprpk-catc-before	2
34136	"WILSON B"	115	30	34144	"MERCED "	115	30	"2 "	0.35	0.93	84.36	37.89	436.87 AMPS	471.92 AMPS	09sprpk-catc-after-alt2	2
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34237	"CANANDGA"	70	30	34255	"TRIGO J "	70	30	"1 "	0.53	0.95	44.60	-8.51	358.74 AMPS	379.40 AMPS	09sprpk-catc-after-alt2	33
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34240	"GLASS "	70	30	34252	"MADERA "	70	30	"1 "	0.65	0.90	-58.87	-0.41	464.74 AMPS	513.84 AMPS	09sprpk-catc-after-alt2	33
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34473	"SNJQTP "	70	30	34474	"HELM "	70	30	"1 "	0.81	0.90	-38.99	24.44	342.64 AMPS	379.40 AMPS	09sprpk-catc-after-alt2	26
34473	"SNJQTP "	70	30	34474	"HELM "	70	30	"1 "	0.70	0.91	-39.59	23.69	344.89 AMPS	379.40 AMPS	09sprpk-catc-before	28
34473	"SNJQTP "	70	30	34474	"HELM "	70	30	"1 "	0.81	1.10	-48.39	27.09	415.94 AMPS	379.40 AMPS	09sprpk-catc-after-alt2	28
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34473	"SNJQTP "	70	30	34475	"AGRCJCT "	70	30	"1 "	0.81	0.90	-39.27	23.87	342.88 AMPS	379.40 AMPS	09sprpk-catc-after-alt2	26
34473	"SNJQTP "	70	30	34475	"AGRCJCT "	70	30	"1 "	0.70	0.91	-39.88	23.11	345.12 AMPS	379.40 AMPS	09sprpk-catc-before	28
34473	"SNJQTP "	70	30	34475	"AGRCJCT "	70	30	"1 "	0.81	1.10	-48.81	26.22	416.16 AMPS	379.40 AMPS	09sprpk-catc-after-alt2	28
34475	"AGRCJCT "	70	30	34484	"KERMAN "	70	30	"1 "	0.64	1.03	52.00	1.17	388.94 AMPS	379.40 AMPS	09sprpk-catc-before	30
34475	"AGRCJCT "	70	30	34484	"KERMAN "	70	30	"1 "	0.56	0.92	46.96	1.99	350.90 AMPS	379.40 AMPS	09sprpk-catc-after-alt2	30
34480	"KEARNEY "	70	30	34512	"CARUTHRS"	70	30	"1 "	0.64	0.96	37.08	2.81	285.60 AMPS	296.92 AMPS	09sprpk-catc-before	13
34480	"KEARNEY "	70	30	34512	"CARUTHRS"	70	30	"1 "	0.69	1.04	40.07	2.57	308.20 AMPS	296.92 AMPS	09sprpk-catc-after-alt2	13

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR 2008 SUMMER PEAK **NORMAL** OPERATING CONDITIONS
ALTERNATIVE 3 – OPERATIONS OPTION

--------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 "	1549	-201	0.93	1679 AMPS	1800.18 AMPS	bullardec-08sumpk-catb-before
30005	"ROUND MT"	500 30	40687	"MALIN "	500 40	"2 "	1551	-200	0.93	1681 AMPS	1800.18 AMPS	bullardec-08sumpk-catb-after
30300	"TBL MT D"	230 30	30330	"RIO OSO "	230 30	"1 "	302	49	0.90	744 AMPS	825.86 AMPS	bullardec-08sumpk-catb-before
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=												
30335	"ATLANTC "	230 30	32412	"ATLANTIC"	60 30	"1 "	145	15	1.04**	146 MVA	139.50 MVA	bullardec-08sumpk-catb-before
30335	"ATLANTC "	230 30	32412	"ATLANTIC"	60 30	"1 "	145	15	1.04**	146 MVA	139.50 MVA	bullardec-08sumpk-catb-after
30705	"MONTAVIS"	230 30	35455	"MNTA VSA"	60 30	"5 "	115	58	0.96	129 MVA	134.40 MVA	bullardec-08sumpk-catb-before
30705	"MONTAVIS"	230 30	35455	"MNTA VSA"	60 30	"5 "	115	59	0.96	129 MVA	134.40 MVA	bullardec-08sumpk-catb-after
31468	"CASCADE "	115 30	45087	"DELTA "	115 40	"1 "	84	-21	1.01	422 AMPS	416.70 AMPS	bullardec-08sumpk-catb-before
31468	"CASCADE "	115 30	45087	"DELTA "	115 40	"1 "	84	-21	1.01	422 AMPS	416.70 AMPS	bullardec-08sumpk-catb-after
31482	"PALERMO "	115 30	32280	"E.MRY J2"	115 30	"1 "	65	-16	0.91	324 AMPS	356.45 AMPS	bullardec-08sumpk-catb-before
31482	"PALERMO "	115 30	32280	"E.MRY J2"	115 30	"1 "	65	-16	0.91	323 AMPS	356.45 AMPS	bullardec-08sumpk-catb-after
31998	"VACA-DIX"	115 30	32088	"VACA-DXN"	60 30	"5 "	72	16	0.92	74 MVA	80.00 MVA	bullardec-08sumpk-catb-before
31998	"VACA-DIX"	115 30	32088	"VACA-DXN"	60 30	"5 "	72	16	0.92	74 MVA	80.00 MVA	bullardec-08sumpk-catb-after
33912	"SPRNG GJ"	115 30	33914	"MI-WUK "	115 30	"1 "	97	12	0.92	450 AMPS	491.00 AMPS	bullardec-08sumpk-catb-before
33912	"SPRNG GJ"	115 30	33914	"MI-WUK "	115 30	"1 "	97	12	0.92	450 AMPS	491.00 AMPS	bullardec-08sumpk-catb-after
34204	"LIVNGSTN"	70 30	34212	"LVNGSTNT"	70 30	"1 "	-18	-4	0.91	167 AMPS	183.10 AMPS	bullardec-08sumpk-catb-before
34204	"LIVNGSTN"	70 30	34212	"LVNGSTNT"	70 30	"1 "	-18	-4	0.92	168 AMPS	183.10 AMPS	bullardec-08sumpk-catb-after
35647	"GILROY "	115 30	35660	"GILROYTP"	115 30	"1 "	-118	-20	0.92	581 AMPS	632.58 AMPS	bullardec-08sumpk-catb-before
35647	"GILROY "	115 30	35660	"GILROYTP"	115 30	"1 "	-118	-20	0.92	581 AMPS	632.58 AMPS	bullardec-08sumpk-catb-after
37014	"POCKET "	230 30	37117	"POCKET 2"	69 30	"2 "	196	48	0.90**	202 MVA	224.00 MVA	bullardec-08sumpk-catb-before
37014	"POCKET "	230 30	37117	"POCKET 2"	69 30	"2 "	196	48	0.90**	202 MVA	224.00 MVA	bullardec-08sumpk-catb-after
37558	"KESWICK "	230 30	37641	"SPRINGCR"	230 30	"2 "	-179	-47	0.90**	450 AMPS	500.04 AMPS	bullardec-08sumpk-catb-before
37558	"KESWICK "	230 30	37641	"SPRINGCR"	230 30	"2 "	-179	-47	0.90**	450 AMPS	500.04 AMPS	bullardec-08sumpk-catb-after

