



*Mountain States Transmission Intertie
("MSTI")*

Phase 1 Comprehensive Progress Report

March 28, 2008

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Executive Summary

NorthWestern Energy (“NWE”) plans to build a 500 kV transmission line approximately 460 miles long. The line, called the Mountain States Transmission Intertie (“MSTI”), will be built between Townsend, MT, and Midpoint substation in southern Idaho. MSTI will be a series compensated transmission line, with a phase shifting transformer (“PST”) to control power flow.

The northern terminus of MSTI will be a new 500 kV substation called Townsend. It will tap two existing 500 kV transmission lines between the Broadview substation, and the Garrison substation. The southern terminus of MSTI will be Midpoint—an existing 500 kV substation in southern Idaho. A substation for the PST will be built at or near the existing Mill Creek substation, in southwest Montana. Series capacitors will be located at Midpoint substation, and Mill Creek substation. (See Figure 1.)

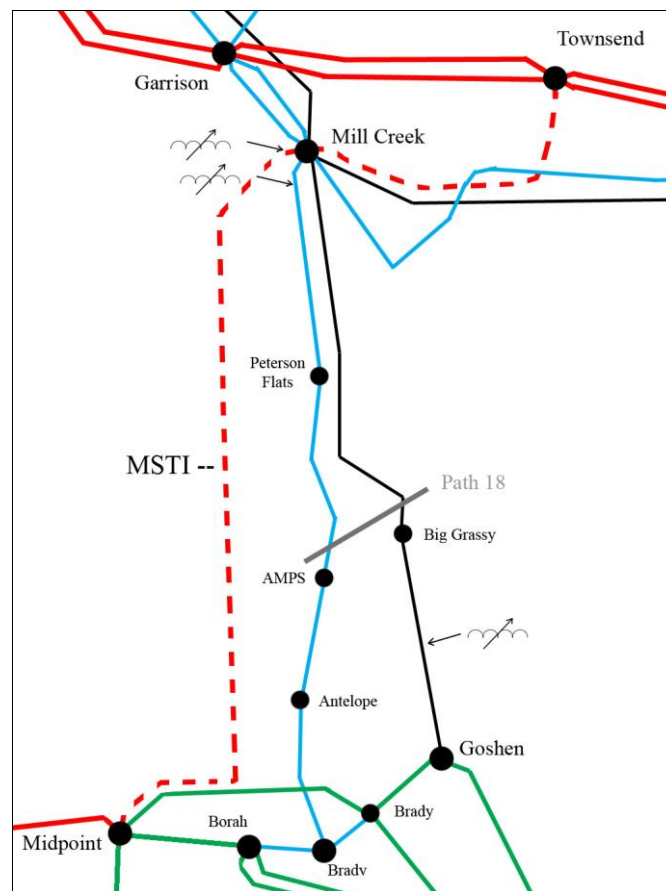


Figure 1. MSTI 500 kV

MSTI will be built to meet transmission service requests from customers, and to relieve constraints on the regions' existing transmission system. In addition, MSTI will accomplish the following:

- Improve transmission system reliability,
- Meet the growing demand for electricity,
- Provide regional energy diversification, and
- Develop a positive economic impact for the area.

This study was completed while following all regional planning and project rating review guidelines and requirements. The results of this study show that MSTI also meets all applicable NERC and WECC standards. MSTI has a planned in-service date of 2013. NorthWestern Energy believes that it has conformed to the guidelines in the WECC Path Rating Process.

Introduction

Regional and Sub-Regional Participation:

In an effort to address WECC guidelines, NWE is participating in the Northern Tier Transmission Group (“NTTG”) Fast Track process. Through the Fast Track process, MSTI is coordinated with other regional and sub-regional projects. This helps ensure that MSTI:

- Takes multiple project needs and plans into account,
- Cooperates with other projects to identify broader regional needs,
- Takes planned resources of the region into account,
- Seeks input from stakeholders, and
- Coordinates with potentially parallel or competing projects.

Fulfillment of Need:

This study demonstrates that the proposed MSTI 500 kV project meets all NERC and WECC Planning Standards. The Phase 1 study effort shows that MSTI fulfills the need for new transmission, and reduces existing system constraints.

Project Description

MSTI will form a 500 kV connection between southwest Montana and southern Idaho. The northern interconnection point will tap two existing 500 kV transmission lines near Townsend, MT. The southern interconnection point will be at the Midpoint 500 kV substation. An additional substation will also be built near the existing Mill Creek substation. The new Mill Creek 500 kV substation will be built to accommodate a phase shifting transformer and series capacitors.

MSTI has a proposed N-S rating of 1500 MW. Power-flow and angle stability studies show that a 1500 MW N-S rating is possible during a heavy load condition. The N-S rating can be achieved by re-dispatching generation in Montana to export an additional 1500 MW, while increasing imports in California, Nevada, and Utah.

MSTI has a proposed S-N rating of 950 MW. This rating can be accomplished during light load conditions by decreasing exports in Montana and the Northwest, while increasing generation in Utah and Wyoming.

The following items are illustrated in Figure 2.:

- Proposed path for MSTI.
- Existing high voltage transmission system.
- Paths adjacent to MSTI
- NWE's control area.
- Location of PST.

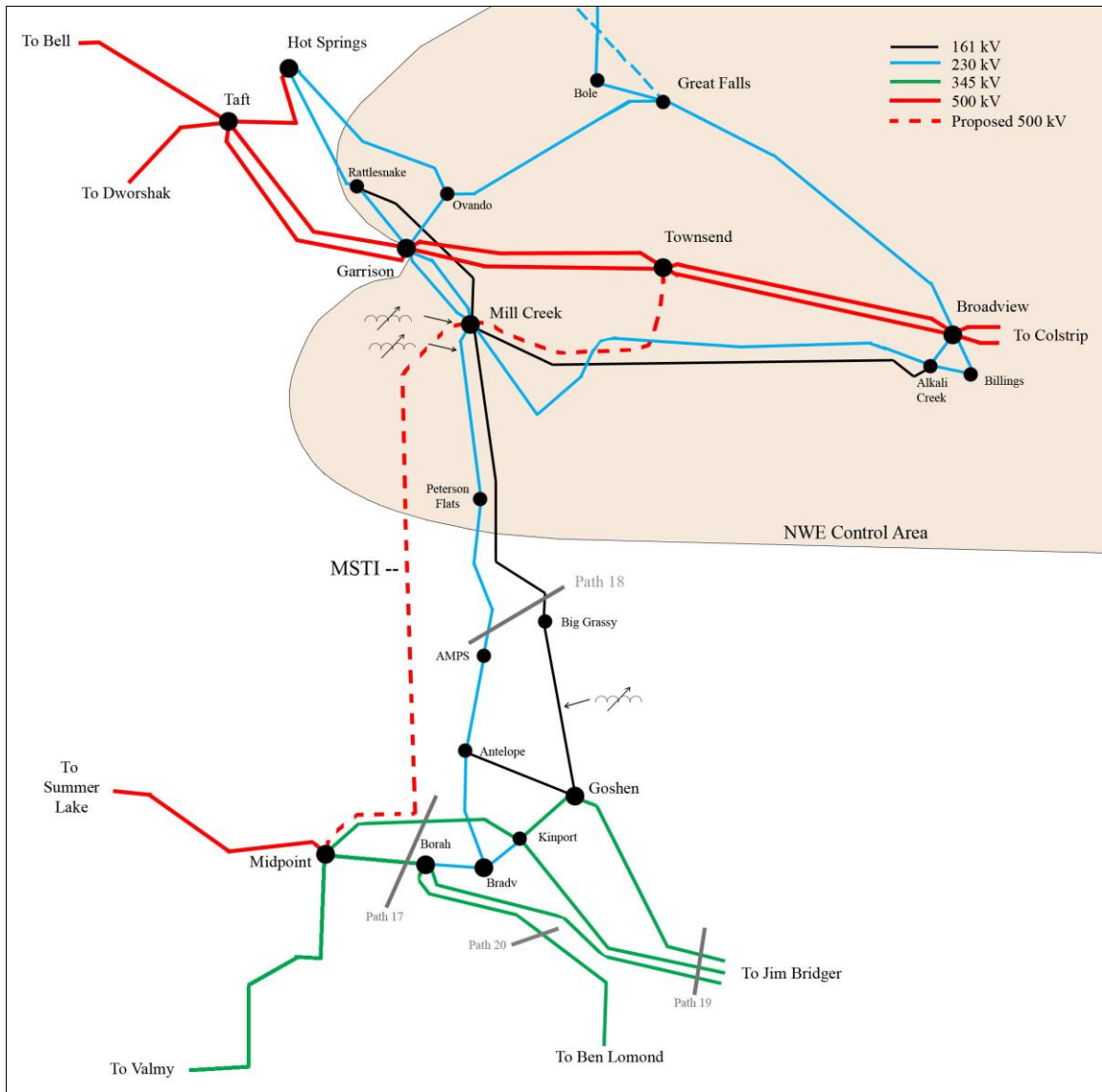


Figure 2. MSTI One-Line Diagram

Project Milestones and Timeline

MSTI Milestones:

- WECC RPP Phase 1—Start: May 17, 2007; Complete: May 27, 2008
- WECC RPP Phase 2—Start: May 20, 2008; Complete: May 31, 2009
- WECC RPP Phase 3—Start: May 31, 2009; Complete: December 31, 2012
- MFSA Application—Start: January 1, 2007; Complete: December 31, 2008
- NEPA/MEPA Scoping—Start: January 1, 2007; Complete: December 31, 2008
- EIS—Start: January 1, 2009; Complete: December 31, 2009
- ROD/ROW Grants—Start: June 1, 2009; Complete: June 1, 2010
- ROW Acquisitions—Start: January 1, 2009; Complete: December 31, 2010
- Project Engineering—Start: January 1, 2007; Complete: December 31, 2010
- Project Construction—Start: January 1, 2010; Complete: December 31, 2012
- In Service Date: 2013

Figure 3 shows a timeline for the study process.

2007				2008				2009				2010				2011				2012							
Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4				
WECC Regional Planning Process																											
WECC Phase 1																											
				WECC Phase 2																							
												WECC Phase 3															
Other Timelines																											
MFSA Application																											
NEPA/MEPA Scoping																											
								EIS																			
										ROD/ROW Grants																	
								ROW Acquisitions																			
Engineering																											
												Construction															

Figure 3. MSTI Timeline

Study Assumptions

Base Case Descriptions:

This study uses four base cases in various configurations:

- WECC 2015 Heavy Summer, with all NTTG Fast Track projects
- WECC 2015 Heavy Summer, with only MSTI
- WECC 2010 Light Autumn, with all NTTG Fast Track projects
- WECC 2010 Light Autumn, with only MSTI

These four base cases provide a broad range of scenarios for this study. Both heavy load and light load scenarios are studied with and without other NTTG Fast Track projects; these different scenarios help to meet regional WECC planning guidelines. They also help determine the impact that MSTI has on the existing system as well as the impact on any future projects. The NTTG projects include the following:

- Gateway South
- Gateway West
- Idaho to the Northwest (a.k.a., Hemingway – Boardman)
- Southwest Intertie Project (“SWIP”)
- TransWest Express
- Hemmingway – Captain Jack

Expected Operating Conditions:

The N-S proposed rating of 1500 MW was determined by using the 2015 Heavy Summer case. In order to achieve 1500 MW of flow on MSTI, generation was re-dispatched in Montana, Arizona, Utah, and California. Generation in Montana was increased by 1500 MW and decreased by 500 MW each in Arizona, Utah, and California. In order to achieve increased Montana exports, planned resources in NWE’s queue were included in the base-cases. In the N-S rating cases, 1500 MW was shown to flow on MSTI with and without the other NTTG Fast Track projects.

When studying S-N flow, the 2010 Light Autumn base-case was used to determine the proposed rating of 950 MW. Generation was decreased in Montana and the northwest by 1000 MW, and increased by 1000 MW in Idaho and Wyoming. With the case dispatched as stated, the limiting element in this scenario was the angle range on the PST.

Study Methodology/Guidelines

Study Methodology

A study plan was developed and agreed to by the WECC Regional Planning Review Group. The plan can be summarized as follows:

1. Power-flow contingency analysis:
 - a. The single element contingencies (i.e. N-1) listed in Appendix 3 were evaluated to screen for post-outage overloading of facilities and for unacceptable voltage performance to verify that WECC criteria were met for each outage.
 - b. The double element contingencies (i.e. N-2), also listed in Appendix 3, were evaluated to screen for post outage overloading of facilities and for unacceptable voltage performance.
 - c. A detailed study of the effects of MSTI on existing Remedial Action Schemes (“RAS”) will be performed in the Phase 2 study.
2. Transient stability analysis:
 - a. The transient stability of the system was evaluated with MSTI at its proposed power-flow rating. Light autumn and heavy summer cases were used in the study. In the comparison of results for cases with MSTI as a stand-alone project with cases that included the other NTTG Fast Track projects it was clear that adding the other NTTG projects served to improve the system performance.
 - b. A detailed study of the effects of MSTI on existing Remedial Action Schemes (“RAS”) will be performed in the Phase 2 study.
3. Reactive Margin Analysis:
 - a. WECC requires that all new rated paths or facilities be tested for voltage stability at 2.5% over the proposed rating for all level C contingencies and at 5% over their proposed rating for all Level B contingencies to meet the WECC standard for voltage stability.

Study Results and Conclusion

Planned Rating

This study shows that the MSTI performance is acceptable at the proposed path rating of 1500 MW North to South, and 950 MW South to North for the non-simultaneous conditions studied. Some possible simultaneous impacts that will be studied in Phase 2 include:

- Path 8 (Montana to Northwest),
- Path 17 (Borah West),
- Path 18 (Montana-Idaho),
- Path 19 (Bridger West), and
- Path 20 (Path C).

Power-Flow Results

In each base-case, flow on MSTI was increased until either 1500 MW was reached, or another limit was hit (i.e. available angle on phase shifting transformer). In both heavy summer cases, 1500 MW was achieved. In the light autumn cases, 1500 was reached with the addition of the NTTG Fast Track projects and a limit of approximately 1400 MW without the NTTG Fast Track projects. This limit of 1400 MW was because of a limitation of angle on the phase shifting transformer. After the transfer across MSTI was established, a series of post-transient contingencies were analyzed. A list of the N-1 and N-2 contingencies studied is provided in Appendix 3.

In all four cases, no thermal overloads were seen. A variety of voltage excursions were seen, but in all cases these excursions could be brought back to acceptable levels by using existing switched-shunt devices.

