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INTERCONTINENTAL POTASH SIS
LOAD INTERCONNECTION STUDY REPORT
STUDY # 110801

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Southwestern Public Service Company (SPS),
An Xcel Energy Company

October 26, 2011

Executive Summary

SPS Retail Accounts in June 2011 requested a study for adding new load at a new delivery point to be located west of Jal, NM onto the Southwestern Public Service Company (SPS) 115 kV transmission network. The anticipated initial load as per the customer request is 80 MW with anticipated in service date of January 2015. The vicinity map is shown in Appendix A.

The purpose of this study is to determine the impact of the new load to the SPS local transmission system in New Mexico and the required upgrades to mitigate the impacts. This is the key area of interest since the new load is situated in this area, which would be impacted most. However, southern portion of the SPS Texas transmission system is also monitored for any new impacts.

Power flow analysis was performed to determine impacts and mitigations with the introduction of the new load to the local SPS transmission grid in the area of study. Based on the availability of power flow models and the requested in service date the new load request was studied for 2017 and 2022 summer and winter peak seasons. A complete AC contingency analysis is run for the study area to determine the impacts of the new load to the SPS transmission system and the results are tabulated in Appendix B.

The load addition due to Intercontinental Potash mine lead to system intact and N-1 contingency violations in the study area. So the load cannot be served until the recommended system upgrades are made. Refer to Table 2 for list of recommended upgrades needed in delivering the requested amount of load.

SPS at their discretion reserves the right to modify or change the long term recommended transmission upgrades based on requested load projects, and generation interconnections; or guidance from the Southwest Power Pool (SPP). The long term recommended upgrades are the best solution at this time based on current data available and are subject to SPP's Integrated Transmission Process (ITP) review. These upgrades could be changed in order to meet present and long-term goals; however, changes will be accomplished provided the new upgrades meet the same level of safety and system reliability.

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1. Introduction

SPS Retail Accounts in June 2011 requested a study for adding new load at a new delivery point to be located west of Jal, NM onto the Southwestern Public Service Company (SPS) 115 kV transmission network. The anticipated initial load as per the customer request is 80 MW with anticipated in service date of January 2015.

The primary objective of this study is to determine if the new load addition will adversely impact transmission loadings or system voltages during the system intact or with N-1 contingency conditions. This study also proposes any new upgrades that may be required in order to serve the new load without any violations. In addition, this study gives the estimated costs, which are associated with the interconnection of the proposed new load transmission facilities to the SPS transmission system.

2. Study Methodology

This study was performed using the Power Technologies, Inc. ("PTI") Power System Simulator for Engineering (PSS/E) program and contains a steady-state analysis using AC Contingency Checking (ACCC) with a Fixed Slope Decoupled Newton–Raphson (FDNS) solution. The study was conducted to ensure that current NERC Planning Standards[1] are fulfilled. As an example, for system intact conditions, bus voltages must be maintained between 0.95 – 1.05 per unit of their nominal value and thermal system intact conditions must not exceed their designated A-rating. For contingencies, the voltages are allowed to deviate between 0.90 – 1.05 per-unit of their nominal value. Additionally, the loading on transmission system equipment cannot exceed 100% of the emergency B-rating.

The study uses a comparative study approach to determine system impacts caused by this proposed new load for the power flow models considered. The base case models include the power flow cases with transmission service requests granted by the Southwest Power Pool ("SPP") for the respective year/season studied, without the new load. All additional "test" power flow cases include the proposed load additions for the respective peak seasons. The violations from each contingency in the test cases were compared to the respective violation, under the same contingency, of the base case and the impact was thus determined.

3. Study Assumptions[2]

The 2017 and 2022 summer and winter peak power flow models were used for this study and represent the 2011 Southwest Power Pool (SPP) MDWG reduced Model Series and includes all MOD1 Quarter 2, B2 updates. No new speculative load or loads without signed agreements were added to the models or any additional load requests not already

[1] Requirement for TPL-001-R1 and TPL-002, R1
[2] Requirement for FAC 002-R1.5

present in these models. A minimum of 98.0 % power factor was used in the test case models in adherence to Xcel Energy document Interconnection Guidelines for Transmission Interconnected Customer Loads Version 3.0 dated August 23, 2010. http://www.xcelenergy.com/staticfiles/xe/Regulatory/Transmission/XELTransmissionInterconnectedCustLoads[1].pdf. The study result will change if the load's power factor is not corrected to operate at 98% or better.