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR **ISO CATEGORY B** 2008 SUMMER PEAK OPERATING CONDITIONS
ALTERNATIVE 3 – OPERATIONS OPTION

--------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=																
30300	"TBL MT D"	230	30	30330	"RIO OSO "	230	30	"1 "	0.89	0.90	303.50	49.55	747.33 AMPS	825.86 AMPS	08sumpk-catb-after	230
=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=																
30300	"TBL MT D"	230	30	30330	"RIO OSO "	230	30	"1 "	0.89	0.90	303.50	49.56	747.34 AMPS	825.86 AMPS	08sumpk-catb-after	231
=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=																
30300	"TBL MT D"	230	30	30330	"RIO OSO "	230	30	"1 "	0.89	0.90	303.50	49.55	747.33 AMPS	825.86 AMPS	08sumpk-catb-after	232
=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=																
34200	"ORO LOMA"	70	30	34218	"DOS PALS"	70	30	"1 "	0.80	0.90	32.29	3.27	254.58 AMPS	282.08 AMPS	08sumpk-catb-after	277
=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=																
34200	"ORO LOMA"	70	30	34218	"DOS PALS"	70	30	"1 "	0.80	0.90	32.26	3.28	254.34 AMPS	282.08 AMPS	08sumpk-catb-after	57
34390	"DANISHCM"	115	30	34402	"CAL AVE "	115	30	"1 "	0.12	0.94	-89.99	-26.42	480.16 AMPS	512.08 AMPS	08sumpk-catb-before	91
34390	"DANISHCM"	115	30	34402	"CAL AVE "	115	30	"1 "	0.12	0.94	-89.99	-26.43	479.93 AMPS	512.08 AMPS	08sumpk-catb-after	91
34409	"PNDLJ2 "	115	30	34412	"HERNDON "	115	30	"1 "	0.67	1.12	166.86	42.02	829.72 AMPS	743.03 AMPS	08sumpk-catb-before	101
34409	"PNDLJ2 "	115	30	34412	"HERNDON "	115	30	"1 "	0.67	1.11	166.85	41.93	828.26 AMPS	743.03 AMPS	08sumpk-catb-after	101
34409	"PNDLJ2 "	115	30	34416	"BULLARD "	115	30	"1 "	0.50	0.97	142.77	27.05	719.52 AMPS	743.03 AMPS	08sumpk-catb-before	101
34409	"PNDLJ2 "	115	30	34416	"BULLARD "	115	30	"1 "	0.50	0.97	142.77	27.00	718.26 AMPS	743.03 AMPS	08sumpk-catb-after	101
34411	"PNDLJ1 "	115	30	34412	"HERNDON "	115	30	"1 "	0.61	1.12	166.86	42.02	829.72 AMPS	743.03 AMPS	08sumpk-catb-before	99
34411	"PNDLJ1 "	115	30	34412	"HERNDON "	115	30	"1 "	0.61	1.11	166.85	41.93	828.26 AMPS	743.03 AMPS	08sumpk-catb-after	99
34411	"PNDLJ1 "	115	30	34416	"BULLARD "	115	30	"1 "	0.61	0.97	142.77	27.05	719.52 AMPS	743.03 AMPS	08sumpk-catb-before	99
34411	"PNDLJ1 "	115	30	34416	"BULLARD "	115	30	"1 "	0.61	0.97	142.77	27.00	718.26 AMPS	743.03 AMPS	08sumpk-catb-after	99
34420	"CORCORAN"	115	30	34528	"CORCORAN"	70	30	"2 "	0.79	1.09	35.36	10.58	36.91 MVA	33.80 MVA	08sumpk-catb-before	110
34420	"CORCORAN"	115	30	34528	"CORCORAN"	70	30	"2 "	0.79	1.09	35.36	10.59	36.91 MVA	33.80 MVA	08sumpk-catb-after	110
34478	"TVY VLLY"	70	30	34492	"REEDLEY "	70	30	"1 "	0.07	0.92	-34.29	-12.79	326.93 AMPS	354.66 AMPS	08sumpk-catb-before	339
34478	"TVY VLLY"	70	30	34492	"REEDLEY "	70	30	"1 "	0.03	0.92	-34.28	-12.78	326.65 AMPS	354.66 AMPS	08sumpk-catb-after	339
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.84	0.95	-326.02	-16.00	809.71 AMPS	849.96 AMPS	08sumpk-catb-before	140
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.89	0.95	-326.02	-16.69	810.10 AMPS	849.96 AMPS	08sumpk-catb-after	140
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.84	0.95	-326.03	-14.75	809.03 AMPS	849.96 AMPS	08sumpk-catb-before	289
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.89	0.95	-326.03	-14.96	809.15 AMPS	849.96 AMPS	08sumpk-catb-after	289
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.84	0.95	-326.02	-15.76	809.58 AMPS	849.96 AMPS	08sumpk-catb-before	307
37563	"MELONES "	230	30	38206	"COTTLE A"	230	30	"1 "	0.89	0.95	-326.02	-16.24	809.85 AMPS	849.96 AMPS	08sumpk-catb-after	307