A summary of path flows for all four cases can be seen in the following table. Each column has a summary of values for the different base cases, including a summary of the northbound study

	2010LA N-S without Fast Track Projects	2010LA N-S with Fast Track Projects	2015HS N-S without Fast Track Projects	2015HS N-S with Fast Track Projects	2010LA S-N 950 MW
NORTHWEST AREA DATA					
TOTAL NW LOAD	23785.5	23785.5	26305	26305	23785.5
TOTAL NW LOSS	763.9	771.1	1241	1172.4	880

	2010LA N-S without Fast Track Projects	2010LA N-S with Fast Track Projects	2015HS N-S without Fast Track Projects	2015HS N-S with Fast Track Projects	2010LA S-N 950 MW
TOTAL NW INT	-6486.2	-6486.1	3157.8	3157.7	-7084.5
TOTAL NW GEN	18106.2	18113.6	30745.9	30677.6	17624.4
KEY NW PATH FLOWS					
NORTH OF JOHN DAY FLOWS	-1552.8	-1618	3219	3356.8	-1607.8
COI FLOWS	-2067.1	-2081.3	4567.9	4520.2	-3873.5
PCDC FLOWS @CELILO1&2	-739.2	-739.2	800	800	-739.2
PCDC FLOWS @CELILO3&4	-1108.1	-1108.1	1200	1200	-1108.1
BC HYDRO-NORTHWEST FLOWS	-686.3	-687.2	2613.2	2613.5	-766.5
MONTANA					
MONTANA AREA DATA					
TOTAL MONTANA LOAD	1305.1	1305.1	1842.8	1842.8	1305.1
TOTAL MONTANA LOSS	270	267.4	282.2	278.1	167.6
TOTAL MONTANA INT	3328.6	3327.6	2805.9	2806.4	512.2
TOTAL MONTANA GEN	4904.2	4900.7	4931.7	4928.1	1941.2
MONTANA PATH FLOWS					
MONTANA-NORTHWEST FLOW	2053.2	1911.2	845.2	775	2168.9
ALBERTA-BCHYDRO FLOW	313.5	312.8	-86.8	-86.5	225.8
GREAT FALLS SOUTH FLOW	259.9	260.4	169.4	212	-8.0
MONTANA-ALBERTA FLOW	313.3	312.9	313.2	313.5	225.8
GREAT FALLS-HILINE FLOW	21.8	21.8	32.7	32.2	21.8
AMPS FLOW (230KV 250MW)	-75.7	-89	160.9	150.3	-198.4
AMPS PST ANGLE	0	0	0	0	0
AMPS+JEFF FLOW (MTID337)	-152.1	-171.1	233.7	217.2	-331.7
JEFFERSON PST ANGLE	14	14	14	14	14
JEFFERSON PST FLOW	-102.2	-108.2	27.7	21.9	-162.5
MSTI LINE FLOWS AT TWN	1340.2	1498.1	1510.4	1516.5	954
BROADVIEW-TOWNSEND FLOW1	1537.6	1538.8	1325.4	1309.5	797.8
BROADVIEW-TOWNSEND FLOW2	1537.6	1538.8	1325.4	1309.5	797.8
BROADVIEW-JUDITHGAP FLOW	-108.8	-110	-76.2	-76	-125.4
SHOREYROAD-WILLSALL	-94.3	-96.6	-61.9	-71.7	-128.4

	2010LA N-S without Fast Track Projects	2010LA N-S with Fast Track Projects	2015HS N-S without Fast Track Projects	2015HS N-S with Fast Track Projects	2010LA S-N 950 MW
FLOW					
BROADVIEW230/100 FLOW1	-8.3	-8.6	-1.2	-2.3	-10.1
BROADVIEW230/100 FLOW2	-8.5	-8.8	-1.3	-2.3	-10.3
COLUMB-RJ WEST 161 KV	-34.7	-35.8	-25.3	-31.5	-50.3
WEST OF BROADVIEW FLOW	2820.6	2817.7	2485	2435.2	1271.2
YELLOWTAIL NORTH FLOWS	56.5	57.1	-74.4	-165.8	67.4
YELLOWTAIL SOUTH FLOWS	68.6	68	329.4	420.9	57.7
MILES CITY DC TIE FLOW	142	142	142	142	142
YELLOWTAIL GENERATION	130	130	260	260	130
MONTANA-SOUTHEAST FLOWS	-185.6	-186.2	-47.5	44.4	-196.5
WEST OF COLSTRIP	2668.9	2665.4	2632.5	2675.3	1075.9
WEST OF CROSSOVER	2827	2823.7	2674.9	2699.7	1233.4
MONTANA PHASE-SHIFTERS					
RIMROCK PST ANGLE	-34	-36.2	10	10	-58.8
RIMROCK PST FLOW	-34.5	-34.6	-21.5	-3	-34.5
BILLINGS PST ANGLE	-35.5	-37.7	10	10	-60
BILLINGS PST FLOW	-78.4	-78.7	-58	-2.7	-89.2
CROSSOVER PST ANGLE	-39.5	-41.8	-1.5	0	-66.3
CROSSOVER PST FLOW	57.1	56.9	156.1	173.9	57.1
MSTI PST ANGLE	-60	-60	-26.79	-38.69	60
MATL PST ANGLE	3.2	3.9	63.2	63.6	-4.4
MATL PST FLOW	-313	-312.6	-312.8	-313.2	-312.8
MONTANA GENERATORS					
MONTANA THERMAL 1	330	330	330	330	0
MONTANA THERMAL 2	330	330	330	330	330
MONTANA THERMAL 3	805.2	801.7	807.7	803.4	367.2
MONTANA THERMAL 4	805	805	805	805	0
MONTANA THERMAL 1-4 total	2270.2	2266.7	2272.7	2268.4	697.2
MONTANA THERMAL 6	162	162	151	151	162
MONTANA THERMAL 7	39	39	39	39	39
MONTANA THERMAL 8	58	58	59	59	58
MONTANA THERMAL 9	109	109	107	107	109
MONTANA THERMAL 10	140	140	140	139	80
MONTANA THERMAL 11	80	80	80	79	80
MONTANA THERMAL 12	90	90	90	96	90

	2010LA N-S without Fast Track Projects	2010LA N-S with Fast Track Projects	2015HS N-S without Fast Track Projects	2015HS N-S with Fast Track Projects	2010LA S-N 950 MW
MONTANA THERMAL 13	250	250	250	254	250
MONTANA THERMAL 14	290	290	300	329	0
MONTANA THERMAL 15	250	250	260	248	0
MONTANA THERMAL 16	250	250	260	248	0
MONTANA THERMAL 17	0	0	0	0	0
MONTANA THERMAL 18	500	500	520	496	0
TOTAL THERMAL GEN	3738.2	3734.7	3708.7	3783.4	1315.2
MONTANA WIND 1	135	135	135	135	135
MONTANA WIND 2	340	340	370	363	0
MONTANA WIND 3	110	110	100	10	0
MONTANA WIND 4	45	45	40	48	45
MONTANA WIND 5	90	90	90	95	0
TOTAL WIND GEN	720	720	735	651	180
MONTANA HYDRO 1	140	140	151	151	140
MONTANA HYDRO 2	65	65	68	68	65
MONTANA HYDRO 1 & 2 TOTL	205	205	219	219	205
MONTANA HYDRO 3	12	12	13	13	12
MONTANA HYDRO 4	40	40	41	41	40
MONTANA HYDRO 5	30	30	50	50	30
MONTANA HYDRO 6	4	4	4	4	4
MONTANA HYDRO 7	14	14	15	15	14
MONTANA HYDRO 8	46	46	49	49	46
MONTANA HYDRO 9	42	42	43	43	42
MONTANA HYDRO 10	38	38	39	39	38
MONTANA HYDRO 11	6	6	6	6	6
MONTANA HYDRO 3-11 TOTL	232	232	260	260	232
IDAHO					
IDAHO AREA DATA					
TOTAL IDAHO LOAD	1784	1784	3771.3	3771.3	1784
TOTAL IDAHO LOSS	101.5	104	184.4	162	194.1
TOTAL IDAHO INT	643.2	642.7	406	405.9	2043.2
TOTAL IDAHO GEN	2528.8	2530.7	4361.8	4339.2	4021.4
WYOMING WEST THERMAL 1	0	0	545	545	562
WYOMING WEST THERMAL 2	560	560	545	545	562
WYOMING WEST THERMAL 3	545	545	545	545	562
WYOMING WEST THERMAL 4	545	545	545	545	562
WYOMING WEST THERMAL	1650	1650	2180	2180	2248

	2010LA N-S without Fast Track Projects	2010LA N-S with Fast Track Projects	2015HS N-S without Fast Track Projects	2015HS N-S with Fast Track Projects	2010LA S-N 950 MW
KEY IDAHO PATH FLOWS (MW)					
IDAHO-NORTHWEST FLOWS	1329.3	1454.1	243.9	265.1	126.9
MIDPOINT - SUMMER LAKE	1015.2	1111.2	656.3	662.8	-971.5
BORAH WEST FLOWS	441	421.3	227.7	323.2	638.2
BRIDGER WEST FLOWS	398.4	399	778.3	2327.6	507.3
PACE AREA DATA					
TOTAL PACE LOAD	6096.9	6096.9	10051.3	10051.3	6096.9
TOTAL PACE LOSS	240.4	240.2	344.5	296.7	240.7
TOTAL PACE INT	-1398.4	-1398.5	-2523.2	-2523.2	-698.4
TOTAL PACE GEN	4943.8	4943.5	7879.5	7831.9	5644.1
KEY PACE PATH FLOWS (MW)					
PATH C FLOWS	68.7	61.7	-390	-65.6	157.1
TOT2 FLOWS	-446.1	-435.3	323.7	301.7	161.6
TOT4A FLOWS	559.2	556.7	429.8	316.5	432.5
TOT4B FLOWS	227.7	228.2	134.9	112.5	239.9

Transient Stability Results

The transient stability study revealed no problems with MSTI inserted into the existing system.

A list of the outages simulated is summarized below:

Fault Description	Line Segment Opened
3-Phase Fault at Garrison 500 kV	Garrison -- Taft (both circuits)
1-Phase Fault at Garrison 500 kV	Garrison -- Taft (single circuit)
3-Phase Fault at Garrison 500 kV	Garrison -- Taft (single circuit)
3-Phase Fault at Broadview 500 kV	Broadview -- Colstrip
1-Phase Fault at Broadview 500 kV	Broadview -- Colstrip
3-Phase Fault at Taft 500 kV	Taft -- Bell
3-Phase Fault at Taft 500 kV	Taft -- Dworshak
3-Phase Fault at Townsend 500 kV	Townsend -- Midpoint (MSTI)
3-Phase Fault at Midpoint 500 kV	Townsend -- Midpoint (MSTI)

3-Phase Fault at Townsend 500 kV	Townsend -- Garrison (both circuits)
3-Phase Fault at Townsend 500 kV	Townsend -- Garrison (single circuit)
3-Phase Fault at Broadview 500 kV	Broadview -- Townsend (both circuits)
3-Phase Fault at Broadview 500 kV	Broadview -- Townsend (single circuit)
3-Phase Fault at Midpoint 500 kV	Midpoint -- Summer Lake

The table of results can be found in Appendix 4. The system met all WECC criteria for the outages performed. NWE intends to fully study the simultaneous path dynamics in Phase 2, as well as perform a detailed study of the Jim Bridger system with appropriate RAS action.

Reactive Margin Results

WECC requires that a path must be tested at a flow level 2.5% above the proposed rating for all level C contingencies, and at a flow level 5% over the proposed rating for Level B contingencies to test for voltage stability. For this analysis, N-S flow on MSTI was increased by 5% of its rating on a 2015 heavy summer case. A case summary can be found below:

NORTHWEST AREA DATA	
TOTAL NW LOAD	26305
TOTAL NW LOSS	1193.1
TOTAL NW INT	3157.6
TOTAL NW GEN	30698.1
KEY NW PATH FLOWS	
NORTH OF JOHN DAY FLOWS	3423.2
COI FLOWS	4528.3
PCDC FLOWS @CELILO1&2	800
PCDC FLOWS @CELILO3&4	1200
BC HYDRO-NORTHWEST FLOWS	2612.8
MONTANA	
MONTANA AREA DATA	
TOTAL MONTANA LOAD	1842.8
TOTAL MONTANA LOSS	359.2
TOTAL MONTANA INT	3006.5
TOTAL MONTANA GEN	5209.4
MONTANA PATH FLOWS	
MONTANA-NORTHWEST FLOW	927.1
ALBERTA-BCHYDRO FLOW	-87.2
GREAT FALLS SOUTH FLOW	213.1
MONTANA-ALBERTA FLOW	312.8
GREAT FALLS-HILINE FLOW	31.9
AMPS FLOW (230KV 250MW)	157.6
AMPS PST ANGLE	0
AMPS+JEFF FLOW (MTID337)	229.5
JEFFERSON PST ANGLE	14
JEFFERSON PST FLOW	26.9
MSTI LINE FLOWS AT TWN	1579.4

BROADVIEW-TOWNSEND FLOW1	1425.2
BROADVIEW-TOWNSEND FLOW2	1425.2
BROADVIEW-JUDITHGAP FLOW	-72.2
SHOREYROAD-WILSALL FLOW	-68
BROADVIEW230/100 FLOW1	-1.9
BROADVIEW230/100 FLOW2	-1.9
COLUMB-RJ WEST 161 KV	-30.2
WEST OF BROADVIEW FLOW	2676.1
YELLOWTAIL NORTH FLOWS	-197.6
YELLOWTAIL SOUTH FLOWS	452.6
MILES CITY DC TIE FLOW	142
YELLOWTAIL GENERATION	260
MONTANA-SOUTHEAST FLOWS	76.5
WEST OF COLSTRIP	2956.5
WEST OF CROSSOVER	2969.4
MONTANA PHASE-SHIFTERS	
RIMROCK PST ANGLE	10
RIMROCK PST FLOW	2
BILLINGS PST ANGLE	10
BILLINGS PST FLOW	13.1
CROSSOVER PST ANGLE	0
CROSSOVER PST FLOW	185.2
MSTI PST ANGLE	-60
MILL CREEK PST FLOW	-269.2
MATL PST ANGLE	62.4
MATL PST FLOW	-312.5
MONTANA GENERATORS	
MONTANA THERMAL 1	330
MONTANA THERMAL 2	330
MONTANA THERMAL 3	803.5
MONTANA THERMAL 4	805
MONTANA THERMAL 1-4 Total	2268.5
MONTANA THERMAL 6	200
MONTANA THERMAL 7	39
MONTANA THERMAL 8	59
MONTANA THERMAL 9	200
MONTANA THERMAL 10	139
MONTANA THERMAL 11	79
MONTANA THERMAL 12	96
MONTANA THERMAL 13	254
MONTANA THERMAL 14	329

MONTANA THERMAL 15	248
MONTANA THERMAL 16	248
MONTANA THERMAL 17	0
MONTANA THERMAL 18	496
TOTAL THERMAL GEN	4064.6
MONTANA WIND 1	135
MONTANA WIND 2	363
MONTANA WIND 3	10
MONTANA WIND 4	48
MONTANA WIND 5	95
TOTAL WIND GEN	651
MONTANA HYDRO 1	151
MONTANA HYDRO 2	68
MONTANA HYDRO 1 & 2 TOTL	219
MONTANA HYDRO 3	13
MONTANA HYDRO 4	41
MONTANA HYDRO 5	50
MONTANA HYDRO 6	4
MONTANA HYDRO 7	15
MONTANA HYDRO 8	49
MONTANA HYDRO 9	43
MONTANA HYDRO 10	39
MONTANA HYDRO 11	6
MONTANA HYDRO 3-11 TOTL	260
IDAHO	
IDAHO AREA DATA	
TOTAL IDAHO LOAD	3771.3
TOTAL IDAHO LOSS	164.5
TOTAL IDAHO INT	305.8
TOTAL IDAHO GEN	4241.6
WYOMING WEST THERMAL 1	545
WYOMING WEST THERMAL 2	545
WYOMING WEST THERMAL 3	545
WYOMING WEST THERMAL 4	545
WYOMING WEST THERMAL TTL	2180
KEY IDAHO PATH FLOWS (MW)	
IDAHO-NORTHWEST FLOWS	121.8
MIDPOINT - SUMMER LAKE	628.5
BORAH WEST FLOWS	272.3

BRIDGER WEST FLOWS	2307.9
PACE AREA DATA	
TOTAL PACE LOAD	10051.3
TOTAL PACE LOSS	301.8
TOTAL PACE INT	-2623.2
TOTAL PACE GEN	7737
KEY PACE PATH FLOWS (MW)	
PATH C FLOWS	-75.4
TOT2 FLOWS	293
TOT4A FLOWS	333.9
TOT4B FLOWS	96.8

The same N-1 and N-2 contingencies studied for the power flow analysis were run on the case with increased power flow on MSTI. This study did not reveal any thermal overloads or voltage collapse problems.

Conclusion

NWE has proposed a planned north to south (“N-S”) rating of 1500 MW on MSTI. Power-flow and angle stability studies show that a 1500 MW N-S rating is reasonable and achievable on the MSTI line. Studies also show that a south to north (“S-N”) planned rating of 950 MW for MSTI is reasonable and achievable. This study shows that these ratings can be achieved with no adverse effects on the existing system and in full compliance with NERC and WECC Standards.