A 14.4 MVAr capacitor bank at Drinkard and second 230/115 kV transformer at Eddy county were modeled as part of base cases with ISD's as recommended in their previous studies (Red Bluff and Central Valley load studies). The load request from previously studied Red Bluff study[3] was also included as part of base case. The following loads from recent studies and also the recommended upgrades in order to serve these loads were also modeled as part of base cases since these are located in the same study area and could affect the study results.

Agave Red Hills – This request if for a new delivery point with anticipated initial load of 11.26 MW. The geographical location for this new delivery point will be 1500' west of Ochoa Sub. The requested ISD is January 1, 2012.
Intrepid West – This request is for a new delivery point with anticipated initial load of 12 MW of which 5 MW will be transferred from an existing 69 kV sub owned by the customer and served out of Potash junction. The geographical location of the new delivery point will be at existing Intrepid's west surface facility. The requested ISD is March 2012.
Frontier Field Services – This request is for adding an additional load of 18 MW at the existing delivery point Maljamar #2. The requested ISD is October 2012.

4. Results

The results presented in this study refer to SPS transmission system in New Mexico and southern portion of Texas. Also, the results presented in this study are only valid for the power flow cases noted in section 3. The results are not for all the variations that could exist in load, generation patterns and network transmission service that could be granted by SPP.

The power flow models simulated with new load triggered new violations during system intact and single contingency conditions. The violations are shown in Appendix B.

4.1. System Intact Conditions

The total load modeled at the requested delivery points for different power flow models are shown in Table 1.

[3] 17.5 MW of load is modeled at Wood Draw with ISD of 2012 Winter.

Table 1 – Total load modeled

Delivery point	Total Load		Power flow models
	MW	MVAr	
Intercontinental Potash	80	16	17S,17W, 22S, 22W

The power flow models simulated with new load triggered new system intact violations. Refer to Appendix B for system intact violations

4.2. Thermal/Voltage Single Contingency Analysis

Using the power flow models noted above, ACCC single-element contingency analysis showed an indication that new thermal or voltage violations would be triggered on the transmission system as a result of this new load addition. Refer to Appendix B for system N-1 contingency violations.

4.3. TPL-003 COMPLIANCE

To comply with the category C contingencies of TPL-003 reliability standards the following analysis was performed. This analysis is only limited to that area of SPS system where system modifications are recommended as part of this study. The analysis on rest of the system will be done as part of regular TPL-003 compliance study.

Subcategory C1&C2 – SLG fault with normal clearing:
Bus Section: Since the new bus configurations at Potash junction 230kV is going to be a 4 breaker ring bus and the 115 kV bus configuration at the new potash mine substation is going to be a 3 breaker ring bus, any fault on these buses would be limited to only a section of a bus for normal breaker operation and only one transmission line will be taken out of service. This scenario is similar to N-1 scenario and is covered by ACCC analysis under Section 4.2 of this study report. A bus fault on 230 kV bus at Potash mine would take the 230 kV line from Potash junction to Potash mine and the 230/115 kV transformer out of service. The system is within acceptable limits for this contingency. The other bus section faults are not considered in this study and would be part of regular TPL-003 compliance studies.
Breaker (failure or internal fault) – For a breaker failure condition at the Potash mine 115 kV bus, two sections of the bus will be taken out of service which would result in loss of two bulk electric system elements. A complete load shedding or no load shedding of potash mine load may occur depending on final connection arrangement of the transmission lines at this bus and the location of breaker failure. Refer to Appendix A, figure 4 for the bus configuration at the new 230/115 kV substation.

Subcategory C3 – SLG or 3ø Fault, with Normal Clearing, Manual System Adjustments, followed by another SLG or 3ø fault, with Normal Clearing:
This scenario is a N-1-1 scenario where for the loss of 230 kV line from Potash junction to Potash mine followed by manual system adjustments and loss of 115 kV line from Red Bluff switching station to Potash mine would lead to low voltage and thermal overloads in the study area. Load curtailment in the study area needs to performed in order to bring the system within acceptable limits.