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR **ISO CATEGORY B** 2008 SUMMER PEAK OPERATING CONDITIONS
ALTERNATIVE 3 – OPERATIONS OPTION

--------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 #
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.84	0.95	-326.02	-16.27	809.86 AMPS	849.96 AMPS	08sumpk-catb-before	323
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.89	0.95	-326.02	-16.81	810.17 AMPS	849.96 AMPS	08sumpk-catb-after	323
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.84	0.95	-326.02	-16.00	809.71 AMPS	849.96 AMPS	08sumpk-catb-before	357
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.89	0.95	-326.02	-16.19	809.82 AMPS	849.96 AMPS	08sumpk-catb-after	357

--------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 #
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.49	0.99	147.67	14.12	148.34 MVA	150.00 MVA	08sumpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.53	1.08	161.69	15.25	162.40 MVA	150.00 MVA	08sumpk-catc-after	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.49	0.99	73.84	7.06	74.18 MVA	75.00 MVA	08sumpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.53	1.08	80.85	7.63	81.21 MVA	75.00 MVA	08sumpk-catc-after	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.49	0.99	73.84	7.06	74.18 MVA	75.00 MVA	08sumpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.53	1.08	80.85	7.63	81.21 MVA	75.00 MVA	08sumpk-catc-after	23
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.26	0.94	331.06	28.01	800.72 AMPS	850.96 AMPS	08sumpk-catc-before	22
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.21	0.94	331.06	27.50	800.55 AMPS	850.96 AMPS	08sumpk-catc-after	22
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.26	0.94	331.06	26.42	800.19 AMPS	850.96 AMPS	08sumpk-catc-before	23
30800	"WILSON "	230 30	37563	"MELONES "	230 30	"1 "	0.21	0.94	331.06	26.88	800.34 AMPS	850.96 AMPS	08sumpk-catc-after	23
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.49	1.33	465.78	60.48	1134.36 AMPS	849.96 AMPS	08sumpk-catc-before	31
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.48	1.07	374.01	50.35	908.26 AMPS	849.96 AMPS	08sumpk-catc-after	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.35	1.21	419.94	43.68	1029.18 AMPS	849.96 AMPS	08sumpk-catc-before	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.34	0.95	329.09	39.22	803.73 AMPS	849.96 AMPS	08sumpk-catc-after	31
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.15	0.90	69.82	-25.28	358.36 AMPS	396.61 AMPS	08sumpk-catc-before	10
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.15	0.90	69.82	-25.26	358.30 AMPS	396.61 AMPS	08sumpk-catc-after	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.50	1.28	93.57	-47.89	507.19 AMPS	396.61 AMPS	08sumpk-catc-before	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.53	1.28	93.57	-47.94	507.24 AMPS	396.61 AMPS	08sumpk-catc-after	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.15	0.90	-69.82	25.27	358.36 AMPS	396.61 AMPS	08sumpk-catc-before	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.15	0.90	-69.82	25.26	358.30 AMPS	396.61 AMPS	08sumpk-catc-after	10
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.19	1.73	-158.86	-42.16	886.14 AMPS	512.08 AMPS	08sumpk-catc-before	2
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.19	1.73	-158.86	-42.16	886.04 AMPS	512.08 AMPS	08sumpk-catc-after	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.35	1.41	-187.25	-60.93	1042.86 AMPS	738.00 AMPS	08sumpk-catc-before	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.35	1.41	-187.25	-60.92	1042.73 AMPS	738.00 AMPS	08sumpk-catc-after	2
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.69	1.07	101.41	-51.38	546.29 AMPS	512.08 AMPS	08sumpk-catc-before	10
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.67	1.03	97.82	-50.43	528.77 AMPS	512.08 AMPS	08sumpk-catc-after	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.08	0.97	-77.29	19.57	384.08 AMPS	396.61 AMPS	08sumpk-catc-before	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.10	0.97	-77.29	19.56	384.02 AMPS	396.61 AMPS	08sumpk-catc-after	10
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.35	122.80	54.06	638.57 AMPS	471.92 AMPS	08sumpk-catc-before	2
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.35	122.87	54.03	638.75 AMPS	471.92 AMPS	08sumpk-catc-after	2
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.17	111.17	34.25	553.17 AMPS	471.92 AMPS	08sumpk-catc-before	54

APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR **ISO CATEGORY C** 2008 SUMMER PEAK OPERATING CONDITIONS
ALTERNATIVE 3 – OPERATIONS OPTION