NorthWestern Energy believes it conforms to the guidelines in the WECC Path Rating Process. With this report, NorthWestern Energy expects to conclude Phase 1 of the path rating process.

Appendix 1: Contact Information

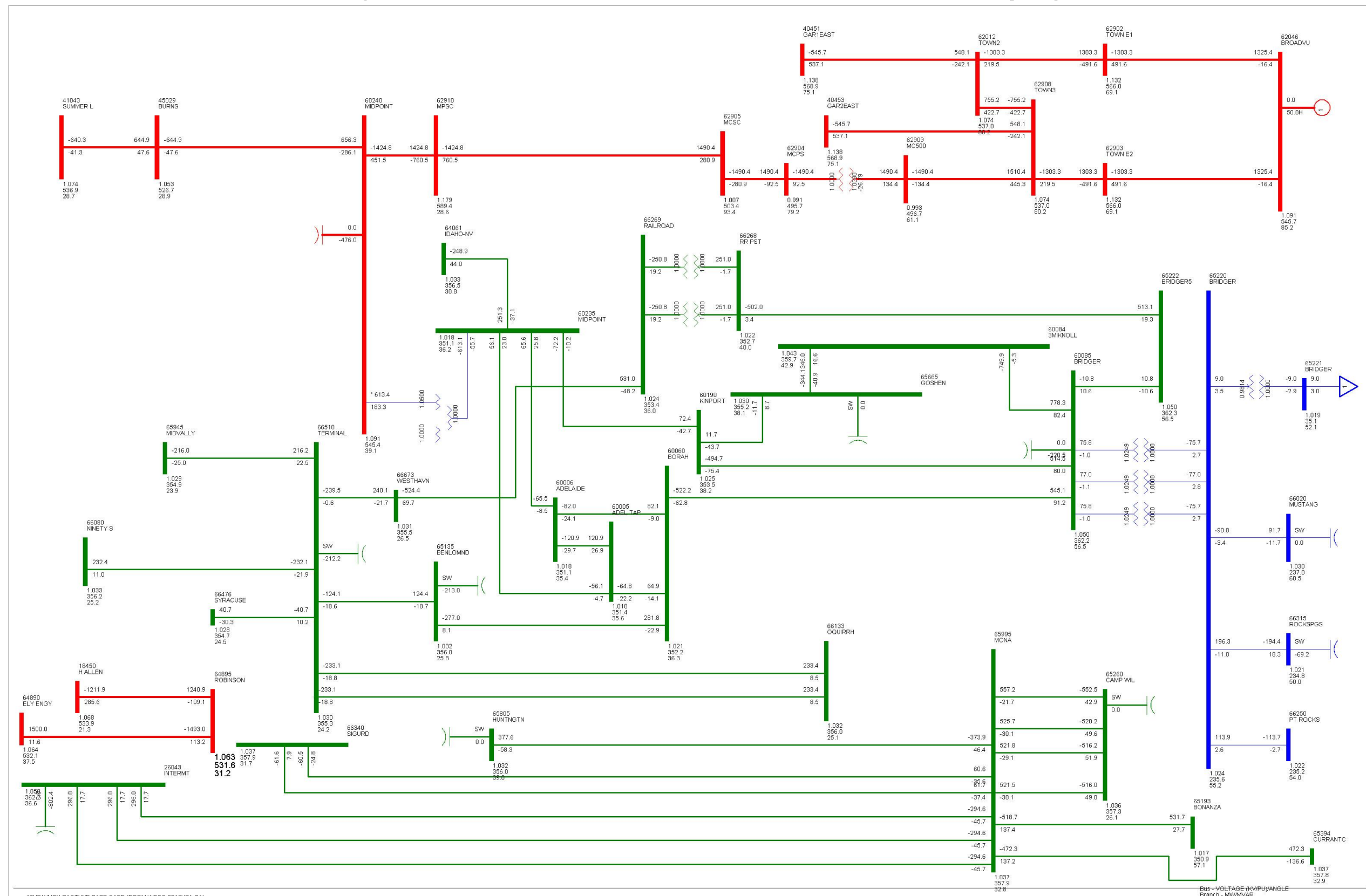
John Leland
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Dr. Charles Stigers
Senior Technical Advisor
Electric Transmission Planning
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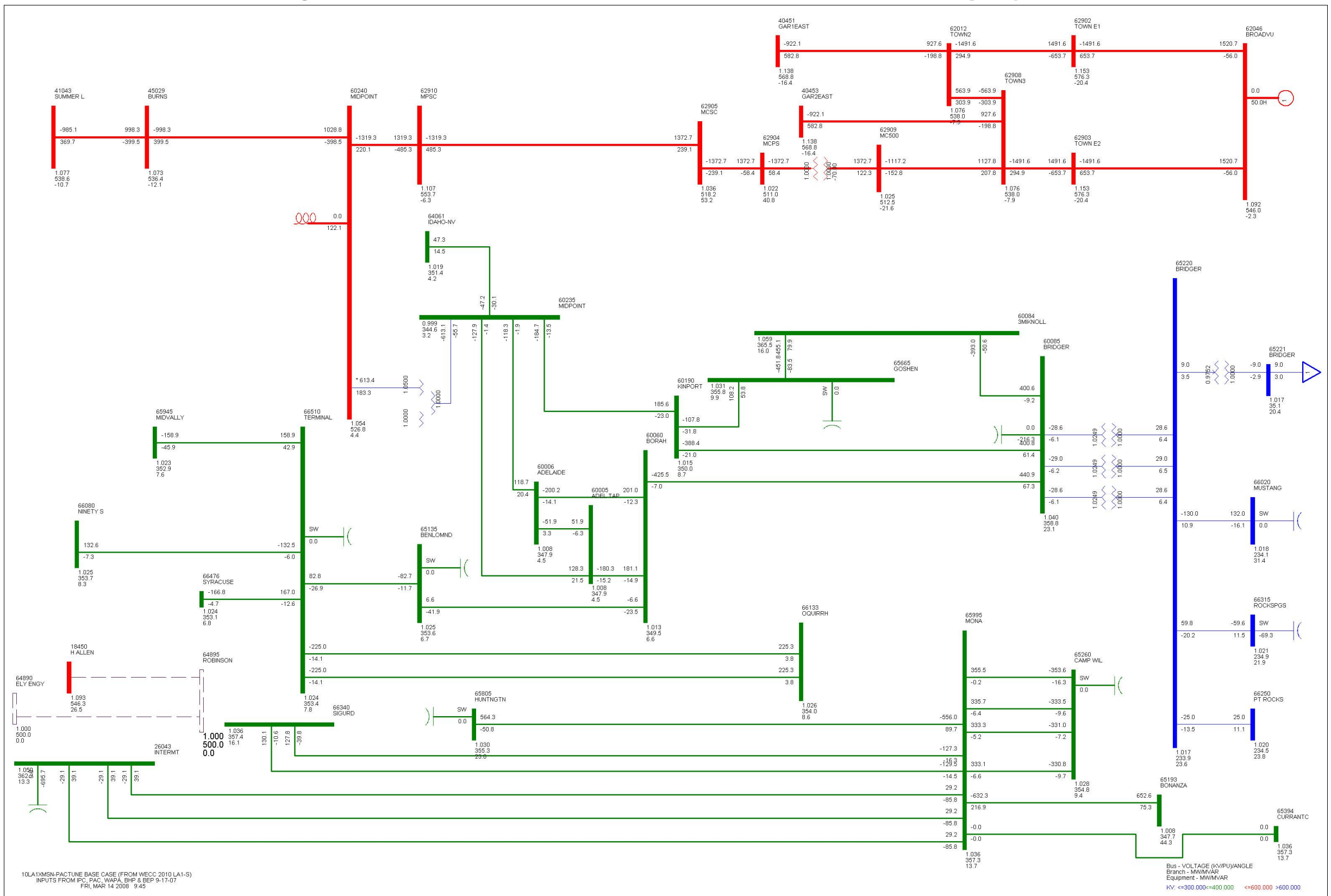
Ryan Munson
Planning Engineer
Electric Transmission Planning
NorthWestern Energy
Ryan.Munson@northwestern.com
(406) 497-3213

Appendix 2: WECC 2015 heavy summer base-case, with all NTTG Fast Track projects, 1500 MW southbound

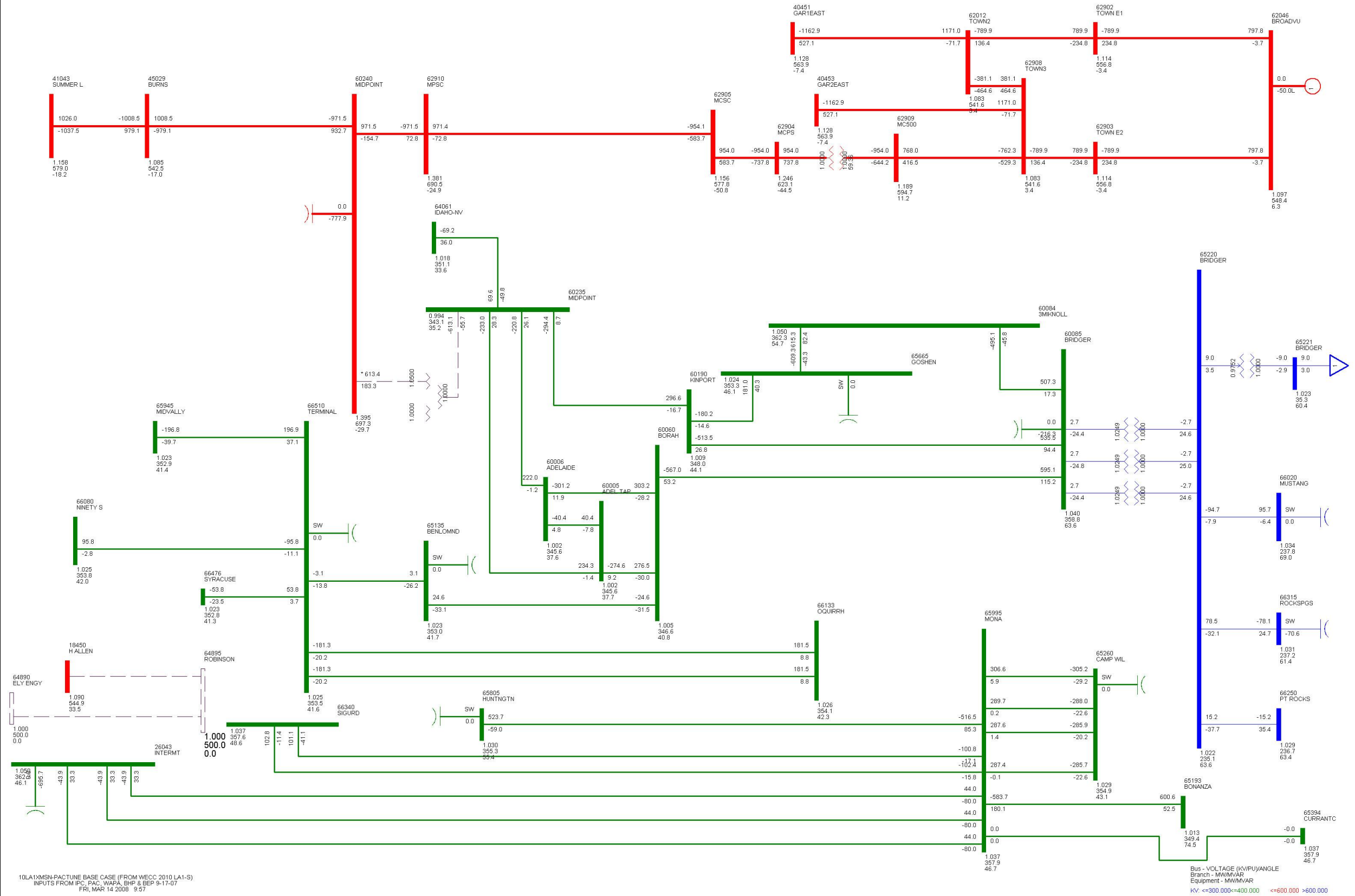
Appendix 2: WECC 2015 heavy summer base-case, without NTTG Fast Track projects 1500 MW southbound



Appendix 2: WECC 2010 light autumn base-case, without NTTG Fast Track projects, 1400 MW southbound



Appendix 2: WECC 2010 light autumn base-case, without NTTG Fast Track projects, 950 MW northbound.



Appendix 3: Power Flow Contingency List

N-1 Contingency List:

SINGLE 1	:	OPEN LINE FROM BUS 60005	[ADEL TAP	345.00]	TO BUS 60006	[ADELAIDE	345.00]	CKT 1
SINGLE 2	:	OPEN LINE FROM BUS 60005	[ADEL TAP	345.00]	TO BUS 60060	[BORAH	345.00]	CKT 1
SINGLE 3	:	OPEN LINE FROM BUS 60005	[ADEL TAP	345.00]	TO BUS 60235	[MIDPOINT	345.00]	CKT 1
SINGLE 4	:	OPEN LINE FROM BUS 60006	[ADELAIDE	345.00]	TO BUS 60060	[BORAH	345.00]	CKT 2
SINGLE 5	:	OPEN LINE FROM BUS 60006	[ADELAIDE	345.00]	TO BUS 60235	[MIDPOINT	345.00]	CKT 2
SINGLE 6	:	OPEN LINE FROM BUS 60045	[BOISEBCH	230.00]	TO BUS 60095	[BROWNLEE	230.00]	CKT &2
SINGLE 7	:	OPEN LINE FROM BUS 60045	[BOISEBCH	230.00]	TO BUS 60095	[BROWNLEE	230.00]	CKT &3
SINGLE 8	:	OPEN LINE FROM BUS 60045	[BOISEBCH	230.00]	TO BUS 60102	[HORSEFLT	230.00]	CKT &4
SINGLE 9	:	OPEN LINE FROM BUS 60045	[BOISEBCH	230.00]	TO BUS 60130	[DRAM	230.00]	CKT 1
SINGLE 10	:	OPEN LINE FROM BUS 60045	[BOISEBCH	230.00]	TO BUS 60207	[LOCUST	230.00]	CKT 1
SINGLE 11	:	OPEN LINE FROM BUS 60045	[BOISEBCH	230.00]	TO BUS 60232	[MIDPOINT	230.00]	CKT &3
SINGLE 12	:	OPEN LINE FROM BUS 60045	[BOISEBCH	230.00]	TO BUS 60249	[HUBBARD	230.00]	CKT 1
SINGLE 13	:	OPEN LINE FROM BUS 60045	[BOISEBCH	230.00]	TO BUS 60395	[RTLSNAKE	230.00]	CKT 2
SINGLE 14	:	OPEN LINE FROM BUS 60045	[BOISEBCH	230.00]	TO BUS 60420	[PEARL_ID	230.00]	CKT &1
SINGLE 15	:	OPEN LINE FROM BUS 60060	[BORAH	345.00]	TO BUS 60062	[BORAH	230.00]	CKT 1
SINGLE 16	:	OPEN LINE FROM BUS 60060	[BORAH	345.00]	TO BUS 60085	[BRIDGER	345.00]	CKT &1
SINGLE 17	:	OPEN LINE FROM BUS 60060	[BORAH	345.00]	TO BUS 65135	[BENLOMND	345.00]	CKT 1
SINGLE 18	:	OPEN LINE FROM BUS 60062	[BORAH	230.00]	TO BUS 60073	[BRADY	230.00]	CKT 1
SINGLE 19	:	OPEN LINE FROM BUS 60062	[BORAH	230.00]	TO BUS 60073	[BRADY	230.00]	CKT 2
SINGLE 20	:	OPEN LINE FROM BUS 60062	[BORAH	230.00]	TO BUS 60165	[HUNT	230.00]	CKT 1
SINGLE 21	:	OPEN LINE FROM BUS 60073	[BRADY	230.00]	TO BUS 60185	[KINPORT	230.00]	CKT 1
SINGLE 22	:	OPEN LINE FROM BUS 60073	[BRADY	230.00]	TO BUS 60185	[KINPORT	230.00]	CKT 2
SINGLE 23	:	OPEN LINE FROM BUS 60073	[BRADY	230.00]	TO BUS 65075	[ANTLOPE	230.00]	CKT 1
SINGLE 24	:	OPEN LINE FROM BUS 60073	[BRADY	230.00]	TO BUS 66565	[TREASTON	230.00]	CKT 1
SINGLE 25	:	OPEN LINE FROM BUS 60084	[3MIKNOLL	345.00]	TO BUS 60085	[BRIDGER	345.00]	CKT &1
SINGLE 26	:	OPEN LINE FROM BUS 60084	[3MIKNOLL	345.00]	TO BUS 60092	[BRIDGE&B	345.00]	CKT 1
SINGLE 27	:	OPEN LINE FROM BUS 60084	[3MIKNOLL	345.00]	TO BUS 65665	[GOSHEN	345.00]	CKT 1
SINGLE 28	:	OPEN LINE FROM BUS 60085	[BRIDGER	345.00]	TO BUS 60092	[BRIDGE&B	345.00]	CKT 1
SINGLE 29	:	OPEN LINE FROM BUS 60085	[BRIDGER	345.00]	TO BUS 60190	[KINPORT	345.00]	CKT &1
SINGLE 30	:	OPEN LINE FROM BUS 60085	[BRIDGER	345.00]	TO BUS 65220	[BRIDGER	230.00]	CKT 1
SINGLE 31	:	OPEN LINE FROM BUS 60085	[BRIDGER	345.00]	TO BUS 65220	[BRIDGER	230.00]	CKT 2
SINGLE 32	:	OPEN LINE FROM BUS 60085	[BRIDGER	345.00]	TO BUS 65220	[BRIDGER	230.00]	CKT 3
SINGLE 33	:	OPEN LINE FROM BUS 60095	[BROWNLEE	230.00]	TO BUS 60102	[HORSEFLT	230.00]	CKT 4
SINGLE 34	:	OPEN LINE FROM BUS 60095	[BROWNLEE	230.00]	TO BUS 60150	[HELLSCYN	230.00]	CKT 1
SINGLE 35	:	OPEN LINE FROM BUS 60095	[BROWNLEE	230.00]	TO BUS 60265	[ONTARIO	230.00]	CKT &1
SINGLE 36	:	OPEN LINE FROM BUS 60095	[BROWNLEE	230.00]	TO BUS 60275	[OXBOW	230.00]	CKT 1
SINGLE 37	:	OPEN LINE FROM BUS 60095	[BROWNLEE	230.00]	TO BUS 60275	[OXBOW	230.00]	CKT 2
SINGLE 38	:	OPEN LINE FROM BUS 60095	[BROWNLEE	230.00]	TO BUS 60310	[QUARTZTP	230.00]	CKT 1
SINGLE 39	:	OPEN LINE FROM BUS 60095	[BROWNLEE	230.00]	TO BUS 60420	[PEARL_ID	230.00]	CKT &1
SINGLE 40	:	OPEN LINE FROM BUS 60110	[CALDWELL	230.00]	TO BUS 60265	[ONTARIO	230.00]	CKT 1
SINGLE 41	:	OPEN LINE FROM BUS 60110	[CALDWELL	230.00]	TO BUS 60400	[GARNET	230.00]	CKT 1
SINGLE 42	:	OPEN LINE FROM BUS 60110	[CALDWELL	230.00]	TO BUS 61828	[NAMPA TP	230.00]	CKT 1
SINGLE 43	:	OPEN LINE FROM BUS 60130	[DRAM	230.00]	TO BUS 60232	[MIDPOINT	230.00]	CKT 1
SINGLE 44	:	OPEN LINE FROM BUS 60165	[HUNT	230.00]	TO BUS 60232	[MIDPOINT	230.00]	CKT 1
SINGLE 45	:	OPEN LINE FROM BUS 60190	[KINPORT	345.00]	TO BUS 60235	[MIDPOINT	345.00]	CKT 1
SINGLE 46	:	OPEN LINE FROM BUS 60190	[KINPORT	345.00]	TO BUS 65665	[GOSHEN	345.00]	CKT 1
SINGLE 47	:	OPEN LINE FROM BUS 60207	[LOCUST	230.00]	TO BUS 60400	[GARNET	230.00]	CKT 1
SINGLE 48	:	OPEN LINE FROM BUS 60207	[LOCUST	230.00]	TO BUS 60420	[PEARL_ID	230.00]	CKT 1
SINGLE 49	:	OPEN LINE FROM BUS 60232	[MIDPOINT	230.00]	TO BUS 60235	[MIDPOINT	345.00]	CKT 1
SINGLE 50	:	OPEN LINE FROM BUS 60232	[MIDPOINT	230.00]	TO BUS 60235	[MIDPOINT	345.00]	CKT 2
SINGLE 51	:	OPEN LINE FROM BUS 60232	[MIDPOINT	230.00]	TO BUS 60395	[RTLSNAKE	230.00]	CKT &2
SINGLE 52	:	OPEN LINE FROM BUS 60240	[MIDPOINT	500.00]	TO BUS 62910	[MPSC	500.00]	CKT 1
SINGLE 53	:	OPEN LINE FROM BUS 60249	[HUBBARD	230.00]	TO BUS 60256	[HAPPYVLY	230.00]	CKT &1
SINGLE 54	:	OPEN LINE FROM BUS 60249	[HUBBARD	230.00]	TO BUS 60394	[DANSKIN	230.00]	CKT 1
SINGLE 55	:	OPEN LINE FROM BUS 60256	[HAPPYVLY	230.00]	TO BUS 61828	[NAMPA TP	230.00]	CKT &1
SINGLE 56	:	OPEN LINE FROM BUS 60275	[OXBOW	230.00]	TO BUS 60278	[IMNAHA	230.00]	CKT &1
SINGLE 57	:	OPEN LINE FROM BUS 60306	[QUARTZ	230.00]	TO BUS 60310	[QUARTZTP	230.00]	CKT 1
SINGLE 58	:	OPEN LINE FROM BUS 60394	[DANSKIN	230.00]	TO BUS 60396	[BNET MTN	230.00]	CKT 1
SINGLE 59	:	OPEN LINE FROM BUS 60395	[RTLSNAKE	230.00]	TO BUS 60396	[BNET MTN	230.00]	CKT 1
SINGLE 60	:	OPEN LINE FROM BUS 61828	[NAMPA TP	230.00]	TO BUS 61829	[NAMPA	230.00]	CKT 1
SINGLE 61	:	OPEN LINE FROM BUS 62004	[MILL CRK	230.00]	TO BUS 62030	[PTRSNFLT	230.00]	CKT 1

SINGLE 62	:	OPEN LINE FROM BUS 62004	[MILL CRK	230.00]	TO BUS 62331	[THRRIVER	230.00]	CKT 1
SINGLE 63	:	OPEN LINE FROM BUS 62004	[MILL CRK	230.00]	TO BUS 62339	[ANA BPA	230.00]	CKT 1
SINGLE 64	:	OPEN LINE FROM BUS 62004	[MILL CRK	230.00]	TO BUS 62355	[MLCK PHA	230.00]	CKT 1
SINGLE 65	:	OPEN LINE FROM BUS 62004	[MILL CRK	230.00]	TO BUS 62909	[MC500	500.00]	CKT 1
SINGLE 66	:	OPEN LINE FROM BUS 62012	[TOWN2	500.00]	TO BUS 62902	[TOWN E1	500.00]	CKT 1
SINGLE 67	:	OPEN LINE FROM BUS 62012	[TOWN2	500.00]	TO BUS 62908	[TOWN3	500.00]	CKT 1
SINGLE 68	:	OPEN LINE FROM BUS 62019	[WILSALL	230.00]	TO BUS 62331	[THRRIVER	230.00]	CKT 1
SINGLE 69	:	OPEN LINE FROM BUS 62019	[WILSALL	230.00]	TO BUS 62378	[WKN	230.00]	CKT 1
SINGLE 70	:	OPEN LINE FROM BUS 62026	[SHELBY	230.00]	TO BUS 62035	[CNRDWAPA	230.00]	CKT 1
SINGLE 71	:	OPEN LINE FROM BUS 62030	[PTRSNFLT	230.00]	TO BUS 62355	[MLCK PHA	230.00]	CKT 1
SINGLE 72	:	OPEN LINE FROM BUS 62030	[PTRSNFLT	230.00]	TO BUS 65025	[AMPS	230.00]	CKT 1
SINGLE 73	:	OPEN LINE FROM BUS 62034	[BOLE	230.00]	TO BUS 62035	[CNRDWAPA	230.00]	CKT 1
SINGLE 74	:	OPEN LINE FROM BUS 62034	[BOLE	230.00]	TO BUS 62071	[GT FALLS	230.00]	CKT 1
SINGLE 75	:	OPEN LINE FROM BUS 62036	[JUDITHGP	230.00]	TO BUS 62083	[JUDITHSO	230.00]	CKT 1
SINGLE 76	:	OPEN LINE FROM BUS 62036	[JUDITHGP	230.00]	TO BUS 62502	[STH TAP	230.00]	CKT 1
SINGLE 77	:	OPEN LINE FROM BUS 62045	[BLGS PHA	230.00]	TO BUS 62082	[BILINGS	230.00]	CKT 1
SINGLE 78	:	OPEN LINE FROM BUS 62045	[BLGS PHA	230.00]	TO BUS 66750	[YELLOWTLP	230.00]	CKT 1
SINGLE 79	:	OPEN LINE FROM BUS 62046	[BROADVU	500.00]	TO BUS 62053	[BROADV&2	500.00]	CKT 2
SINGLE 80	:	OPEN LINE FROM BUS 62046	[BROADVU	500.00]	TO BUS 62054	[BROADV&1	500.00]	CKT 1
SINGLE 81	:	OPEN LINE FROM BUS 62046	[BROADVU	500.00]	TO BUS 62902	[TOWN E1	500.00]	CKT 1
SINGLE 82	:	OPEN LINE FROM BUS 62046	[BROADVU	500.00]	TO BUS 62903	[TOWN E2	500.00]	CKT 2
SINGLE 83	:	OPEN LINE FROM BUS 62051	[HARDIN	230.00]	TO BUS 62060	[COLSTRP	230.00]	CKT 1
SINGLE 84	:	OPEN LINE FROM BUS 62052	[ALKALI	230.00]	TO BUS 62058	[SHOREYRD	230.00]	CKT 1
SINGLE 85	:	OPEN LINE FROM BUS 62052	[ALKALI	230.00]	TO BUS 62082	[BILINGS	230.00]	CKT 1
SINGLE 86	:	OPEN LINE FROM BUS 62052	[ALKALI	230.00]	TO BUS 62223	[BROADVU	230.00]	CKT 1
SINGLE 87	:	OPEN LINE FROM BUS 62053	[BROADV&2	500.00]	TO BUS 62057	[COLSTRP	500.00]	CKT 2
SINGLE 88	:	OPEN LINE FROM BUS 62054	[BROADV&1	500.00]	TO BUS 62057	[COLSTRP	500.00]	CKT 1
SINGLE 89	:	OPEN LINE FROM BUS 62055	[BASELINE	230.00]	TO BUS 62058	[SHOREYRD	230.00]	CKT 1
SINGLE 90	:	OPEN LINE FROM BUS 62056	[HUNTLEY	230.00]	TO BUS 62082	[BILINGS	230.00]	CKT 1
SINGLE 91	:	OPEN LINE FROM BUS 62058	[SHOREYRD	230.00]	TO BUS 62378	[WKN	230.00]	CKT 1
SINGLE 92	:	OPEN LINE FROM BUS 62060	[COLSTRP	230.00]	TO BUS 62821	[LIGNITE	230.00]	CKT 1
SINGLE 93	:	OPEN LINE FROM BUS 62060	[COLSTRP	230.00]	TO BUS 62821	[LIGNITE	230.00]	CKT 2
SINGLE 94	:	OPEN LINE FROM BUS 62071	[GT FALLS	230.00]	TO BUS 62072	[OVANDO	230.00]	CKT 1
SINGLE 95	:	OPEN LINE FROM BUS 62071	[GT FALLS	230.00]	TO BUS 62126	[LANDRSFK	230.00]	CKT 1
SINGLE 96	:	OPEN LINE FROM BUS 62071	[GT FALLS	230.00]	TO BUS 62364	[MATLN &2	230.00]	CKT 1
SINGLE 97	:	OPEN LINE FROM BUS 62071	[GT FALLS	230.00]	TO BUS 62500	[SOUTHERN	230.00]	CKT 1
SINGLE 98	:	OPEN LINE FROM BUS 62071	[GT FALLS	230.00]	TO BUS 62502	[STH TAP	230.00]	CKT 1
SINGLE 99	:	OPEN LINE FROM BUS 62071	[GT FALLS	230.00]	TO BUS 62574	[MNTGMRY	230.00]	CKT 1
SINGLE 100	:	OPEN LINE FROM BUS 62071	[GT FALLS	230.00]	TO BUS 62921	[EHELENA	230.00]	CKT 1
SINGLE 101	:	OPEN LINE FROM BUS 62072	[OVANDO	230.00]	TO BUS 62126	[LANDRSFK	230.00]	CKT 1
SINGLE 102	:	OPEN LINE FROM BUS 62072	[OVANDO	230.00]	TO BUS 62344	[PLACIDLK	230.00]	CKT 1
SINGLE 103	:	OPEN LINE FROM BUS 62082	[BILINGS	230.00]	TO BUS 62125	[BILINGSW	230.00]	CKT 1
SINGLE 104	:	OPEN LINE FROM BUS 62083	[JUDITHSO	230.00]	TO BUS 62223	[BROADVU	230.00]	CKT 1
SINGLE 105	:	OPEN LINE FROM BUS 62125	[BILINGSW	230.00]	TO BUS 62223	[BROADVU	230.00]	CKT 1
SINGLE 106	:	OPEN LINE FROM BUS 62331	[THRRIVER	230.00]	TO BUS 62921	[EHELENA	230.00]	CKT 1
SINGLE 107	:	OPEN LINE FROM BUS 62362	[MARIAS	230.00]	TO BUS 62363	[MATLN &1	230.00]	CKT 1
SINGLE 108	:	OPEN LINE FROM BUS 62362	[MARIAS	230.00]	TO BUS 62364	[MATLN &2	230.00]	CKT 1
SINGLE 109	:	OPEN LINE FROM BUS 62500	[SOUTHERN	230.00]	TO BUS 62502	[STH TAP	230.00]	CKT 1
SINGLE 110	:	OPEN LINE FROM BUS 62903	[TOWN E2	500.00]	TO BUS 62908	[TOWN3	500.00]	CKT 2
SINGLE 113	:	OPEN LINE FROM BUS 62905	[MCSC	500.00]	TO BUS 62910	[MPSC	500.00]	CKT 1
SINGLE 114	:	OPEN LINE FROM BUS 62908	[TOWN3	500.00]	TO BUS 62909	[MC500	500.00]	CKT 1
SINGLE 115	:	OPEN LINE FROM BUS 65025	[AMPS	230.00]	TO BUS 65075	[ANTLOPE	230.00]	CKT 1
SINGLE 116	:	OPEN LINE FROM BUS 65060	[ANT MINE	230.00]	TO BUS 66745	[YELLOWCK	230.00]	CKT 1
SINGLE 117	:	OPEN LINE FROM BUS 65075	[ANTLOPE	230.00]	TO BUS 65910	[LOST RIV	230.00]	CKT 1
SINGLE 118	:	OPEN LINE FROM BUS 65090	[ATLANTIC	230.00]	TO BUS 66740	[WYOPO	230.00]	CKT 1
SINGLE 119	:	OPEN LINE FROM BUS 65090	[ATLANTIC	230.00]	TO BUS 67553	[WIND RIV	230.00]	CKT 1
SINGLE 120	:	OPEN LINE FROM BUS 65095	[BADWATER	230.00]	TO BUS 66410	[SPENCE	230.00]	CKT 1
SINGLE 121	:	OPEN LINE FROM BUS 65095	[BADWATER	230.00]	TO BUS 66535	[THERMOPL	230.00]	CKT 1
SINGLE 122	:	OPEN LINE FROM BUS 65105	[BAR-X	230.00]	TO BUS 67529	[BITERCK	230.00]	CKT 2
SINGLE 123	:	OPEN LINE FROM BUS 65105	[BAR-X	230.00]	TO BUS 67770	[CRESTON	230.00]	CKT 1
SINGLE 124	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 65140	[BENLOMND	230.00]	CKT 1
SINGLE 125	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 66476	[SYRACUSE	345.00]	CKT 1
SINGLE 126	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 66510	[TERMINAL	345.00]	CKT 1
SINGLE 127	:	OPEN LINE FROM BUS 65140	[BENLOMND	230.00]	TO BUS 65160	[BIRCH CK	230.00]	CKT 1
SINGLE 128	:	OPEN LINE FROM BUS 65140	[BENLOMND	230.00]	TO BUS 66050	[NAUGHTON	230.00]	CKT 1
SINGLE 129	:	OPEN LINE FROM BUS 65140	[BENLOMND	230.00]	TO BUS 66515	[TERMINAL	230.00]	CKT 1
SINGLE 130	:	OPEN LINE FROM BUS 65160	[BIRCH CK	230.00]	TO BUS 66050	[NAUGHTON	230.00]	CKT 1
SINGLE 131	:	OPEN LINE FROM BUS 65160	[BIRCH CK	230.00]	TO BUS 66270	[RAILROAD	230.00]	CKT 1
SINGLE 132	:	OPEN LINE FROM BUS 65165	[BLACKSFK	230.00]	TO BUS 66010	[MONUMENT	230.00]	CKT 1
SINGLE 133	:	OPEN LINE FROM BUS 65165	[BLACKSFK	230.00]	TO BUS 66670	[WESTVACO	230.00]	CKT 1
SINGLE 134	:	OPEN LINE FROM BUS 65175	[BLUE RIM	230.00]	TO BUS 65215	[MANSFACE	230.00]	CKT 1
SINGLE 135	:	OPEN LINE FROM BUS 65175	[BLUE RIM	230.00]	TO BUS 66325	[SO TRONA	230.00]	CKT 1
SINGLE 136	:	OPEN LINE FROM BUS 65193	[BONANZA	345.00]	TO BUS 65995	[MONA	345.00]	CKT 1
SINGLE 137	:	OPEN LINE FROM BUS 65215	[MANSFACE	230.00]	TO BUS 65555	[FIREHOLE	230.00]	CKT 1
SINGLE 138	:	OPEN LINE FROM BUS 65215	[MANSFACE	230.00]	TO BUS 67696	[BRDGR PP	230.00]	CKT 1
SINGLE 139	:	OPEN LINE FROM BUS 65220	[BRIDGER	230.00]	TO BUS 66020	[MUSTANG	230.00]	CKT 1