Subcategory C4 - Bi polar (dc) line fault with normal clearing
Not applicable to this study
Subcategory C5 - Any two circuits of a multiple circuit tower line – SPS would propose and analyze during the transmission routing procedure that the new 230 kV line constructed from Potash junction to the new Potash mine sub would not be on common towers or less than 1 mile of multiple circuit towers to avoid this issue..

Subcategory C6, C7, C8 & C9 - SLG fault with delayed clearing (stuck breaker):
SPS proposes to review its protection schemes for dealing with SLG and protection system component failures to minimize fault duration. Protective relay settings have not been made and that data is not available until much closer to construction.

SPS proposes to consider future substation designs other than the main-and-transfer concept and will consider retrofitting some existing ones. The objective would be to limit exposure to multiple element outages caused by a single event. Substations to be retrofitted would be selected based on criticality in operating and maintaining the reliability of the system. New substations being planned and constructed are mostly ring bus and expandable to a breaker-and-a-half design.

5. Discussion of Alternatives

Several alternatives were considered in this study to mitigate the violations during system intact and contingency conditions. The best alternative recommended in this study was based on its capability to address both reliability and cost effectiveness. Table 2 lists and summarizes the recommended upgrades.

Table 2 – Recommended upgrades for mitigating the violations

Load Request	Recommended upgrades
Intercontinental Potash	1. Build a 230/115 kV substation near to the potash mine load center and run T41 in and out of this new substation. The 115 kV bus would be of ring bus configuration.
	2. Build approx 45 miles of new 230 kV, 795 ACSR, line from Potash junction to the new substation and 1 mile of 115 kV 795 ACSR line from the new substation to the customer load center.
	3. Provide a new breaker terminal at Potash junction and modify the existing 230 kV straight bus configuration to a ring bus expandable to a breaker and half configuration. 4. Load side revenue metering needs to be installed at the customer station.

6. Fault or Short Circuit Study[4]

The approximate available fault currents and fault impedance values at the new substation are shown in Table 3 below.

Table 3 –Available Short Circuit Values

FAULT VALUES ON THE 230KV BUS AT THE NEW SUB						
	FAULT CURRENT (Amps)			FAULT IMPEDANCE (Ω)		
FAULT TYPE	*+ seq*	*- seq*	*0 seq / 3Io*	*+ seq*	*- seq*	*0 seq / 3Io*
LG	2050	2050	6150	2.91393+j21.9590	2.915+j21.8702	2.694+j20.3784
3-PHASE	5995	0	0	2.91393+j21.9590	2.915+j21.8702	2.694+j20.3784
FAULT VALUES ON THE 115KV BUS AT THE NEW SUB						
	FAULT CURRENT (Amps)			FAULT IMPEDANCE (Ω)		
FAULT TYPE	*+ seq*	*- seq*	*0 seq / 3Io*	*+ seq*	*- seq*	*0 seq / 3Io*
LG	1336	1336	4008	1.296+j9.2366	1.296+j9.2164	5.265+j30.6142
3-PHASE	7118	0	0	1.296+j9.2366	1.296+j9.2164	5.265+j30.6142

Should these projects mature to the point that the actual substation layout scheme and the equipment are specified, SPS System Protection Engineering will require actual data about the proposed customer facility. The protection scheme coordination will then be verified by SPS as is required by FAC-002.

7. Estimated Costs

The estimated cost for the required upgrades is shown below in Table 4. These cost estimates are based on standard designs and are subject to change based on final selection of route and any additional unforeseen requirements.

[4] Use as required by NERC Standard FAC-002-0 R1.4 “Evidence that the assessment included steady-state, short-circuit, and dynamics studies as necessary to evaluate system performance in accordance with Reliability Standard TPL-001-0.”

Load Request	Recommended upgrades	Estimated Costs
INTERCONTINENTAL POTASH	1. Install a new 230 kV line terminal at Potash junction and reconfigure bus to a Ring bus	$3,250,055
	2. Build a 230/115 kV substation, West Jal, with a 230 kV terminal to Potash Junction, 230/115kV 250 MVA Autotransformer, 115kV terminals to Potash Junction, Ochoa and to Customer sub.	$6,850,320
	3. Build 45 miles of 230kV from Potash Junction to a new 230kV sub, West Jal, to be located 9 miles west of Ochoa sub	$16,482,513
	4. Build 1 mile of 115kV with 795 ACSR conductor to the new customer sub	$733,232
	5. ROW for 230kV transmission line from Potash Junction to the new 230 kV substation West Jal.	$807,388
	Sub Total	***$28,123,508***