--------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 #
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.51	1.17	111.30	34.17	553.76 AMPS	471.92 AMPS	08sumpk-catc-after	54
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.45	1.22	109.36	51.22	574.80 AMPS	471.92 AMPS	08sumpk-catc-before	2
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.46	1.22	109.42	51.20	574.94 AMPS	471.92 AMPS	08sumpk-catc-after	2
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.45	0.99	90.82	31.05	469.35 AMPS	471.92 AMPS	08sumpk-catc-before	53
34136	"WILSON B"	115 30	34144	"MERCED "	115 30	"2 "	0.46	1.00	91.10	30.92	470.32 AMPS	471.92 AMPS	08sumpk-catc-after	53
34390	"DANISHCM"	115 30	34402	"CAL AVE "	115 30	"1 "	0.12	0.95	-89.99	-26.52	484.79 AMPS	512.08 AMPS	08sumpk-catc-before	58
34390	"DANISHCM"	115 30	34402	"CAL AVE "	115 30	"1 "	0.12	0.95	-89.99	-26.50	484.23 AMPS	512.08 AMPS	08sumpk-catc-after	58
34390	"DANISHCM"	115 30	34407	"WFRES J2"	115 30	"1 "	0.07	0.90	-86.12	-23.20	461.03 AMPS	512.08 AMPS	08sumpk-catc-before	58
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=														
34409	"PNDLJ2 "	115 30	34412	"HERNDON "	115 30	"1 "	0.67	1.11	166.84	41.63	828.10 AMPS	743.03 AMPS	08sumpk-catc-before	61
34409	"PNDLJ2 "	115 30	34412	"HERNDON "	115 30	"1 "	0.67	1.11	166.83	41.54	826.56 AMPS	743.03 AMPS	08sumpk-catc-after	61
34409	"PNDLJ2 "	115 30	34416	"BULLARD "	115 30	"1 "	0.50	0.97	142.77	26.70	718.08 AMPS	743.03 AMPS	08sumpk-catc-before	61
34409	"PNDLJ2 "	115 30	34416	"BULLARD "	115 30	"1 "	0.50	0.96	142.77	26.65	716.74 AMPS	743.03 AMPS	08sumpk-catc-after	61
34411	"PNDLJ1 "	115 30	34412	"HERNDON "	115 30	"1 "	0.61	1.12	167.18	43.31	833.64 AMPS	743.03 AMPS	08sumpk-catc-before	62
34411	"PNDLJ1 "	115 30	34412	"HERNDON "	115 30	"1 "	0.61	1.12	167.17	43.30	833.45 AMPS	743.03 AMPS	08sumpk-catc-after	62
34411	"PNDLJ1 "	115 30	34416	"BULLARD "	115 30	"1 "	0.61	1.12	164.92	33.21	834.36 AMPS	743.03 AMPS	08sumpk-catc-before	62
34411	"PNDLJ1 "	115 30	34416	"BULLARD "	115 30	"1 "	0.61	1.12	164.92	33.21	834.17 AMPS	743.03 AMPS	08sumpk-catc-after	62
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.84	0.95	-326.02	-15.73	809.56 AMPS	849.96 AMPS	08sumpk-catc-before	24
37563	"MELONES "	230 30	38206	"COTTLE A"	230 30	"1 "	0.89	0.95	-326.02	-16.26	809.86 AMPS	849.96 AMPS	08sumpk-catc-after	24

--------FROM BUS--------				----------TO BUS----------					---BASE---		LOADING			
Bus #	NAME	KV	AREA	Bus #	NAME	KV	AREA	ID	MW	MVAR	P.U.	FLOW	RATING	------CASE------
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	-564	178	0.97	1437 AMPS	1483.54 AMPS	bullardec-08sumop-catb-before
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	-588	184	1.01	1500 AMPS	1483.54 AMPS	bullardec-08sumop-catb-after
30735	"METCALF "	230	30	30750	"MOSSLND2"	230	30	"1 "	-329	57	0.92	819 AMPS	890.87 AMPS	bullardec-08sumop-catb-before
30735	"METCALF "	230	30	30750	"MOSSLND2"	230	30	"1 "	-336	59	0.94	838 AMPS	890.87 AMPS	bullardec-08sumop-catb-after
30735	"METCALF "	230	30	30755	"MOSSLND1"	230	30	"1 "	-329	57	0.92	819 AMPS	890.87 AMPS	bullardec-08sumop-catb-before
30735	"METCALF "	230	30	30755	"MOSSLND1"	230	30	"1 "	-336	59	0.94	838 AMPS	890.87 AMPS	bullardec-08sumop-catb-after
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30829	"P0429 "	230	30	30835	"HERNDON "	230	30	"1 "	-344	58	1.02	840 AMPS	825.86 AMPS	bullardec-08sumop-catb-after
31260	"MNDCNO M"	115	30	31300	"MENDOCNO"	60	30	"1 "	-6	-75	0.93	75 MVA	80.00 MVA	bullardec-08sumop-catb-before
31260	"MNDCNO M"	115	30	31300	"MENDOCNO"	60	30	"1 "	-6	-75	0.93	75 MVA	80.00 MVA	bullardec-08sumop-catb-after
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	4	0.94**	95 AMPS	101.04 AMPS	bullardec-08sumop-catb-before
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	4	0.94**	95 AMPS	101.04 AMPS	bullardec-08sumop-catb-after
34473	"SNJQTP "	70	30	34474	"HELM "	70	30	"1 "	-39	16	0.98	314 AMPS	321.67 AMPS	bullardec-08sumop-catb-before
34473	"SNJQTP "	70	30	34474	"HELM "	70	30	"1 "	-39	16	0.98	315 AMPS	321.67 AMPS	bullardec-08sumop-catb-after
34473	"SNJQTP "	70	30	34475	"AGRCJCT "	70	30	"1 "	-39	15	0.98	314 AMPS	321.67 AMPS	bullardec-08sumop-catb-before
34473	"SNJQTP "	70	30	34475	"AGRCJCT "	70	30	"1 "	-39	16	0.98	315 AMPS	321.67 AMPS	bullardec-08sumop-catb-after