SINGLE 140	:	OPEN LINE FROM BUS 65220	[BRIDGER	230.00]	TO BUS 66250	[PT ROCKS	230.00]	CKT 1
SINGLE 141	:	OPEN LINE FROM BUS 65220	[BRIDGER	230.00]	TO BUS 66315	[ROCKSPGS	230.00]	CKT 1
SINGLE 142	:	OPEN LINE FROM BUS 65235	[BUFFALO	230.00]	TO BUS 65293	[CARR DRA	230.00]	CKT 1
SINGLE 143	:	OPEN LINE FROM BUS 65235	[BUFFALO	230.00]	TO BUS 65875	[KAYCEE	230.00]	CKT 1
SINGLE 144	:	OPEN LINE FROM BUS 65235	[BUFFALO	230.00]	TO BUS 66335	[SHERIDAN	230.00]	CKT 1
SINGLE 145	:	OPEN LINE FROM BUS 65259	[CAMPWSVC	345.00]	TO BUS 65260	[CAMP WIL	345.00]	CKT 1
SINGLE 146	:	OPEN LINE FROM BUS 65260	[CAMP WIL	345.00]	TO BUS 65510	[EMERY	345.00]	CKT 1
SINGLE 147	:	OPEN LINE FROM BUS 65260	[CAMP WIL	345.00]	TO BUS 65995	[MONA	345.00]	CKT 1
SINGLE 148	:	OPEN LINE FROM BUS 65260	[CAMP WIL	345.00]	TO BUS 65995	[MONA	345.00]	CKT 2
SINGLE 149	:	OPEN LINE FROM BUS 65260	[CAMP WIL	345.00]	TO BUS 65995	[MONA	345.00]	CKT 3
SINGLE 150	:	OPEN LINE FROM BUS 65260	[CAMP WIL	345.00]	TO BUS 65995	[MONA	345.00]	CKT 4
SINGLE 151	:	OPEN LINE FROM BUS 65260	[CAMP WIL	345.00]	TO BUS 66080	[NINETY S	345.00]	CKT 1
SINGLE 152	:	OPEN LINE FROM BUS 65260	[CAMP WIL	345.00]	TO BUS 66080	[NINETY S	345.00]	CKT 2
SINGLE 153	:	OPEN LINE FROM BUS 65260	[CAMP WIL	345.00]	TO BUS 66133	[OQUIRRH	345.00]	CKT 1
SINGLE 154	:	OPEN LINE FROM BUS 65260	[CAMP WIL	345.00]	TO BUS 66133	[OQUIRRH	345.00]	CKT 2
SINGLE 155	:	OPEN LINE FROM BUS 65260	[CAMP WIL	345.00]	TO BUS 66400	[SPAN FRK	345.00]	CKT 1
SINGLE 156	:	OPEN LINE FROM BUS 65260	[CAMP WIL	345.00]	TO BUS 66510	[TERMINAL	345.00]	CKT 1
SINGLE 157	:	OPEN LINE FROM BUS 65293	[CARR DRA	230.00]	TO BUS 66725	[WYODAK	230.00]	CKT 1
SINGLE 158	:	OPEN LINE FROM BUS 65300	[CASPERPP	230.00]	TO BUS 65420	[DAVEJOHN	230.00]	CKT 1
SINGLE 159	:	OPEN LINE FROM BUS 65300	[CASPERPP	230.00]	TO BUS 65420	[DAVEJOHN	230.00]	CKT 2
SINGLE 160	:	OPEN LINE FROM BUS 65300	[CASPERPP	230.00]	TO BUS 66305	[RIVERTON	230.00]	CKT 1
SINGLE 161	:	OPEN LINE FROM BUS 65300	[CASPERPP	230.00]	TO BUS 66410	[SPENCE	230.00]	CKT 1
SINGLE 162	:	OPEN LINE FROM BUS 65300	[CASPERPP	230.00]	TO BUS 67531	[CLAIMJPR	230.00]	CKT 1
SINGLE 163	:	OPEN LINE FROM BUS 65311	[3 PK &1	345.00]	TO BUS 65312	[THREE PK	345.00]	CKT 1
SINGLE 164	:	OPEN LINE FROM BUS 65311	[3 PK &1	345.00]	TO BUS 66340	[SIGURD	345.00]	CKT 1
SINGLE 165	:	OPEN LINE FROM BUS 65312	[THREE PK	345.00]	TO BUS 66280	[REDBUTTE	345.00]	CKT 1
SINGLE 166	:	OPEN LINE FROM BUS 65320	[CHAPPELC	230.00]	TO BUS 65374	[CRAVENCK	230.00]	CKT 1
SINGLE 167	:	OPEN LINE FROM BUS 65320	[CHAPPELC	230.00]	TO BUS 66050	[NAUGHTON	230.00]	CKT 1
SINGLE 168	:	OPEN LINE FROM BUS 65320	[CHAPPELC	230.00]	TO BUS 67551	[JONAHGAS	230.00]	CKT 1
SINGLE 169	:	OPEN LINE FROM BUS 65320	[CHAPPELC	230.00]	TO BUS 67555	[CHMNY BT	230.00]	CKT 1
SINGLE 170	:	OPEN LINE FROM BUS 65320	[CHAPPELC	230.00]	TO BUS 67564	[JONFLD	230.00]	CKT 1
SINGLE 171	:	OPEN LINE FROM BUS 65374	[CRAVENCK	230.00]	TO BUS 66011	[MONU PST	230.00]	CKT 1
SINGLE 172	:	OPEN LINE FROM BUS 65374	[CRAVENCK	230.00]	TO BUS 66050	[NAUGHTON	230.00]	CKT 1
SINGLE 173	:	OPEN LINE FROM BUS 65394	[CURRANTC	345.00]	TO BUS 65995	[MONA	345.00]	CKT 1
SINGLE 174	:	OPEN LINE FROM BUS 65420	[DAVEJOHN	230.00]	TO BUS 65460	[DIFCULT	230.00]	CKT 1
SINGLE 175	:	OPEN LINE FROM BUS 65420	[DAVEJOHN	230.00]	TO BUS 66745	[YELLOWCK	230.00]	CKT 1
SINGLE 176	:	OPEN LINE FROM BUS 65460	[DIFCULT	230.00]	TO BUS 65975	[MINERS	230.00]	CKT 1
SINGLE 177	:	OPEN LINE FROM BUS 65510	[EMERY	345.00]	TO BUS 65805	[HUNTNGTN	345.00]	CKT 1
SINGLE 178	:	OPEN LINE FROM BUS 65510	[EMERY	345.00]	TO BUS 66340	[SIGURD	345.00]	CKT 1
SINGLE 179	:	OPEN LINE FROM BUS 65510	[EMERY	345.00]	TO BUS 66340	[SIGURD	345.00]	CKT 2
SINGLE 180	:	OPEN LINE FROM BUS 65545	[EXXON WY	230.00]	TO BUS 66010	[MONUMENT	230.00]	CKT 1
SINGLE 181	:	OPEN LINE FROM BUS 65555	[FIREHOLE	230.00]	TO BUS 65895	[LITTLEMT	230.00]	CKT 1
SINGLE 182	:	OPEN LINE FROM BUS 65555	[FIREHOLE	230.00]	TO BUS 66315	[ROCKSPGS	230.00]	CKT 1
SINGLE 183	:	OPEN LINE FROM BUS 65565	[FLAMGORG	230.00]	TO BUS 65895	[LITTLEMT	230.00]	CKT 1
SINGLE 184	:	OPEN LINE FROM BUS 65575	[FRANNIE	230.00]	TO BUS 65620	[GARLAND	230.00]	CKT 1
SINGLE 185	:	OPEN LINE FROM BUS 65575	[FRANNIE	230.00]	TO BUS 66750	[YELOWTLP	230.00]	CKT 1
SINGLE 186	:	OPEN LINE FROM BUS 65580	[FT CREEK	230.00]	TO BUS 65975	[MINERS	230.00]	CKT 1
SINGLE 187	:	OPEN LINE FROM BUS 65620	[GARLAND	230.00]	TO BUS 66145	[OREBASIN	230.00]	CKT 1
SINGLE 188	:	OPEN LINE FROM BUS 65660	[GOOSE CK	230.00]	TO BUS 66335	[SHERIDAN	230.00]	CKT 1
SINGLE 189	:	OPEN LINE FROM BUS 65660	[GOOSE CK	230.00]	TO BUS 66750	[YELOWTLP	230.00]	CKT 1
SINGLE 190	:	OPEN LINE FROM BUS 65720	[GRASS CK	230.00]	TO BUS 66145	[OREBASIN	230.00]	CKT 1
SINGLE 191	:	OPEN LINE FROM BUS 65720	[GRASS CK	230.00]	TO BUS 66535	[THERMOPL	230.00]	CKT 1
SINGLE 192	:	OPEN LINE FROM BUS 65805	[HUNTNGTN	345.00]	TO BUS 65995	[MONA	345.00]	CKT 1
SINGLE 193	:	OPEN LINE FROM BUS 65805	[HUNTNGTN	345.00]	TO BUS 66224	[PINTO &1	345.00]	CKT 1
SINGLE 194	:	OPEN LINE FROM BUS 65805	[HUNTNGTN	345.00]	TO BUS 66400	[SPAN FRK	345.00]	CKT 1
SINGLE 195	:	OPEN LINE FROM BUS 65875	[KAYCEE	230.00]	TO BUS 65955	[MIDWEST	230.00]	CKT 1
SINGLE 196	:	OPEN LINE FROM BUS 65945	[MIDVALLY	345.00]	TO BUS 66080	[NINETY S	345.00]	CKT 1
SINGLE 197	:	OPEN LINE FROM BUS 65945	[MIDVALLY	345.00]	TO BUS 66510	[TERMINAL	345.00]	CKT 1
SINGLE 198	:	OPEN LINE FROM BUS 65955	[MIDWEST	230.00]	TO BUS 67531	[CLAIMJPR	230.00]	CKT 1
SINGLE 199	:	OPEN LINE FROM BUS 65975	[MINERS	230.00]	TO BUS 66240	[PLATTE	230.00]	CKT 1
SINGLE 200	:	OPEN LINE FROM BUS 65995	[MONA	345.00]	TO BUS 66340	[SIGURD	345.00]	CKT 1
SINGLE 201	:	OPEN LINE FROM BUS 65995	[MONA	345.00]	TO BUS 66340	[SIGURD	345.00]	CKT 2
SINGLE 202	:	OPEN LINE FROM BUS 66010	[MONUMENT	230.00]	TO BUS 66011	[MONU PST	230.00]	CKT 1
SINGLE 203	:	OPEN LINE FROM BUS 66010	[MONUMENT	230.00]	TO BUS 66011	[MONU PST	230.00]	CKT 2
SINGLE 204	:	OPEN LINE FROM BUS 66010	[MONUMENT	230.00]	TO BUS 66325	[SO TRONA	230.00]	CKT 1
SINGLE 205	:	OPEN LINE FROM BUS 66011	[MONU PST	230.00]	TO BUS 66050	[NAUGHTON	230.00]	CKT 1
SINGLE 206	:	OPEN LINE FROM BUS 66020	[MUSTANG	230.00]	TO BUS 66410	[SPENCE	230.00]	CKT 1
SINGLE 207	:	OPEN LINE FROM BUS 66050	[NAUGHTON	230.00]	TO BUS 66565	[TREASTON	230.00]	CKT 1
SINGLE 208	:	OPEN LINE FROM BUS 66080	[NINETY S	345.00]	TO BUS 66510	[TERMINAL	345.00]	CKT 1
SINGLE 209	:	OPEN LINE FROM BUS 66133	[OQUIRRH	345.00]	TO BUS 66510	[TERMINAL	345.00]	CKT 1
SINGLE 210	:	OPEN LINE FROM BUS 66133	[OQUIRRH	345.00]	TO BUS 66510	[TERMINAL	345.00]	CKT 2
SINGLE 211	:	OPEN LINE FROM BUS 66180	[PALISADE	230.00]	TO BUS 66266	[RAVEN	230.00]	CKT 1
SINGLE 212	:	OPEN LINE FROM BUS 66180	[PALISADE	230.00]	TO BUS 66315	[ROCKSPGS	230.00]	CKT 1
SINGLE 213	:	OPEN LINE FROM BUS 66195	[PAROWAN	230.00]	TO BUS 66345	[SIGURD	230.00]	CKT 1
SINGLE 214	:	OPEN LINE FROM BUS 66210	[PAVANT	230.00]	TO BUS 66345	[SIGURD	230.00]	CKT 1
SINGLE 215	:	OPEN LINE FROM BUS 66224	[PINTO &1	345.00]	TO BUS 66225	[PINTO	345.00]	CKT 1