Table 4 –Cost estimates

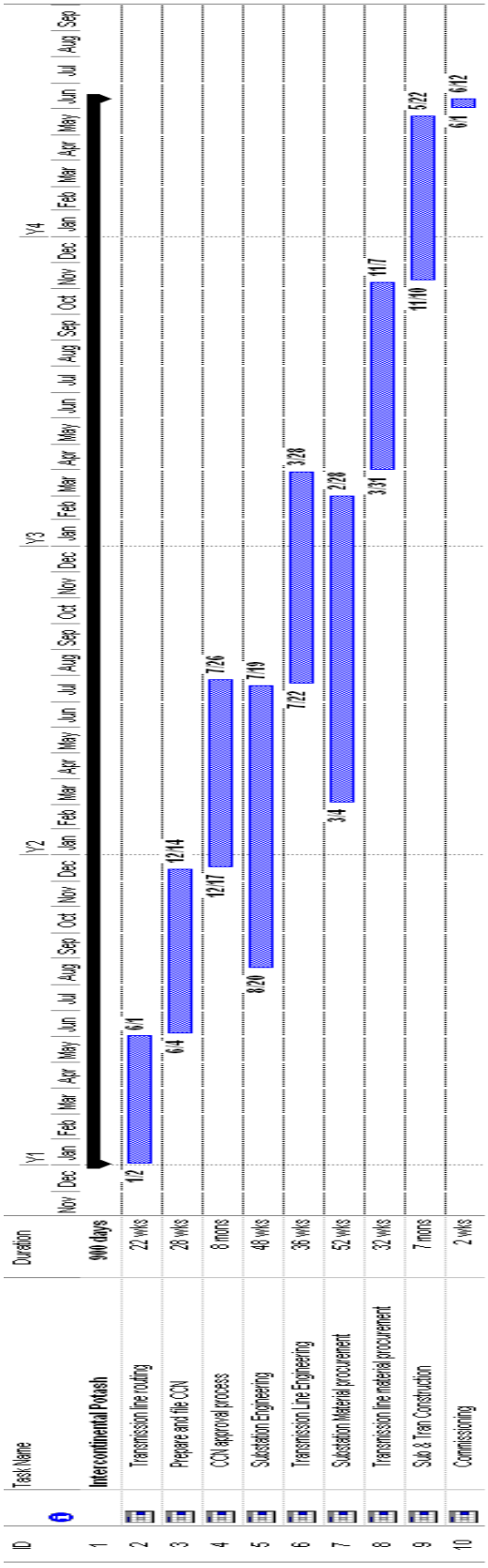
The cost estimate for the 115 kV bus at the new substation is currently estimated at a single feed to the customer. When the customer has definitive plans for their required electrical service, SPS will review them and may make changes to the 115 kV bus design to accommodate their requirements.

8. Construction Schedule

The construction schedule for the required upgrades is shown below. The scheduled time frames for the required upgrades are applicable only after all required agreements are signed and internal approvals are granted.

These transmission system upgrades, however, at the discretion of SPS, may be changed to develop an improved transmission system plan that encompasses other projects while maintaining present and long-term goals, yet meeting equivalent reliability requirements and safety measures.

The schedules indicated are for project duration purposes only and other factors associated with clearances, equipment delays and work schedules could cause additional delays.


ID
Task Name
Duration
Y1
Y2
Y3
Y4
Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep
1 Intercontinental Potash 900 days
2 Transmission line routing 22 wks 1/2 6/1
3 Prepare and file CCN 28 wks 6/4 12/14
4 CCN approval process 8 mons 12/17 7/26
5 Substation Engineering 48 wks 6/20 7/19
6 Transmission Line Engineering 36 wks 7/22 3/28
7 Substation Material procurement 52 wks 3/4 2/28
8 Transmission line material procurement 32 wks 3/31 11/7
9 Sub & Tran Construction 7 mons 11/10 5/22
10 Commissioning 2 wks 6/1 6/12