ALTERNATIVE 3 – OPERATIONS OPTION

--------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 #
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.93	-619.38	198.26	1585.40 AMPS	1699.42 AMPS	08sumop-catb-before	10
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.96	-636.92	204.76	1633.24 AMPS	1699.42 AMPS	08sumop-catb-after	10
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.93	-614.97	196.21	1573.24 AMPS	1699.42 AMPS	08sumop-catb-before	11
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.39	188.96	1535.48 AMPS	1699.42 AMPS	08sumop-catb-before	150
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.14	196.37	1598.42 AMPS	1699.42 AMPS	08sumop-catb-after	150
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.39	188.96	1535.49 AMPS	1699.42 AMPS	08sumop-catb-before	151
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.14	196.37	1598.42 AMPS	1699.42 AMPS	08sumop-catb-after	151
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.24	188.20	1534.11 AMPS	1699.42 AMPS	08sumop-catb-before	19
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-624.71	197.22	1598.45 AMPS	1699.42 AMPS	08sumop-catb-after	19
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.24	188.20	1534.12 AMPS	1699.42 AMPS	08sumop-catb-before	20
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-624.71	197.22	1598.45 AMPS	1699.42 AMPS	08sumop-catb-after	20
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-604.57	196.16	1550.08 AMPS	1699.42 AMPS	08sumop-catb-before	24
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-628.16	202.43	1611.40 AMPS	1699.42 AMPS	08sumop-catb-after	24
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.31	191.67	1549.21 AMPS	1699.42 AMPS	08sumop-catb-before	260
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-629.54	198.90	1610.81 AMPS	1699.42 AMPS	08sumop-catb-after	260
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-602.19	189.29	1537.68 AMPS	1699.42 AMPS	08sumop-catb-before	261
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.92	196.71	1600.61 AMPS	1699.42 AMPS	08sumop-catb-after	261
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.93	-621.02	194.43	1586.55 AMPS	1699.42 AMPS	08sumop-catb-after	262
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-622.78	196.39	1593.13 AMPS	1699.42 AMPS	08sumop-catb-after	263
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.93	-621.46	193.30	1587.22 AMPS	1699.42 AMPS	08sumop-catb-after	264
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.92	-609.97	191.71	1559.65 AMPS	1699.42 AMPS	08sumop-catb-after	265
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.92	-609.97	191.71	1559.65 AMPS	1699.42 AMPS	08sumop-catb-after	266
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.92	-607.33	196.65	1557.81 AMPS	1699.42 AMPS	08sumop-catb-after	267
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APPENDIX C - STEADY STATE POWER FLOW RESULTS
AUTCON OUTPUT FILES FOR **ISO CATEGORY B** 2008 SUMMER OFF-PEAK OPERATING CONDITIONS
ALTERNATIVE 3 – OPERATIONS OPTION

--------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 #
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.92	-609.12	195.95	1561.29 AMPS	1699.42 AMPS	08sumop-catb-after	268
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.81	193.73	1552.46 AMPS	1699.42 AMPS	08sumop-catb-before	269
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-632.73	201.94	1621.24 AMPS	1699.42 AMPS	08sumop-catb-after	269
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.93	-619.81	197.86	1587.53 AMPS	1699.42 AMPS	08sumop-catb-after	270
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.91	-603.84	195.36	1548.63 AMPS	1699.42 AMPS	08sumop-catb-after	271
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.82	189.64	1537.51 AMPS	1699.42 AMPS	08sumop-catb-before	272
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-627.48	197.68	1605.41 AMPS	1699.42 AMPS	08sumop-catb-after	272
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.27	190.81	1548.96 AMPS	1699.42 AMPS	08sumop-catb-before	273
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-632.66	199.29	1619.12 AMPS	1699.42 AMPS	08sumop-catb-after	273
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-606.08	190.45	1547.99 AMPS	1699.42 AMPS	08sumop-catb-before	274
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-631.88	198.83	1616.68 AMPS	1699.42 AMPS	08sumop-catb-after	274
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.92	-610.44	195.96	1561.02 AMPS	1699.42 AMPS	08sumop-catb-before	275
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.97	-642.47	206.33	1645.93 AMPS	1699.42 AMPS	08sumop-catb-after	275
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-601.35	188.98	1535.41 AMPS	1699.42 AMPS	08sumop-catb-before	276
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.10	196.39	1598.35 AMPS	1699.42 AMPS	08sumop-catb-after	276
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-602.27	188.16	1536.55 AMPS	1699.42 AMPS	08sumop-catb-before	277
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-626.03	195.62	1599.55 AMPS	1699.42 AMPS	08sumop-catb-after	277
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.90	-602.20	189.49	1537.81 AMPS	1699.42 AMPS	08sumop-catb-before	278
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.94	-625.88	196.85	1600.57 AMPS	1699.42 AMPS	08sumop-catb-after	278
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-632.45	203.23	1621.95 AMPS	1699.42 AMPS	08sumop-catb-after	293
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30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.99	-654.30	210.22	1678.34 AMPS	1699.42 AMPS	08sumop-catb-after	294
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.91	-604.57	196.16	1550.08 AMPS	1699.42 AMPS	08sumop-catb-before	295
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.93	-616.27	199.00	1580.09 AMPS	1699.42 AMPS	08sumop-catb-after	295
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	0.97	0.93	-619.38	198.26	1585.40 AMPS	1699.42 AMPS	08sumop-catb-before	296
30670	"WESTLEY "	230	30	30765	"LOSBANOS"	230	30	"1 "	1.01	0.95	-628.00	201.34	1608.66 AMPS	1699.42 AMPS	08sumop-catb-after	296
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30829	"P0429 "	230	30	30835	"HERNDON "	230	30	"1 "	1.02	0.90	-363.74	54.36	882.93 AMPS	976.48 AMPS	08sumop-catb-after	153

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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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30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.93   -371.33    66.22   906.53 AMPS  976.48 AMPS   08sumop-catb-after  17

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30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.94   -374.77    67.20   917.03 AMPS  976.48 AMPS   08sumop-catb-after   2

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30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.92   -369.08    62.95   900.62 AMPS  976.48 AMPS   08sumop-catb-after  87

34116 "LE GRAND"  115 30  34154 "DAIRYLND"  115 30  "1 "    0.78    0.91    -59.69    26.44   310.22 AMPS  340.89 AMPS   08sumop-catb-before 214
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ALTERNATIVE 3 – OPERATIONS OPTION

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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 "   1.01    0.90   -600.22   187.34  1531.52 AMPS 1699.42 AMPS   08sumop-catc-after  20

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30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   1.01    0.93   -616.28   198.25  1575.26 AMPS 1699.42 AMPS   08sumop-catc-after  22