SINGLE 216	:	OPEN LINE FROM BUS 66225	[PINTO	345.00]	TO BUS 66235	[PINTO PS	345.00]	CKT 1
SINGLE 217	:	OPEN LINE FROM BUS 66240	[PLATTE	230.00]	TO BUS 67499	[LATHAM	230.00]	CKT 1
SINGLE 218	:	OPEN LINE FROM BUS 66250	[PT ROCKS	230.00]	TO BUS 66315	[ROCKSPGS	230.00]	CKT 1
SINGLE 219	:	OPEN LINE FROM BUS 66250	[PT ROCKS	230.00]	TO BUS 67529	[BITTERCK	230.00]	CKT 1
SINGLE 220	:	OPEN LINE FROM BUS 66266	[RAVEN	230.00]	TO BUS 66670	[WESTVACO	230.00]	CKT 1
SINGLE 221	:	OPEN LINE FROM BUS 66280	[REDBUTTE	345.00]	TO BUS 66281	[RED B SVC	345.00]	CKT 1
SINGLE 222	:	OPEN LINE FROM BUS 66280	[REDBUTTE	345.00]	TO BUS 67657	[UTAH-NEV	345.00]	CKT 1
SINGLE 223	:	OPEN LINE FROM BUS 66305	[RIVERTON	230.00]	TO BUS 66535	[THERMOPL	230.00]	CKT 1
SINGLE 224	:	OPEN LINE FROM BUS 66305	[RIVERTON	230.00]	TO BUS 66740	[WYOPO	230.00]	CKT 1
SINGLE 225	:	OPEN LINE FROM BUS 66315	[ROCKSPGS	230.00]	TO BUS 67553	[WIND RIV	230.00]	CKT 1
SINGLE 226	:	OPEN LINE FROM BUS 66340	[SIGURD	345.00]	TO BUS 66345	[SIGURD	230.00]	CKT 1
SINGLE 227	:	OPEN LINE FROM BUS 66340	[SIGURD	345.00]	TO BUS 66345	[SIGURD	230.00]	CKT 2
SINGLE 228	:	OPEN LINE FROM BUS 66345	[SIGURD	230.00]	TO BUS 66355	[SIGURDPS	230.00]	CKT 1
SINGLE 229	:	OPEN LINE FROM BUS 66476	[SYRACUSE	345.00]	TO BUS 66510	[TERMINAL	345.00]	CKT 1
SINGLE 230	:	OPEN LINE FROM BUS 67499	[LATHAM	230.00]	TO BUS 67530	[ECHOSPRG	230.00]	CKT 1
SINGLE 231	:	OPEN LINE FROM BUS 67530	[ECHOSPRG	230.00]	TO BUS 67770	[CRESTON	230.00]	CKT 1
SINGLE 232	:	OPEN LINE FROM BUS 67551	[JONAHGAS	230.00]	TO BUS 67554	[WINDR PS	230.00]	CKT 1
SINGLE 233	:	OPEN LINE FROM BUS 67551	[JONAHGAS	230.00]	TO BUS 67564	[JONFLD	230.00]	CKT 1
SINGLE 234	:	OPEN LINE FROM BUS 67552	[PARADISE	230.00]	TO BUS 67554	[WINDR PS	230.00]	CKT 1
SINGLE 235	:	OPEN LINE FROM BUS 67552	[PARADISE	230.00]	TO BUS 67555	[CHMNY BT	230.00]	CKT 1
SINGLE 236	:	OPEN LINE FROM BUS 67552	[PARADISE	230.00]	TO BUS 67564	[JONFLD	230.00]	CKT 1
SINGLE 237	:	OPEN LINE FROM BUS 67553	[WIND RIV	230.00]	TO BUS 67554	[WINDR PS	230.00]	CKT 1
SINGLE 239	:	OPEN LINE FROM BUS 60020	[AMFLS	138.00]	TO BUS 65920	[MALAD	138.00]	CKT 1
SINGLE 240	:	OPEN LINE FROM BUS 60030	[BLACKFT	161.00]	TO BUS 65670	[GOSHEN	161.00]	CKT 1
SINGLE 244	:	OPEN LINE FROM BUS 60084	[SMIKNOLL	345.00]	TO BUS 65290	[CARIBO 2	138.00]	CKT 2
SINGLE 252	:	OPEN LINE FROM BUS 62061	[RMRK PHA	161.00]	TO BUS 66755	[YELOWTLP	161.00]	CKT 1
SINGLE 253	:	OPEN LINE FROM BUS 62084	[DILLON S	161.00]	TO BUS 65155	[BIGGRASS	161.00]	CKT 1

N-2 Contingency List:

LABEL	EVENTS							
BL323	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 65145	[BENLOMND	138.00]	CKT 1
		OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 65140	[BENLOMND	230.00]	CKT 1
BL325	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 66510	[TERMINAL	345.00]	CKT 1
		OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 65140	[BENLOMND	230.00]	CKT 1
BL326	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 66476	[SYRACUSE	345.00]	CKT 1
		OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 65140	[BENLOMND	230.00]	CKT 1
BL343	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 65145	[BENLOMND	138.00]	CKT 1
		OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 65140	[BENLOMND	230.00]	CKT 2
BL345	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 66510	[TERMINAL	345.00]	CKT 1
		OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 65140	[BENLOMND	230.00]	CKT 2
BL346	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 66476	[SYRACUSE	345.00]	CKT 1
		OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 60060	[BORAH	345.00]	CKT 1
BL366	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 60060	[BORAH	345.00]	CKT 1
		OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 65140	[BENLOMND	230.00]	CKT 2
BLTRMBLSYR	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 66510	[TERMINAL	345.00]	CKT 1
		OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 66476	[SYRACUSE	345.00]	CKT 1
BLBORTRSBRY	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 60060	[BORAH	345.00]	CKT 1
		OPEN LINE FROM BUS 66565	[TREASTON	230.00]	TO BUS 60073	[BRADY	230.00]	CKT 1
BL202	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 65140	[BENLOMND	230.00]	CKT 1
		OPEN LINE FROM BUS 65145	[BENLOMND	138.00]	TO BUS 65140	[BENLOMND	230.00]	CKT 1
BL222	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 65140	[BENLOMND	230.00]	CKT 1
		OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 65140	[BENLOMND	230.00]	CKT 2
BL242	:	OPEN LINE FROM BUS 65135	[BENLOMND	345.00]	TO BUS 65140	[BENLOMND	230.00]	CKT 2
		OPEN LINE FROM BUS 65140	[BENLOMND	230.00]	TO BUS 65145	[BENLOMND	138.00]	CKT 2
BL244	:	OPEN LINE FROM BUS 65140	[BENLOMND	230.00]	TO BUS 66050	[NAUGHTON	230.00]	CKT 1
		OPEN LINE FROM BUS 65140	[BENLOMND	230.00]	TO BUS 65145	[BENLOMND	138.00]	CKT 2
BL245	:	OPEN LINE FROM BUS 65140	[BENLOMND	230.00]	TO BUS 65160	[BIRCH CK	230.00]	CKT 1
		OPEN LINE FROM BUS 65140	[BENLOMND	230.00]	TO BUS 65145	[BENLOMND	138.00]	CKT 2
BLNAUBLBIR	:	OPEN LINE FROM BUS 65140	[BENLOMND	230.00]	TO BUS 66050	[NAUGHTON	230.00]	CKT 1
		OPEN LINE FROM BUS 65140	[BENLOMND	230.00]	TO BUS 65160	[BIRCH CK	230.00]	CKT 1
JB330	:	OPEN LINE FROM BUS 60085	[BRIDGER	345.00]	TO BUS 65220	[BRIDGER	230.00]	CKT 1
		OPEN LINE FROM BUS 60085	[BRIDGER	345.00]	TO BUS 65220	[BRIDGER	230.00]	CKT 3
		OPEN LINE FROM BUS 60086	[BRIDGER1	22.000]	TO BUS 60085	[BRIDGER	345.00]	CKT 1
JB332	:	OPEN LINE FROM BUS 60085	[BRIDGER	345.00]	TO BUS 60060	[BORAH	345.00]	CKT &1
		OPEN LINE FROM BUS 60086	[BRIDGER1	22.000]	TO BUS 60085	[BRIDGER	345.00]	CKT 1
JB334	:	OPEN LINE FROM BUS 60085	[BRIDGER	345.00]	TO BUS 65220	[BRIDGER	230.00]	CKT 2
		OPEN LINE FROM BUS 60085	[BRIDGER	345.00]	TO BUS 60060	[BORAH	345.00]	CKT &1
JB336	:	OPEN LINE FROM BUS 60085	[BRIDGER	345.00]	TO BUS 65220	[BRIDGER	230.00]	CKT 1
		OPEN LINE FROM BUS 60085	[BRIDGER	345.00]	TO BUS 65220	[BRIDGER	230.00]	CKT 3
		OPEN LINE FROM BUS 60087	[BRIDGER2	22.000]	TO BUS 60085	[BRIDGER	345.00]	CKT 1
JB338	:	OPEN LINE FROM BUS 60087	[BRIDGER2	22.000]	TO BUS 60085	[BRIDGER	345.00]	CKT 1
		OPEN LINE FROM BUS 60085	[BRIDGER	345.00]	TO BUS 60190	[KINPORT	345.00]	CKT &1
JB340	:	OPEN LINE FROM BUS 60085	[BRIDGER	345.00]	TO BUS 65220	[BRIDGER	230.00]	CKT 2

		OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 60190 [KINPORT	345.00]	CKT &1
JB342	:	OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 65220 [BRIDGER	230.00]	CKT 1
		OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 65220 [BRIDGER	230.00]	CKT 3
		OPEN LINE FROM BUS 60088 [BRIDGER3	22.000]	TO BUS 60085 [BRIDGER	345.00]	CKT 1
JB344	:	OPEN LINE FROM BUS 60088 [BRIDGER3	22.000]	TO BUS 60085 [BRIDGER	345.00]	CKT 1
		OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 60092 [BRIDGE&B	345.00]	CKT 1
JB346	:	OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 65220 [BRIDGER	230.00]	CKT 2
		OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 60092 [BRIDGE&B	345.00]	CKT 1
JB352	:	OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 65220 [BRIDGER	230.00]	CKT 1
		OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 65220 [BRIDGER	230.00]	CKT 3
		OPEN LINE FROM BUS 60089 [BRIDGER4	22.000]	TO BUS 60085 [BRIDGER	345.00]	CKT 1
JB354	:	OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 65220 [BRIDGER	230.00]	CKT 2
		OPEN LINE FROM BUS 60089 [BRIDGER4	22.000]	TO BUS 60085 [BRIDGER	345.00]	CKT 1
JBGOSJBKIN	:	OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 60092 [BRIDGE&B	345.00]	CKT 1
		OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 60190 [KINPORT	345.00]	CKT &1
		OPEN LINE FROM BUS 60088 [BRIDGER3	22.000]	TO BUS 60085 [BRIDGER	345.00]	CKT 1
		OPEN LINE FROM BUS 60089 [BRIDGER4	22.000]	TO BUS 60085 [BRIDGER	345.00]	CKT 1
JBGOSJBBOR	:	OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 60092 [BRIDGE&B	345.00]	CKT 1
		OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 60060 [BORAH	345.00]	CKT &1
		OPEN LINE FROM BUS 60088 [BRIDGER3	22.000]	TO BUS 60085 [BRIDGER	345.00]	CKT 1
		OPEN LINE FROM BUS 60089 [BRIDGER4	22.000]	TO BUS 60085 [BRIDGER	345.00]	CKT 1
JBKINJBBOR	:	OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 60190 [KINPORT	345.00]	CKT &1
		OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 60060 [BORAH	345.00]	CKT &1
		OPEN LINE FROM BUS 60088 [BRIDGER3	22.000]	TO BUS 60085 [BRIDGER	345.00]	CKT 1
		OPEN LINE FROM BUS 60089 [BRIDGER4	22.000]	TO BUS 60085 [BRIDGER	345.00]	CKT 1
JB292	:	OPEN LINE FROM BUS 65220 [BRIDGER	230.00]	TO BUS 66020 [MUSTANG	230.00]	CKT 1
		OPEN LINE FROM BUS 65220 [BRIDGER	230.00]	TO BUS 66250 [PT ROCKS	230.00]	CKT 1
		OPEN LINE FROM BUS 66315 [ROCKSPGS	230.00]	TO BUS 66250 [PT ROCKS	230.00]	CKT 1
JB294	:	OPEN LINE FROM BUS 65220 [BRIDGER	230.00]	TO BUS 66315 [ROCKSPGS	230.00]	CKT 1
		OPEN LINE FROM BUS 65220 [BRIDGER	230.00]	TO BUS 66250 [PT ROCKS	230.00]	CKT 1
		OPEN LINE FROM BUS 66315 [ROCKSPGS	230.00]	TO BUS 66250 [PT ROCKS	230.00]	CKT 1
JB316	:	OPEN LINE FROM BUS 65220 [BRIDGER	230.00]	TO BUS 66315 [ROCKSPGS	230.00]	CKT 1
		OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 65220 [BRIDGER	230.00]	CKT 2
JB348	:	OPEN LINE FROM BUS 65220 [BRIDGER	230.00]	TO BUS 66020 [MUSTANG	230.00]	CKT 1
		OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 65220 [BRIDGER	230.00]	CKT 1
		OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 65220 [BRIDGER	230.00]	CKT 3
CW322	:	OPEN LINE FROM BUS 65260 [CAMP WIL	345.00]	TO BUS 65995 [MONA	345.00]	CKT 3
		OPEN LINE FROM BUS 65260 [CAMP WIL	345.00]	TO BUS 66510 [TERMINAL	345.00]	CKT 1
CW323	:	OPEN LINE FROM BUS 65260 [CAMP WIL	345.00]	TO BUS 65995 [MONA	345.00]	CKT 1
		OPEN LINE FROM BUS 65260 [CAMP WIL	345.00]	TO BUS 66133 [OQUIRRH	345.00]	CKT 1
CW325	:	OPEN LINE FROM BUS 65260 [CAMP WIL	345.00]	TO BUS 66400 [SPAN FRK	345.00]	CKT 1
		OPEN LINE FROM BUS 65260 [CAMP WIL	345.00]	TO BUS 66080 [NINETY S	345.00]	CKT 1
CWTRMCWOQR	:	OPEN LINE FROM BUS 65260 [CAMP WIL	345.00]	TO BUS 66510 [TERMINAL	345.00]	CKT 1
		OPEN LINE FROM BUS 65260 [CAMP WIL	345.00]	TO BUS 66133 [OQUIRRH	345.00]	CKT 1
CW90S1&2	:	OPEN LINE FROM BUS 65260 [CAMP WIL	345.00]	TO BUS 66080 [NINETY S	345.00]	CKT 1
		OPEN LINE FROM BUS 65260 [CAMP WIL	345.00]	TO BUS 66080 [NINETY S	345.00]	CKT 2
CWMON2, 4	:	OPEN LINE FROM BUS 65260 [CAMP WIL	345.00]	TO BUS 65995 [MONA	345.00]	CKT 2
		OPEN LINE FROM BUS 65260 [CAMP WIL	345.00]	TO BUS 65995 [MONA	345.00]	CKT 4
CWMON1, 3	:	OPEN LINE FROM BUS 65260 [CAMP WIL	345.00]	TO BUS 65995 [MONA	345.00]	CKT 1
		OPEN LINE FROM BUS 65260 [CAMP WIL	345.00]	TO BUS 65995 [MONA	345.00]	CKT 3
CENTRAL XFMS:		OPEN LINE FROM BUS 66280 [REDBUTTE	345.00]	TO BUS 65315 [CENTRAL	138.00]	CKT 1
		OPEN LINE FROM BUS 66280 [REDBUTTE	345.00]	TO BUS 65315 [CENTRAL	138.00]	CKT 2
DJ204	:	OPEN LINE FROM BUS 65420 [DAVEJOHN	230.00]	TO BUS 65425 [DAVEJOHN	115.00]	CKT 1
		OPEN LINE FROM BUS 65420 [DAVEJOHN	230.00]	TO BUS 73190 [STEGALL	230.00]	CKT 1
DJ238	:	OPEN LINE FROM BUS 65420 [DAVEJOHN	230.00]	TO BUS 65300 [CASPERPP	230.00]	CKT 1
		OPEN LINE FROM BUS 65420 [DAVEJOHN	230.00]	TO BUS 65445 [DAVEJON4	22.000]	CKT 1
DJ268	:	OPEN LINE FROM BUS 65420 [DAVEJOHN	230.00]	TO BUS 73107 [LAR.RIVR	230.00]	CKT 1
		OPEN LINE FROM BUS 65420 [DAVEJOHN	230.00]	TO BUS 65440 [DAVEJON3	13.800]	CKT 1
EM303	:	OPEN LINE FROM BUS 65510 [EMERY	345.00]	TO BUS 65515 [EMERY	138.00]	CKT 1
		OPEN LINE FROM BUS 65500 [EHUNTR 3	22.000]	TO BUS 65510 [EMERY	345.00]	CKT 1
EM321	:	OPEN LINE FROM BUS 65510 [EMERY	345.00]	TO BUS 65805 [HUNTINGTN	345.00]	CKT 1
		OPEN LINE FROM BUS 65490 [EHUNTR 1	24.000]	TO BUS 65510 [EMERY	345.00]	CKT 1
		OPEN LINE FROM BUS 65490 [EHUNTR 1	24.000]	TO BUS 65510 [EMERY	345.00]	CKT 2
EM323	:	OPEN LINE FROM BUS 65510 [EMERY	345.00]	TO BUS 66340 [SIGURD	345.00]	CKT 1
		OPEN LINE FROM BUS 65500 [EHUNTR 3	22.000]	TO BUS 65510 [EMERY	345.00]	CKT 1
EM324	:	OPEN LINE FROM BUS 65510 [EMERY	345.00]	TO BUS 66340 [SIGURD	345.00]	CKT 2
		OPEN LINE FROM BUS 65510 [EMERY	345.00]	TO BUS 65515 [EMERY	138.00]	CKT 1
EM341	:	OPEN LINE FROM BUS 65510 [EMERY	345.00]	TO BUS 65805 [HUNTINGTN	345.00]	CKT 1
		OPEN LINE FROM BUS 65510 [EMERY	345.00]	TO BUS 65515 [EMERY	138.00]	CKT 1
EM343	:	OPEN LINE FROM BUS 65510 [EMERY	345.00]	TO BUS 66340 [SIGURD	345.00]	CKT 1
		OPEN LINE FROM BUS 65510 [EMERY	345.00]	TO BUS 65515 [EMERY	138.00]	CKT 1
EMSIG1&2	:	OPEN LINE FROM BUS 65510 [EMERY	345.00]	TO BUS 66340 [SIGURD	345.00]	CKT 1
		OPEN LINE FROM BUS 65510 [EMERY	345.00]	TO BUS 66340 [SIGURD	345.00]	CKT 2
HT301	:	OPEN LINE FROM BUS 65805 [HUNTINGTN	345.00]	TO BUS 66400 [SPAN FRK	345.00]	CKT 1
		OPEN LINE FROM BUS 65805 [HUNTINGTN	345.00]	TO BUS 65810 [HUNTINGTN	138.00]	CKT 2
HT303	:	OPEN LINE FROM BUS 65800 [HUNTN G2	22.000]	TO BUS 65805 [HUNTINGTN	345.00]	CKT 1