Appendix A

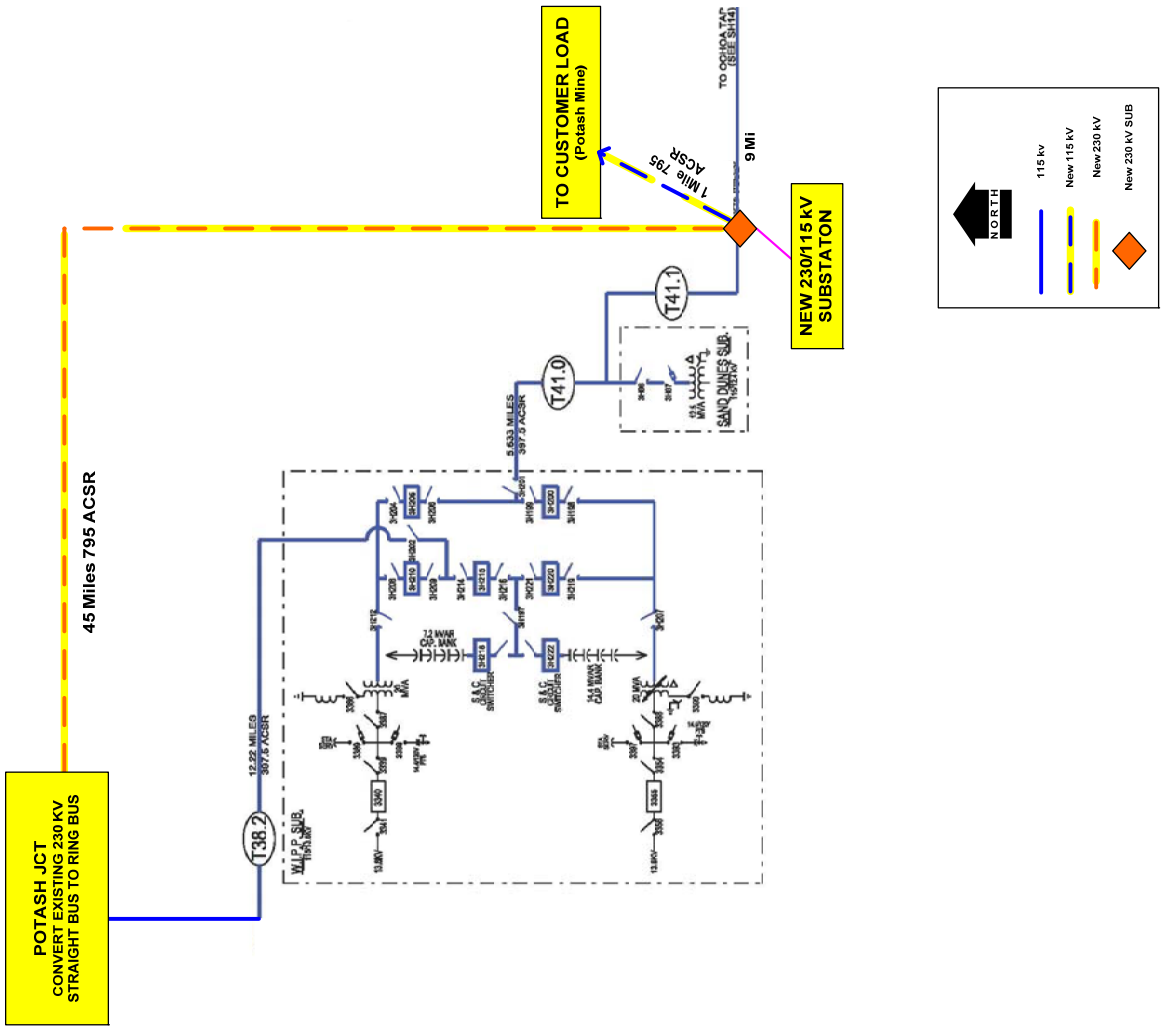


Figure 1 - Single Line diagram

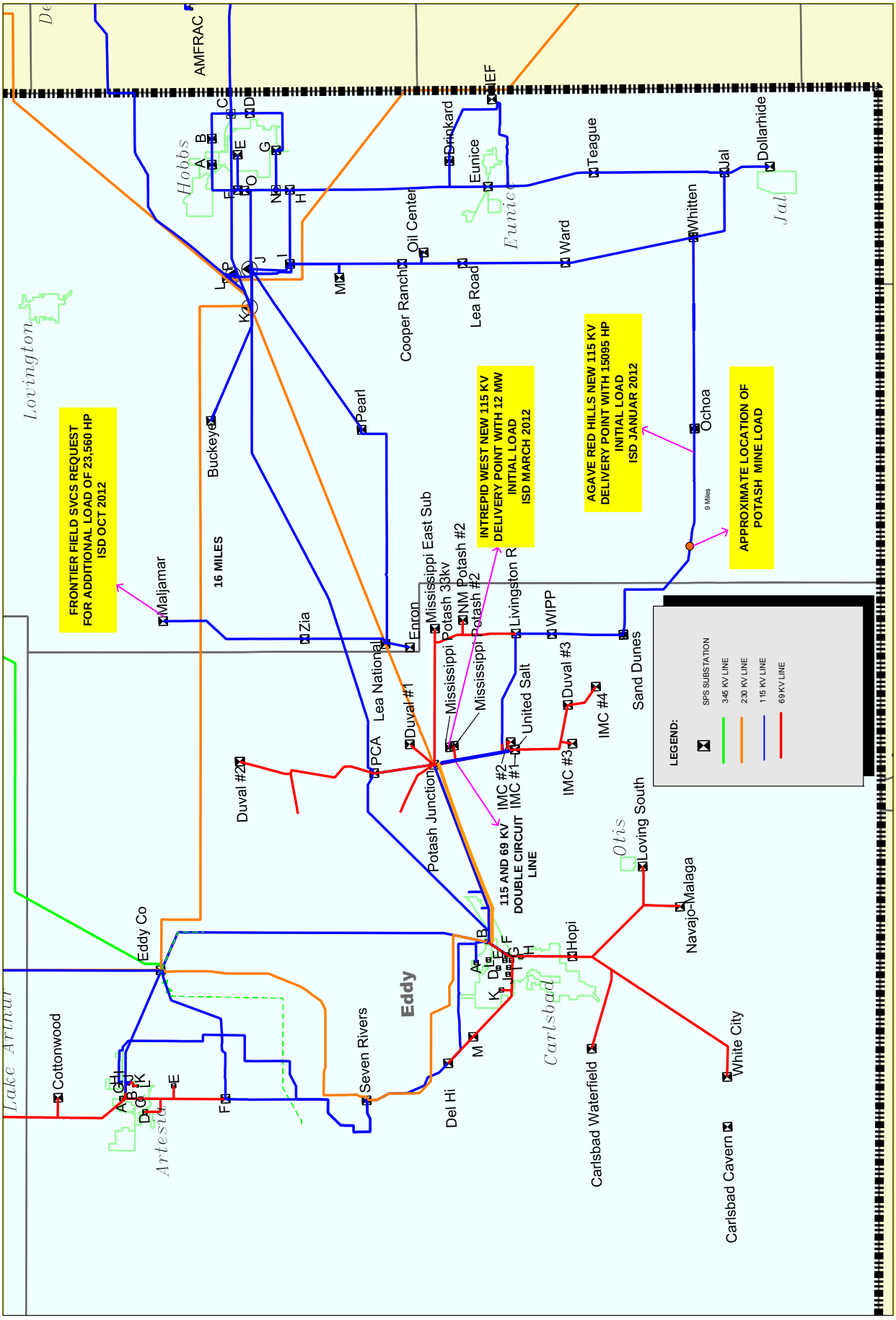


Figure 2 - Geographical locations of previous load requests modeled as part of base case