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30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   1.01    0.91   -607.53   191.68  1551.94 AMPS 1699.42 AMPS   08sumop-catc-after  23

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30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   1.01    0.93   -617.75   199.86  1584.86 AMPS 1699.42 AMPS   08sumop-catc-after  25

30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   0.97    0.97   -638.53   210.32  1641.98 AMPS 1699.42 AMPS   08sumop-catc-before  26
30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   1.01    0.99   -652.65   215.49  1680.67 AMPS 1699.42 AMPS   08sumop-catc-after  26

30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   0.97    0.93   -618.81   196.05  1582.07 AMPS 1699.42 AMPS   08sumop-catc-before  27
30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   1.01    0.96   -633.93   202.07  1623.90 AMPS 1699.42 AMPS   08sumop-catc-after  27

30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   0.97    0.93   -620.55   198.97  1588.75 AMPS 1699.42 AMPS   08sumop-catc-before  28
30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   1.01    0.96   -635.29   204.74  1629.51 AMPS 1699.42 AMPS   08sumop-catc-after  28

30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   0.97    0.96   -637.17   202.03  1632.82 AMPS 1699.42 AMPS   08sumop-catc-before  30
30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   1.01    1.00   -660.08   210.24  1695.42 AMPS 1699.42 AMPS   08sumop-catc-after  30

30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   0.97    0.90   -601.35   189.25  1535.71 AMPS 1699.42 AMPS   08sumop-catc-before  32
30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   1.01    0.99   -654.30   210.30  1678.48 AMPS 1699.42 AMPS   08sumop-catc-after  32

30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   0.97    0.90   -601.35   189.25  1535.71 AMPS 1699.42 AMPS   08sumop-catc-before  33
30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   1.01    0.95   -632.47   202.80  1621.14 AMPS 1699.42 AMPS   08sumop-catc-after  33

30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   0.97    0.91   -604.57   196.16  1550.08 AMPS 1699.42 AMPS   08sumop-catc-before  35
30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   1.01    1.02   -673.24   222.67  1734.73 AMPS 1699.42 AMPS   08sumop-catc-after  35

30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   0.97    0.91   -604.57   196.16  1550.08 AMPS 1699.42 AMPS   08sumop-catc-before  36
30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   1.01    0.98   -647.96   213.64  1668.04 AMPS 1699.42 AMPS   08sumop-catc-after  36

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30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   1.01    0.91   -604.77   196.30  1550.66 AMPS 1699.42 AMPS   08sumop-catc-after  37

30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   0.97    0.91   -604.66   196.01  1550.15 AMPS 1699.42 AMPS   08sumop-catc-before  38
30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   1.01    0.95   -628.26   202.19  1611.36 AMPS 1699.42 AMPS   08sumop-catc-after  38

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30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "   1.01    0.91   -602.37   189.84  1538.55 AMPS 1699.42 AMPS   08sumop-catc-after  39

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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 #

30670 "WESTLEY "  230 30  30765 "LOSBANOS"  230 30  "1 "    1.01    0.94   -626.94   200.36  1603.95 AMPS 1699.42 AMPS   08sumop-catc-after  45

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30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.95   -377.38    82.98   925.58 AMPS  976.48 AMPS   08sumop-catc-after  25

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30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.92   -367.95    63.15   898.35 AMPS  976.48 AMPS   08sumop-catc-after  29

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30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.93   -372.83    66.47   911.96 AMPS  976.48 AMPS   08sumop-catc-after  41

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30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.91   -364.16    58.62   889.39 AMPS  976.48 AMPS   08sumop-catc-after  47

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30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    1.06   -421.97    89.78  1035.50 AMPS  976.48 AMPS   08sumop-catc-after  51

=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=
30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.92   -369.14    62.73   900.79 AMPS  976.48 AMPS   08sumop-catc-after  58

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30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.91   -363.96    58.51   888.02 AMPS  976.48 AMPS   08sumop-catc-after  59

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30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.96   -384.26    64.54   938.93 AMPS  976.48 AMPS   08sumop-catc-after   6

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30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.92   -369.59    65.34   902.47 AMPS  976.48 AMPS   08sumop-catc-after   7

=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=
30829 "P0429   "  230 30  30835 "HERNDON "  230 30  "1 "    1.02    0.94   -375.94    65.24   918.21 AMPS  976.48 AMPS   08sumop-catc-after   8

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30835 "HERNDON "  230 30  30840 "FGRDN T1"  230 30  "1 "    0.27    1.01    338.80  -107.04   857.53 AMPS  850.96 AMPS   08sumop-catc-after  31

=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=
30840 "FGRDN T1"  230 30  30850 "ASHLAN  "  230 30  "1 "    0.14    0.90    309.44   -81.92   769.62 AMPS  850.96 AMPS   08sumop-catc-after  31

34116 "LE GRAND"  115 30  34154 "DAIRYLND"  115 30  "1 "    0.78    0.95    -72.62    31.49   379.03 AMPS  398.12 AMPS   08sumop-catc-before  26
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=

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34116 "LE GRAND"  115 30  34154 "DAIRYLND"  115 30  "1 "    0.72    0.98    -74.69    32.64   390.30 AMPS  398.12 AMPS   08sumop-catc-after  35