	OPEN LINE FROM BUS 65800 [HUNTN G2	22.000]	TO BUS 65805 [HUNTINGTN	345.00]	CKT 2
	OPEN LINE FROM BUS 65805 [HUNTINGTN	345.00]	TO BUS 65810 [HUNTINGTN	138.00]	CKT 2
HT322	: OPEN LINE FROM BUS 65795 [HUNTN G1	22.000]	TO BUS 65805 [HUNTINGTN	345.00]	CKT 1
	OPEN LINE FROM BUS 65795 [HUNTN G1	22.000]	TO BUS 65805 [HUNTINGTN	345.00]	CKT 2
	OPEN LINE FROM BUS 65805 [HUNTINGTN	345.00]	TO BUS 65510 [EMERY	345.00]	CKT 1
HT323	: OPEN LINE FROM BUS 65800 [HUNTN G2	22.000]	TO BUS 65805 [HUNTINGTN	345.00]	CKT 1
	OPEN LINE FROM BUS 65800 [HUNTN G2	22.000]	TO BUS 65805 [HUNTINGTN	345.00]	CKT 2
	OPEN LINE FROM BUS 65805 [HUNTINGTN	345.00]	TO BUS 65995 [MONA	345.00]	CKT 1
MV324	: OPEN LINE FROM BUS 65945 [MIDVALLY	345.00]	TO BUS 66080 [NINETY S	345.00]	CKT 1
	OPEN LINE FROM BUS 65945 [MIDVALLY	345.00]	TO BUS 65946 [MIDVALLY	138.00]	CKT 1
MV344	: OPEN LINE FROM BUS 65945 [MIDVALLY	345.00]	TO BUS 66510 [TERMINAL	345.00]	CKT 1
	OPEN LINE FROM BUS 65945 [MIDVALLY	345.00]	TO BUS 66080 [NINETY S	345.00]	CKT 1
MV364	: OPEN LINE FROM BUS 65945 [MIDVALLY	345.00]	TO BUS 66510 [TERMINAL	345.00]	CKT 1
	OPEN LINE FROM BUS 65945 [MIDVALLY	345.00]	TO BUS 65946 [MIDVALLY	138.00]	CKT 2
MN345	: OPEN LINE FROM BUS 65995 [MONA	345.00]	TO BUS 65805 [HUNTINGTN	345.00]	CKT 1
	OPEN LINE FROM BUS 65995 [MONA	345.00]	TO BUS 65260 [CAMP WIL	345.00]	CKT 3
MN346	: OPEN LINE FROM BUS 65995 [MONA	345.00]	TO BUS 66340 [SIGURD	345.00]	CKT 1
	OPEN LINE FROM BUS 65995 [MONA	345.00]	TO BUS 65260 [CAMP WIL	345.00]	CKT 1
MN347	: OPEN LINE FROM BUS 65995 [MONA	345.00]	TO BUS 66340 [SIGURD	345.00]	CKT 2
	OPEN LINE FROM BUS 65995 [MONA	345.00]	TO BUS 65260 [CAMP WIL	345.00]	CKT 2
MN349	: OPEN LINE FROM BUS 65995 [MONA	345.00]	TO BUS 26043 [INTERMT	345.00]	CKT 2
	OPEN LINE FROM BUS 65995 [MONA	345.00]	TO BUS 65260 [CAMP WIL	345.00]	CKT 4
MMSG1&2	: OPEN LINE FROM BUS 65995 [MONA	345.00]	TO BUS 66340 [SIGURD	345.00]	CKT 1
	OPEN LINE FROM BUS 65995 [MONA	345.00]	TO BUS 66340 [SIGURD	345.00]	CKT 2
MT2	: OPEN LINE FROM BUS 66010 [MONUMENT	230.00]	TO BUS 65545 [EXXON WY	230.00]	CKT 1
	OPEN LINE FROM BUS 66010 [MONUMENT	230.00]	TO BUS 65165 [BLACKSFK	230.00]	CKT 1
MT4	: OPEN LINE FROM BUS 66010 [MONUMENT	230.00]	TO BUS 65545 [EXXON WY	230.00]	CKT 1
	OPEN LINE FROM BUS 66010 [MONUMENT	230.00]	TO BUS 66011 [MONU PST	230.00]	CKT 1
	OPEN LINE FROM BUS 66010 [MONUMENT	230.00]	TO BUS 66011 [MONU PST	230.00]	CKT 2
MT6	: OPEN LINE FROM BUS 66010 [MONUMENT	230.00]	TO BUS 66325 [SO TRONA	230.00]	CKT 1
	OPEN LINE FROM BUS 66010 [MONUMENT	230.00]	TO BUS 66011 [MONU PST	230.00]	CKT 1
	OPEN LINE FROM BUS 66010 [MONUMENT	230.00]	TO BUS 66011 [MONU PST	230.00]	CKT 2
MT8	: OPEN LINE FROM BUS 66010 [MONUMENT	230.00]	TO BUS 66325 [SO TRONA	230.00]	CKT 1
	OPEN LINE FROM BUS 66010 [MONUMENT	230.00]	TO BUS 65165 [BLACKSFK	230.00]	CKT 1
MT652	: OPEN LINE FROM BUS 66011 [MONU PST	230.00]	TO BUS 65374 [CRAVENCK	230.00]	CKT 1
	OPEN LINE FROM BUS 66011 [MONU PST	230.00]	TO BUS 66010 [MONUMENT	230.00]	CKT 2
MT656	: OPEN LINE FROM BUS 66011 [MONU PST	230.00]	TO BUS 65374 [CRAVENCK	230.00]	CKT 1
	OPEN LINE FROM BUS 66011 [MONU PST	230.00]	TO BUS 66050 [NAUGHTON	230.00]	CKT 1
MT660	: OPEN LINE FROM BUS 66011 [MONU PST	230.00]	TO BUS 66050 [NAUGHTON	230.00]	CKT 1
	OPEN LINE FROM BUS 66010 [MONUMENT	230.00]	TO BUS 66011 [MONU PST	230.00]	CKT 1
MT664	: OPEN LINE FROM BUS 66010 [MONUMENT	230.00]	TO BUS 66011 [MONU PST	230.00]	CKT 1
	OPEN LINE FROM BUS 66010 [MONUMENT	230.00]	TO BUS 66011 [MONU PST	230.00]	CKT 2
NT211	: OPEN LINE FROM BUS 66050 [NAUGHTON	230.00]	TO BUS 66055 [NAUGT G1	18.000]	CKT 1
	OPEN LINE FROM BUS 66050 [NAUGHTON	230.00]	TO BUS 66011 [MONU PST	230.00]	CKT 1
NT212	: OPEN LINE FROM BUS 66050 [NAUGHTON	230.00]	TO BUS 66060 [NAUGT G2	20.000]	CKT 1
	OPEN LINE FROM BUS 66050 [NAUGHTON	230.00]	TO BUS 65160 [BIRCH CK	230.00]	CKT 1
NT213	: OPEN LINE FROM BUS 66050 [NAUGHTON	230.00]	TO BUS 66065 [NAUGT G3	24.000]	CKT 1
	OPEN LINE FROM BUS 66050 [NAUGHTON	230.00]	TO BUS 65140 [BENLOMND	230.00]	CKT 1
NT214	: OPEN LINE FROM BUS 66050 [NAUGHTON	230.00]	TO BUS 66040 [NAUGHTN1	138.00]	CKT 2
	OPEN LINE FROM BUS 66050 [NAUGHTON	230.00]	TO BUS 66565 [TREASTON	230.00]	CKT 1
NT215	: OPEN LINE FROM BUS 66050 [NAUGHTON	230.00]	TO BUS 66045 [NAUGHTN2	138.00]	CKT 1
	OPEN LINE FROM BUS 66050 [NAUGHTON	230.00]	TO BUS 65374 [CRAVENCK	230.00]	CKT 1
90S303/304	: OPEN LINE FROM BUS 66080 [NINETY S	345.00]	TO BUS 65260 [CAMP WIL	345.00]	CKT 2
	OPEN LINE FROM BUS 66080 [NINETY S	345.00]	TO BUS 66085 [NINETY S	138.00]	CKT 1
90S321	: OPEN LINE FROM BUS 66080 [NINETY S	345.00]	TO BUS 66085 [NINETY S	138.00]	CKT 1
	OPEN LINE FROM BUS 66080 [NINETY S	345.00]	TO BUS 66085 [NINETY S	138.00]	CKT 2
90S323	: OPEN LINE FROM BUS 66080 [NINETY S	345.00]	TO BUS 65260 [CAMP WIL	345.00]	CKT 2
	OPEN LINE FROM BUS 66080 [NINETY S	345.00]	TO BUS 65945 [MIDVALLY	345.00]	CKT 1
90S324	: OPEN LINE FROM BUS 66080 [NINETY S	345.00]	TO BUS 65260 [CAMP WIL	345.00]	CKT 1
	OPEN LINE FROM BUS 66080 [NINETY S	345.00]	TO BUS 66510 [TERMINAL	345.00]	CKT 1
90MV90TM	: OPEN LINE FROM BUS 66080 [NINETY S	345.00]	TO BUS 65945 [MIDVALLY	345.00]	CKT 1
	OPEN LINE FROM BUS 66080 [NINETY S	345.00]	TO BUS 66510 [TERMINAL	345.00]	CKT 1
PT302	: OPEN LINE FROM BUS 66225 [PINTO	345.00]	TO BUS 66235 [PINTO PS	345.00]	CKT 1
	OPEN LINE FROM BUS 66225 [PINTO	345.00]	TO BUS 66229 [PINTO 3	13.800]	CKT 2
PL298	: OPEN LINE FROM BUS 66240 [PLATTE	230.00]	TO BUS 66245 [PLATTE	115.00]	CKT 1
PL304	: OPEN LINE FROM BUS 66240 [PLATTE	230.00]	TO BUS 65975 [MINERS	230.00]	CKT 1
RB341	: OPEN LINE FROM BUS 66280 [REDBUTTE	345.00]	TO BUS 66274 [REDBUTTE	138.00]	CKT 1
	OPEN LINE FROM BUS 66280 [REDBUTTE	345.00]	TO BUS 65315 [CENTRAL	138.00]	CKT 1
	OPEN LINE FROM BUS 66280 [REDBUTTE	345.00]	TO BUS 65315 [CENTRAL	138.00]	CKT 2
RB362	: OPEN LINE FROM BUS 66280 [REDBUTTE	345.00]	TO BUS 65312 [THREE PK	345.00]	CKT 1
	OPEN LINE FROM BUS 66280 [REDBUTTE	345.00]	TO BUS 66274 [REDBUTTE	138.00]	CKT 1
RV112	: OPEN LINE FROM BUS 66305 [RIVERTON	230.00]	TO BUS 66535 [THERMOPL	230.00]	CKT 1
	OPEN LINE FROM BUS 66305 [RIVERTON	230.00]	TO BUS 66740 [WYOPO	230.00]	CKT 1
RV138	: OPEN LINE FROM BUS 66305 [RIVERTON	230.00]	TO BUS 73170 [RIVERTON	115.00]	CKT 1
	OPEN LINE FROM BUS 66305 [RIVERTON	230.00]	TO BUS 66740 [WYOPO	230.00]	CKT 1
RV172	: OPEN LINE FROM BUS 66305 [RIVERTON	230.00]	TO BUS 73170 [RIVERTON	115.00]	CKT 1