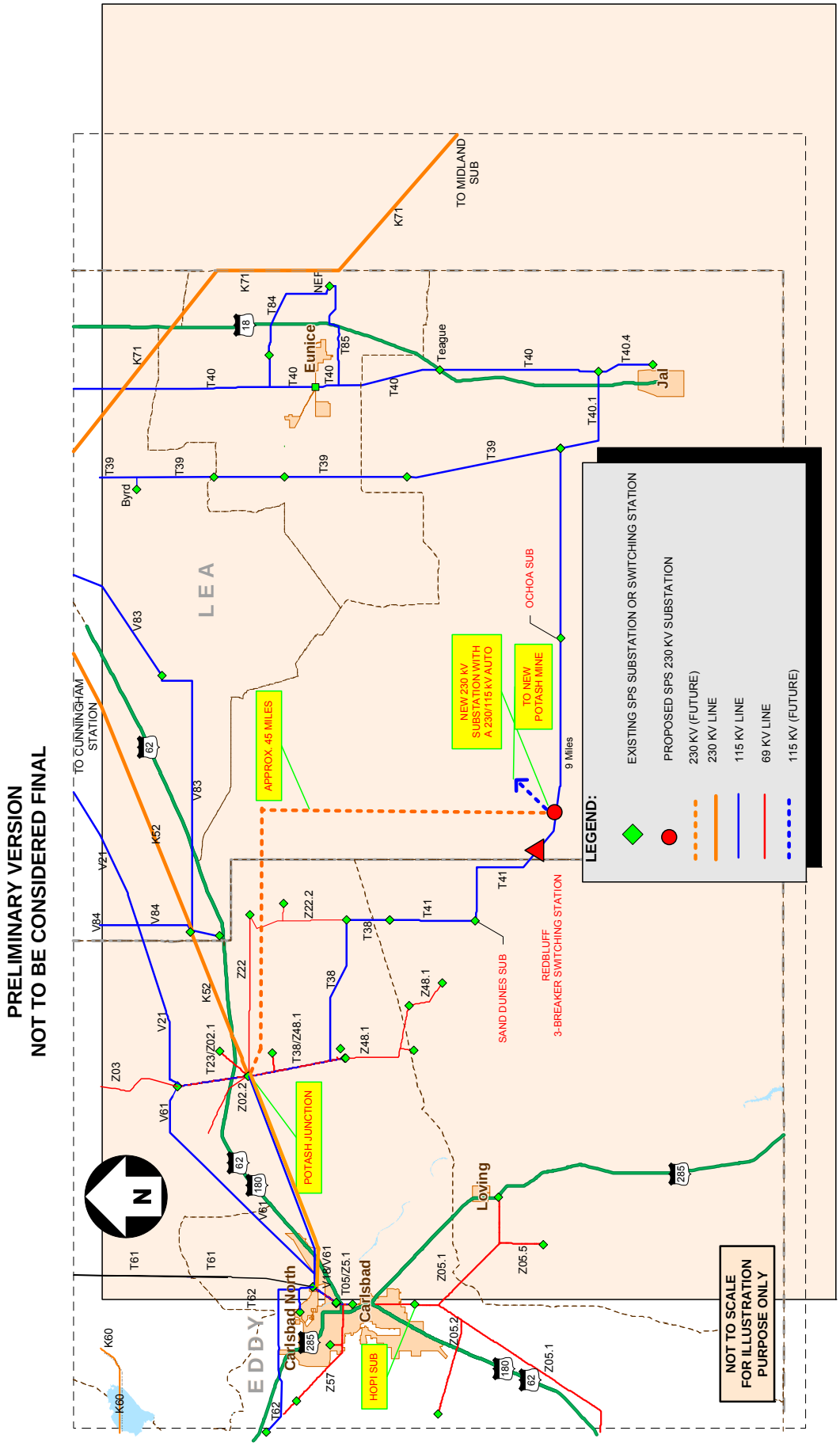


Figure 3 - Location of Potash Mine load and the required upgrades to serve the load