=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=
34118 "LE GRNDJ"  115 30  34136 "WILSON B"  115 30  "1 "    0.63    0.92     67.24   -39.40   366.34 AMPS  398.12 AMPS   08sumop-catc-after  35
```

--------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 #
34366	"SANGER "	115 30	34370	"MC CALL "	115 30	"2 "	0.48	1.21	-281.55	-10.94	1355.84 AMPS	1124.58 AMPS	08sumop-catc-before	59
34366	"SANGER "	115 30	34370	"MC CALL "	115 30	"2 "	0.44	1.11	-261.14	-10.05	1252.25 AMPS	1124.58 AMPS	08sumop-catc-after	59
34366	"SANGER "	115 30	34370	"MC CALL "	115 30	"3 "	0.76	1.22	-247.58	-2.10	1188.32 AMPS	973.97 AMPS	08sumop-catc-before	14
34366	"SANGER "	115 30	34370	"MC CALL "	115 30	"3 "	0.70	1.12	-228.39	-1.30	1091.81 AMPS	973.97 AMPS	08sumop-catc-after	14
34366	"SANGER "	115 30	34370	"MC CALL "	115 30	"3 "	0.76	0.91	-185.68	1.56	885.84 AMPS	973.97 AMPS	08sumop-catc-before	60
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=														
34366	"SANGER "	115 30	34372	"MALAGA "	115 30	"1 "	0.64	1.03	-156.90	19.65	760.90 AMPS	739.01 AMPS	08sumop-catc-before	59
34366	"SANGER "	115 30	34372	"MALAGA "	115 30	"1 "	0.61	0.97	-147.97	20.18	715.57 AMPS	739.01 AMPS	08sumop-catc-after	59

--------FROM BUS--------				----------TO BUS----------					---BASE---		LOADING			------CASE------
Bus #	NAME	KV	AREA	Bus #	NAME	KV	AREA	ID	MW	MVAR	P.U.	FLOW	RATING	
30015	"TABLE MT"	500	30	30030	"VACA-DIX"	500	30	"1 "	2090	-143	0.91	2259 AMPS	2477.99 AMPS	bullardec-09sprpk-catb-before
30015	"TABLE MT"	500	30	30030	"VACA-DIX"	500	30	"1 "	2099	-140	0.92	2270 AMPS	2477.99 AMPS	bullardec-09sprpk-catb-after-alt3
31468	"CASCADE "	115	30	45087	"DELTA "	115	40	"1 "	81	-28	0.99	414 AMPS	416.70 AMPS	bullardec-09sprpk-catb-before
31468	"CASCADE "	115	30	45087	"DELTA "	115	40	"1 "	81	-28	0.99	414 AMPS	416.70 AMPS	bullardec-09sprpk-catb-after-alt3
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	2	0.91**	92 AMPS	101.04 AMPS	bullardec-09sprpk-catb-before
31636	"BURNEY "	60	30	31638	"BURNEYQF"	60	30	"1 "	-10	2	0.91**	92 AMPS	101.04 AMPS	bullardec-09sprpk-catb-after-alt3
32369	"COLFAXJT"	60	30	32380	"WEMR SWS"	60	30	"1 "	29	-3	0.98	274 AMPS	279.05 AMPS	bullardec-09sprpk-catb-before
32369	"COLFAXJT"	60	30	32380	"WEMR SWS"	60	30	"1 "	29	-3	0.98	274 AMPS	279.05 AMPS	bullardec-09sprpk-catb-after-alt3
33610	"VLLY SPS"	60	30	33619	"AMFOR_SW"	60	30	"1 "	29	5	0.99	277 AMPS	279.05 AMPS	bullardec-09sprpk-catb-before
33610	"VLLY SPS"	60	30	33619	"AMFOR_SW"	60	30	"1 "	29	5	0.99	277 AMPS	279.05 AMPS	bullardec-09sprpk-catb-after-alt3

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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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34200 "ORO LOMA"   70 30  34218 "DOS PALS"   70 30  "1 "    0.79    0.93     33.71     0.27   263.21 AMPS  282.08 AMPS   09sprpk-catb-after-alt3 279

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34200 "ORO LOMA"   70 30  34218 "DOS PALS"   70 30  "1 "    0.79    0.93     33.68     0.28   262.95 AMPS  282.08 AMPS   09sprpk-catb-after-alt3  58

34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.83    1.08    -51.32    -2.98   406.52 AMPS  376.93 AMPS   09sprpk-catb-before  11
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=

34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.83    1.09    -49.92   -12.76   410.57 AMPS  376.93 AMPS   09sprpk-catb-before 154
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=

34240 "GLASS   "   70 30  34252 "MADERA  "   70 30  "1 "    0.83    0.94    -38.71    -3.17   305.59 AMPS  324.97 AMPS   09sprpk-catb-before 216
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=

34418 "KINGSBRG"  115 30  34420 "CORCORAN"  115 30  "1 "    0.69    0.96     80.14     1.39   382.39 AMPS  398.12 AMPS   09sprpk-catb-before 105
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=

34418 "KINGSBRG"  115 30  34420 "CORCORAN"  115 30  "2 "    0.71    0.97     81.04     1.35   386.72 AMPS  398.12 AMPS   09sprpk-catb-before 104
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=

34456 "HRDWK TP"   70 30  34576 "KNGLOBUS"   70 30  "1 "    0.28    0.94    -40.69   -11.41   355.61 AMPS  377.75 AMPS   09sprpk-catb-before 128
34456 "HRDWK TP"   70 30  34576 "KNGLOBUS"   70 30  "1 "    0.38    0.94    -40.70   -11.42   356.30 AMPS  377.75 AMPS   09sprpk-catb-after-alt3 128

34475 "AGRCJCT "   70 30  34484 "KERMAN  "   70 30  "1 "    0.64    1.09     49.07    22.71   413.22 AMPS  379.40 AMPS   09sprpk-catb-before 154
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=

34518 "LEMOORE "   70 30  34522 "HNFRD SW"   70 30  "1 "    0.14    1.01    -30.22    -6.89   283.23 AMPS  280.43 AMPS   09sprpk-catb-before 128
34518 "LEMOORE "   70 30  34522 "HNFRD SW"   70 30  "1 "    0.26    1.01    -30.22    -6.89   283.80 AMPS  280.43 AMPS   09sprpk-catb-after-alt3 128
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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 #