	OPEN LINE FROM BUS 66305 [RIVERTON	230.00]	TO BUS 65300 [CASPERPP	230.00]	CKT 1
RS128	: OPEN LINE FROM BUS 66315 [ROCKSPGS	230.00]	TO BUS 66180 [PALISADE	230.00]	CKT 1
	OPEN LINE FROM BUS 66315 [ROCKSPGS	230.00]	TO BUS 66250 [PT ROCKS	230.00]	CKT 1
RS132	: OPEN LINE FROM BUS 66315 [ROCKSPGS	230.00]	TO BUS 66180 [PALISADE	230.00]	CKT 1
	OPEN LINE FROM BUS 66315 [ROCKSPGS	230.00]	TO BUS 65555 [FIREHOLE	230.00]	CKT 1
RSPTRSJB	: OPEN LINE FROM BUS 66315 [ROCKSPGS	230.00]	TO BUS 66250 [PT ROCKS	230.00]	CKT 1
	OPEN LINE FROM BUS 66315 [ROCKSPGS	230.00]	TO BUS 65220 [BRIDGER	230.00]	CKT 1
SG302	: OPEN LINE FROM BUS 66340 [SIGURD	345.00]	TO BUS 65995 [MONA	345.00]	CKT 2
	OPEN LINE FROM BUS 66340 [SIGURD	345.00]	TO BUS 66345 [SIGURD	230.00]	CKT 1
SG303	: OPEN LINE FROM BUS 66340 [SIGURD	345.00]	TO BUS 65510 [EMERY	345.00]	CKT 2
	OPEN LINE FROM BUS 66340 [SIGURD	345.00]	TO BUS 66345 [SIGURD	230.00]	CKT 1
SG304	: OPEN LINE FROM BUS 66340 [SIGURD	345.00]	TO BUS 65995 [MONA	345.00]	CKT 1
	OPEN LINE FROM BUS 66340 [SIGURD	345.00]	TO BUS 66345 [SIGURD	230.00]	CKT 1
SG324	: OPEN LINE FROM BUS 66340 [SIGURD	345.00]	TO BUS 65995 [MONA	345.00]	CKT 1
	OPEN LINE FROM BUS 66340 [SIGURD	345.00]	TO BUS 65510 [EMERY	345.00]	CKT 1
SF327	: OPEN LINE FROM BUS 66400 [SPAN FRK	345.00]	TO BUS 65260 [CAMP WIL	345.00]	CKT 1
	OPEN LINE FROM BUS 66400 [SPAN FRK	345.00]	TO BUS 66405 [SPAN FRK	138.00]	CKT 1
SF345CLSD	: OPEN LINE FROM BUS 66400 [SPAN FRK	345.00]	TO BUS 66405 [SPAN FRK	138.00]	CKT 1
	OPEN LINE FROM BUS 66400 [SPAN FRK	345.00]	TO BUS 66405 [SPAN FRK	138.00]	CKT 2
SF347CLSD	: OPEN LINE FROM BUS 66400 [SPAN FRK	345.00]	TO BUS 65260 [CAMP WIL	345.00]	CKT 1
	OPEN LINE FROM BUS 66400 [SPAN FRK	345.00]	TO BUS 65805 [HUNTINGTN	345.00]	CKT 1
SF357	: OPEN LINE FROM BUS 66400 [SPAN FRK	345.00]	TO BUS 65805 [HUNTINGTN	345.00]	CKT 1
	OPEN LINE FROM BUS 66400 [SPAN FRK	345.00]	TO BUS 66405 [SPAN FRK	138.00]	CKT 1
TM304	: OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66080 [NINETY S	345.00]	CKT 1
	OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66520 [TERMINAL	138.00]	CKT 2
TM308	: OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66133 [OQUIRRH	345.00]	CKT 1
	OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66520 [TERMINAL	138.00]	CKT 2
TM309	: OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 65260 [CAMP WIL	345.00]	CKT 1
	OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66520 [TERMINAL	138.00]	CKT 2
TM323	: OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 65945 [MIDVALLY	345.00]	CKT 1
	OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66520 [TERMINAL	138.00]	CKT 2
TM324	: OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66080 [NINETY S	345.00]	CKT 1
	OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66520 [TERMINAL	138.00]	CKT 1
TM328	: OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66133 [OQUIRRH	345.00]	CKT 1
	OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 65135 [BENLOMND	345.00]	CKT 1
TM329	: OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 65260 [CAMP WIL	345.00]	CKT 1
	OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66476 [SYRACUSE	345.00]	CKT 1
TM348	: OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 65135 [BENLOMND	345.00]	CKT 1
	OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66520 [TERMINAL	138.00]	CKT 1
TM349	: OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66476 [SYRACUSE	345.00]	CKT 1
	OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66520 [TERMINAL	138.00]	CKT 1
TMBLTMSY	: OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 65135 [BENLOMND	345.00]	CKT 1
	OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66476 [SYRACUSE	345.00]	CKT 1
TM90TMMV	: OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66080 [NINETY S	345.00]	CKT 1
	OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 65945 [MIDVALLY	345.00]	CKT 1
TMCWTMOQ	: OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 65260 [CAMP WIL	345.00]	CKT 1
	OPEN LINE FROM BUS 66510 [TERMINAL	345.00]	TO BUS 66133 [OQUIRRH	345.00]	CKT 1
TH14	: OPEN LINE FROM BUS 66535 [THERMOPL	230.00]	TO BUS 66305 [RIVERTON	230.00]	CKT 1
	OPEN LINE FROM BUS 66535 [THERMOPL	230.00]	TO BUS 66540 [THERPACE	115.00]	CKT 1
TH16,220	: OPEN LINE FROM BUS 66535 [THERMOPL	230.00]	TO BUS 65720 [GRASS CK	230.00]	CKT 1
	OPEN LINE FROM BUS 66535 [THERMOPL	230.00]	TO BUS 66540 [THERPACE	115.00]	CKT 1
TH224	: OPEN LINE FROM BUS 66535 [THERMOPL	230.00]	TO BUS 66305 [RIVERTON	230.00]	CKT 1
	OPEN LINE FROM BUS 66535 [THERMOPL	230.00]	TO BUS 65095 [BADWATER	230.00]	CKT 1
TH228	: OPEN LINE FROM BUS 66535 [THERMOPL	230.00]	TO BUS 66540 [THERPACE	115.00]	CKT 1
	OPEN LINE FROM BUS 66535 [THERMOPL	230.00]	TO BUS 65095 [BADWATER	230.00]	CKT 1
TR220	: OPEN LINE FROM BUS 66565 [TREASTON	230.00]	TO BUS 60073 [BRADY	230.00]	CKT 1
	OPEN LINE FROM BUS 66565 [TREASTON	230.00]	TO BUS 66570 [TREASTON	138.00]	CKT 2
TR240	: OPEN LINE FROM BUS 66565 [TREASTON	230.00]	TO BUS 66050 [NAUGHTON	230.00]	CKT 1
	OPEN LINE FROM BUS 66565 [TREASTON	230.00]	TO BUS 66570 [TREASTON	138.00]	CKT 1
TR230CLSD	: OPEN LINE FROM BUS 66565 [TREASTON	230.00]	TO BUS 60073 [BRADY	230.00]	CKT 1
	OPEN LINE FROM BUS 66565 [TREASTON	230.00]	TO BUS 66050 [NAUGHTON	230.00]	CKT 1
TR232CLSD	: OPEN LINE FROM BUS 66565 [TREASTON	230.00]	TO BUS 66570 [TREASTON	138.00]	CKT 1
	OPEN LINE FROM BUS 66565 [TREASTON	230.00]	TO BUS 66570 [TREASTON	138.00]	CKT 2
TRBRJBKP	: OPEN LINE FROM BUS 66565 [TREASTON	230.00]	TO BUS 60073 [BRADY	230.00]	CKT 1
	OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 60190 [KINPORT	345.00]	CKT &1
TRBRJBBO	: OPEN LINE FROM BUS 66565 [TREASTON	230.00]	TO BUS 60073 [BRADY	230.00]	CKT 1
	OPEN LINE FROM BUS 60085 [BRIDGER	345.00]	TO BUS 60060 [BORAH	345.00]	CKT &1
WY326	: OPEN LINE FROM BUS 66725 [WYODAK	230.00]	TO BUS 65293 [CARR DRA	230.00]	CKT 1
	OPEN LINE FROM BUS 66725 [WYODAK	230.00]	TO BUS 73294 [HUGHES	230.00]	CKT 1
WY334	: OPEN LINE FROM BUS 66725 [WYODAK	230.00]	TO BUS 73148 [OSAGE	230.00]	CKT 1
	OPEN LINE FROM BUS 66725 [WYODAK	230.00]	TO BUS 66730 [WYODAK 1	22.000]	CKT 1
YW278	: OPEN LINE FROM BUS 66750 [YELLOWTLP	230.00]	TO BUS 73229 [YELLOWBR	230.00]	CKT 1
	OPEN LINE FROM BUS 66750 [YELLOWTLP	230.00]	TO BUS 66755 [YELLOWTLP	161.00]	CKT 1
YW284	: OPEN LINE FROM BUS 66750 [YELLOWTLP	230.00]	TO BUS 65660 [GOOSE CK	230.00]	CKT 1
	OPEN LINE FROM BUS 66750 [YELLOWTLP	230.00]	TO BUS 62045 [BLGS PHA	230.00]	CKT 1
YW286	: OPEN LINE FROM BUS 66750 [YELLOWTLP	230.00]	TO BUS 65575 [FRANNIE	230.00]	CKT 1

	OPEN LINE FROM BUS 66750 [YELOWTLP	230.00]	TO BUS 62045 [BLGS PHA	230.00]	CKT 1
YW290	: OPEN LINE FROM BUS 66750 [YELOWTLP	230.00]	TO BUS 65575 [FRANNIE	230.00]	CKT 1
	OPEN LINE FROM BUS 66750 [YELOWTLP	230.00]	TO BUS 66755 [YELOWTLP	161.00]	CKT 1
YW296	: OPEN LINE FROM BUS 66750 [YELOWTLP	230.00]	TO BUS 65660 [GOOSE CK	230.00]	CKT 1
	OPEN LINE FROM BUS 66750 [YELOWTLP	230.00]	TO BUS 73229 [YELLOWBR	230.00]	CKT 1

Appendix 4: Transient Stability Results—2015 Heavy Summer

Fault Description	Line Segment Opened	Switchdeck File	WECC Result	Low Voltage (p.u.)	Low Voltage Bus #	Low Voltage Bus	Total Colstrip Gen	Path 8	Path 80	ATR 1 Action (cycles)	ATR 2 Action (cycles)	ATR 3 Action (cycles)	ATR 4 Action (cycles)
3-Phase Fault at Garrison 500 kV	Garrison -- Taft (both circuits)	sdk_grtt12m_mc_gr.txt	C	0.7276	62154	SLVRBOW 115 kV	2260	885	14.9	10.4	0	11.4	0
1-Phase Fault at Garrison 500 kV	Garrison -- Taft (single circuit)	sdk_1grtt1m.txt	B	0.8538	62030	PTRSNFLT 230 kV	2260	885	14.9	0	0	0	0
3-Phase Fault at Garrison 500 kV	Garrison -- Taft (single circuit)	sdk_3grtt1.txt	B	0.8323	62030	PTRSNFLT 230 kV	2260	885	14.9	0	0	0	0
3-Phase Fault at Broadview 500 kV	Broadview -- Colstrip	sdk_3bvcs1.txt	B	0.8538	62060	COLSTRP 230 kV	2260	885	14.9	10	0	11	0
1-Phase Fault at Broadview 500 kV	Broadview -- Colstrip	sdk_1bvcs1.txt	B	0.8735	63010	MILCTYDC 230 kV	2260	885	14.9	12	0	13	0
3-Phase Fault at Taft 500 kV	Taft -- Bell	sdk_3ttbb.txt	B	0.9183	62216	LAVINAPM 100 kV	2260	885	14.9	0	0	0	0
3-Phase Fault at Taft 500 kV	Taft -- Dworshak	sdk_3ttdw.txt	B	0.8858	62030	PTRSNFLT 230 kV	2260	885	14.9	0	0	0	0
3-Phase Fault at Townsend 500 kV	Townsend -- Midpoint (MSTI)	sdk_tnmp.txt	B	0.7827	62030	PTRSNFLT 230 kV	2260	885	14.9	0	0	0	0
3-Phase Fault at Midpoint 500 kV	Townsend -- Midpoint (MSTI)	sdk_mptn.txt	B	0.8671	62030	PTRSNFLT 230 kV	2260	885	14.9	0	0	13.8	0
3-Phase Fault at Townsend 500 kV	Townsend -- Garrison (both circuits)	sdk_tngr12.txt	B	0.7790	62250	BGTMBERA 161 kV	2260	885	14.9	10	0	11	0
3-Phase Fault at Townsend 500 kV	Townsend -- Garrison (single circuit)	sdk_tngr1.txt	B	0.9128	62235	MARTNSDA 100 kV	2260	885	14.9	0	0	0	0
3-Phase Fault at Broadview 500 kV	Broadview -- Townsend (both circuits)	sdk_3bvtn12.txt	B	0.8660	62325	DUCKCR-R 161 kV	2260	885	14.9	8	0	9	9
3-Phase Fault at Broadview 500 kV	Broadview -- Townsend (single circuit)	sdk_3bvtn1.txt	B	0.8936	63010	MILCTYDC 230 kV	2260	885	14.9	0	0	0	0
3-Phase Fault at Midpoint 500 kV	Midpoint -- Summer Lake	sdk_mpsl.txt	B	0.8904	62030	PTRSNFLT 230 kV	2260	885	14.9	0	0	0	0

Appendix 4: Transient Stability Results—2010 Light Autumn

Fault Description	Line Segment Opened	Switchdeck File	WECC Result	Low Voltage (p.u.)	Low Voltage Bus #	Low Voltage Bus	Total Colstrip Gen	Path 8	Path 80	ATR 1 Action (cycles)	ATR 2 Action (cycles)	ATR 3 Action (cycles)	ATR 4 Action (cycles)
3-Phase Fault at Garrison 500 kV	Garrison -- Taft (both circuits)	sdk_grtt12m_mc_gr.txt	B	0.8678	62081	COLSTRP 115 kV	2324	2170	559.5	9.2	0	10.2	10.2
1-Phase Fault at Garrison 500 kV	Garrison -- Taft (single circuit)	sdk_1grtt1m.txt	B	0.9138	62154	SLVRBOW 115 kV	2324	2170	559.5	0	0	0	13.8
3-Phase Fault at Garrison 500 kV	Garrison -- Taft (single circuit)	sdk_3grtt1.txt	B	0.9045	62031	CUTBANK 115 kV	2324	2170	559.5	0	0	0	0
3-Phase Fault at Broadview 500 kV	Broadview -- Colstrip	sdk_3bvcs1.txt	B	0.8855	62081	COLSTRP 115 kV	2324	2170	559.5	10	0	0	11
1-Phase Fault at Broadview 500 kV	Broadview -- Colstrip	sdk_1bvcs1.txt	B	0.9000	63010	MILCTYDC 230 kV	2324	2170	559.5	0	0	0	13.8
3-Phase Fault at Taft 500 kV	Taft -- Bell	sdk_ttbb.txt	B	0.9366	62031	CUTBANK 115 kV	2324	2170	559.5	0	0	0	0
3-Phase Fault at Taft 500 kV	Taft -- Dworshak	sdk_ttdw.txt	B	0.9421	62351	HRSHOEGN 34.5 kV	2324	2170	559.5	0	0	0	0
3-Phase Fault at Townsend 500 kV	Townsend -- Midpoint (MSTI)	sdk_tnmp.txt	B	0.9402	63010	MILCTYDC 230 kV	2324	2170	559.5	0	0	0	0
3-Phase Fault at Midpoint 500 kV	Townsend -- Midpoint (MSTI)	sdk_mptn.txt	B	0.9545	73216	WINDRIVR 115 kV	2324	2170	559.5	0	0	0	0
3-Phase Fault at Townsend 500 kV	Townsend -- Garrison (both circuits)	sdk_tngr12.txt	B	0.8165	62081	COLSTRP 115 kV	2324	2170	559.5	9.2	0	10.2	10.2
3-Phase Fault at Townsend 500 kV	Townsend -- Garrison (single circuit)	sdk_tngr1.txt	B	0.9344	62235	MARTNSDA 100 kV	2324	2170	559.5	0	0	0	0
3-Phase Fault at Broadview 500 kV	Broadview -- Townsend (both circuits)	sdk_3bvtn12.txt	B	0.8274	9998	DCEAST 230 kV	2324	2170	559.5	8	0	9	9
3-Phase Fault at Broadview 500 kV	Broadview -- Townsend (single circuit)	sdk_3bvtn1.txt	B	0.9191	62235	MARTNSDA 100 kV	2324	2170	559.5	0	0	0	0
3-Phase Fault at Midpoint 500 kV	Midpoint -- Summer Lake	sdk_mpsl.txt	B	0.9751	60225	MICRON 138 kV	2324	2170	559.5	0	0	0	0