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.75	1.06	-159.32	10.21	159.65 MVA	150.00 MVA	09sprpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"1 "	0.80	1.18	-176.40	10.85	176.73 MVA	150.00 MVA	09sprpk-catc-after-alt3	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.75	1.06	-79.67	5.11	79.83 MVA	75.00 MVA	09sprpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"2 "	0.80	1.18	-88.21	5.43	88.38 MVA	75.00 MVA	09sprpk-catc-after-alt3	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.75	1.06	-79.67	5.11	79.83 MVA	75.00 MVA	09sprpk-catc-before	23
30515	"WARNERVL"	230 30	36964	"WRNRVLLE"	115 30	"3 "	0.80	1.18	-88.21	5.43	88.38 MVA	75.00 MVA	09sprpk-catc-after-alt3	23
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.42	1.39	490.92	22.78	1183.17 AMPS	849.96 AMPS	09sprpk-catc-before	31
30810	"GREGG "	230 30	30845	"FGRDN T2"	230 30	"1 "	0.41	1.15	406.41	17.05	978.56 AMPS	849.96 AMPS	09sprpk-catc-after-alt3	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.30	1.29	453.09	6.59	1098.38 AMPS	849.96 AMPS	09sprpk-catc-before	31
30845	"FGRDN T2"	230 30	30850	"ASHLAN "	230 30	"1 "	0.30	1.05	369.47	6.24	893.93 AMPS	849.96 AMPS	09sprpk-catc-after-alt3	31
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.13	1.25	96.44	-36.06	497.30 AMPS	396.61 AMPS	09sprpk-catc-before	10
34100	"CHWCHLLA"	115 30	34105	"CERTANJ1"	115 30	"1 "	0.11	1.26	96.42	-36.16	497.87 AMPS	396.61 AMPS	09sprpk-catc-after-alt3	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.50	1.66	123.89	-57.61	659.75 AMPS	396.61 AMPS	09sprpk-catc-before	10
34101	"CERTAN T"	115 30	34116	"LE GRAND"	115 30	"1 "	0.55	1.66	123.86	-57.26	659.62 AMPS	396.61 AMPS	09sprpk-catc-after-alt3	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.13	1.25	-96.45	36.05	497.29 AMPS	396.61 AMPS	09sprpk-catc-before	10
34105	"CERTANJ1"	115 30	34121	"SHARON T"	115 30	"1 "	0.11	1.26	-96.42	36.15	497.87 AMPS	396.61 AMPS	09sprpk-catc-after-alt3	10
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.14	1.33	-126.89	-33.12	678.57 AMPS	512.08 AMPS	09sprpk-catc-before	2
34108	"CRESEY T"	115 30	34110	"ATWATR J"	115 30	"1 "	0.15	1.33	-126.89	-33.14	680.21 AMPS	512.08 AMPS	09sprpk-catc-after-alt3	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.29	1.10	-151.74	-49.05	814.50 AMPS	738.00 AMPS	09sprpk-catc-before	2
34110	"ATWATR J"	115 30	34144	"MERCED "	115 30	"1 "	0.29	1.11	-151.74	-49.08	816.49 AMPS	738.00 AMPS	09sprpk-catc-after-alt3	2
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.55	1.14	108.32	-54.74	584.25 AMPS	512.08 AMPS	09sprpk-catc-before	10
34116	"LE GRAND"	115 30	34134	"WILSON A"	115 30	"1 "	0.55	1.11	104.79	-53.64	567.40 AMPS	512.08 AMPS	09sprpk-catc-after-alt3	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.03	1.32	-104.61	28.77	522.73 AMPS	396.61 AMPS	09sprpk-catc-before	10
34121	"SHARON T"	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.08	1.32	-104.58	28.87	523.30 AMPS	396.61 AMPS	09sprpk-catc-after-alt3	10
34123	"K1-JCT "	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.26	0.91	-146.80	6.73	675.94 AMPS	743.03 AMPS	09sprpk-catc-before	10
34123	"K1-JCT "	115 30	34128	"OAKH_JCT"	115 30	"1 "	0.29	0.91	-146.79	6.78	676.67 AMPS	743.03 AMPS	09sprpk-catc-after-alt3	10
34123	"K1-JCT "	115 30	34358	"KERCKHF2"	115 30	"2 "	0.26	0.91	-148.37	6.77	676.11 AMPS	743.03 AMPS	09sprpk-catc-before	10
34123	"K1-JCT "	115 30	34358	"KERCKHF2"	115 30	"2 "	0.29	0.91	-148.37	6.81	676.84 AMPS	743.03 AMPS	09sprpk-catc-after-alt3	10
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.39	1.03	95.15	39.59	486.29 AMPS	471.92 AMPS	09sprpk-catc-before	2
34134	"WILSON A"	115 30	34144	"MERCED "	115 30	"1 "	0.39	1.03	94.51	40.06	485.30 AMPS	471.92 AMPS	09sprpk-catc-after-alt3	2

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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 #

34136 "WILSON B"  115 30  34144 "MERCED  "  115 30  "2 "    0.35    0.93     84.74    37.76   437.79 AMPS  471.92 AMPS   09sprpk-catc-before   2
34136 "WILSON B"  115 30  34144 "MERCED  "  115 30  "2 "    0.35    0.93     84.15    38.18   436.86 AMPS  471.92 AMPS   09sprpk-catc-after-alt3   2

34473 "SNJQTP  "   70 30  34474 "HELM    "   70 30  "1 "    0.70    0.91    -39.59    23.69   344.89 AMPS  379.40 AMPS   09sprpk-catc-before  28
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34473 "SNJQTP  "   70 30  34475 "AGRCJCT "   70 30  "1 "    0.70    0.91    -39.88    23.11   345.12 AMPS  379.40 AMPS   09sprpk-catc-before  28
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=

34475 "AGRCJCT "   70 30  34484 "KERMAN  "   70 30  "1 "    0.64    1.03     52.00     1.17   388.94 AMPS  379.40 AMPS   09sprpk-catc-before  30
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=

34480 "KEARNEY "   70 30  34512 "CARUTHRS"   70 30  "1 "    0.64    0.96     37.08     2.81   285.60 AMPS  296.92 AMPS   09sprpk-catc-before  13
=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=2=
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