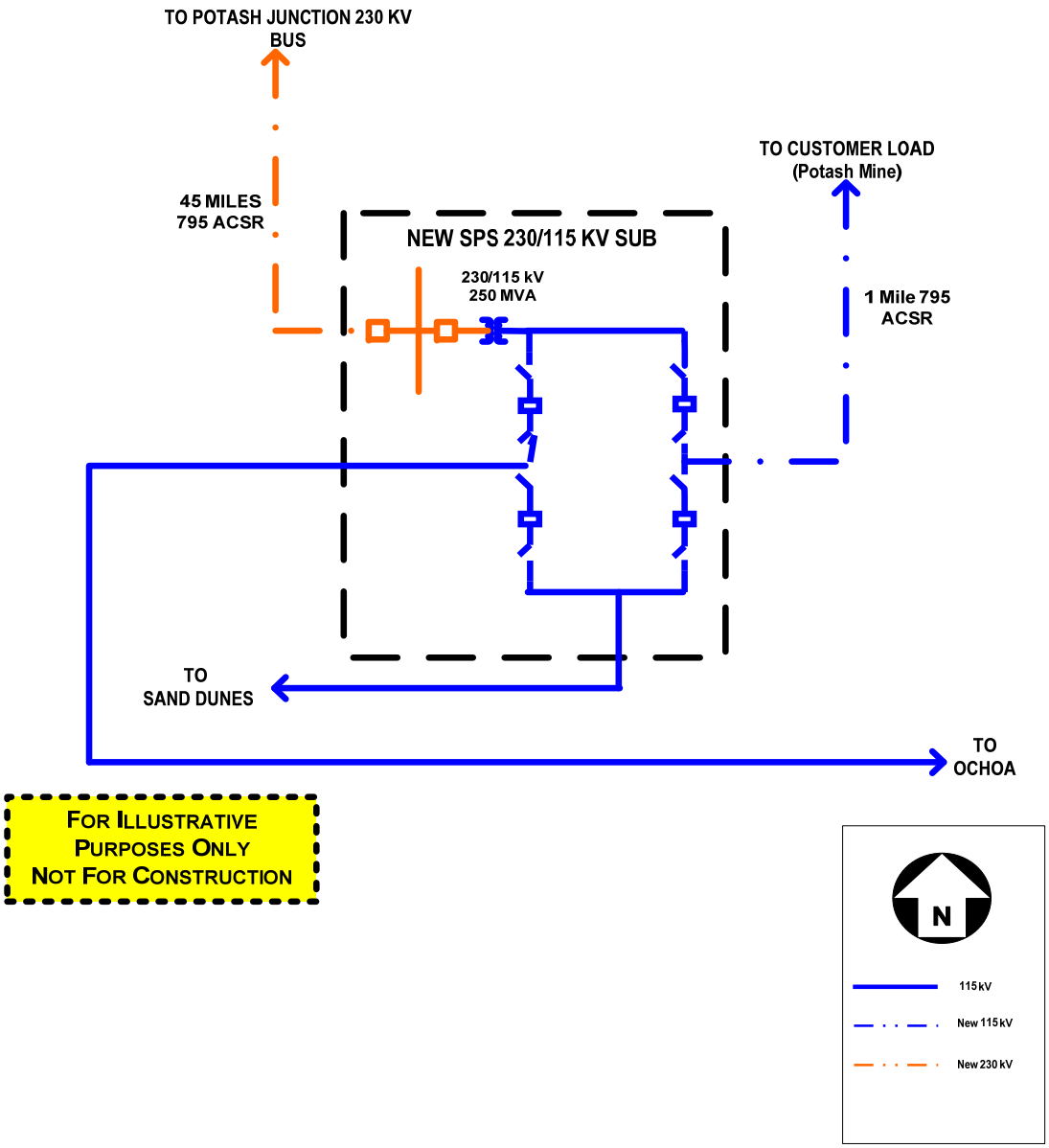


Figure 4 – SPS-New 230/115 kV Bus configuration

Appendix B

System Intact Violations:

Bus	17S		17W		22S		22W	
	Without Upgrades	With Upgrades	Without Upgrades	With Upgrades	Without Upgrades	With Upgrades	Without Upgrades	With Upgrades
REDBLFF_TAP3	***0.949***	1.007	0.954	1.009	***0.940***	1.006	***0.948***	1.007
POTASH_MINE	***0.939***	1.001	***0.945***	1.004	***0.929***	1.003	***0.939***	1.001
OCHOA	***0.936***	0.991	***0.943***	0.995	***0.925***	0.988	***0.935***	0.991
S_JAL	0.963	0.997	0.964	0.995	***0.948***	0.987	0.956	0.989
WHITTEN	0.957	0.994	0.959	0.995	***0.944***	0.987	0.953	0.990
DOLLARHIDE	0.961	0.994	0.961	0.993	***0.946***	0.985	0.954	0.987

System Intact violations due to additional load

N-1 Contingency violations due to load additions at Agave and Intrepid West:

2017S (Summer Peak) low voltage without upgrades:

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528023	POTASH_MINE	115.0	526	1507	***0.8768***	0.9393	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8902***	0.9490	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8657***	0.9363	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8469***	0.9729	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528519	WARD 3	115.0	526	1508	***0.8558***	0.9645	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8978***	0.9742	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8685***	0.9565	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8789***	0.9631	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8442***	0.9792	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8427***	0.9833	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8764***	0.9607	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528568	MONUMNT_TP 3	115.0	526	1508	***0.8405***	1.0021	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528582	BYRD 3	115.0	526	1508	***0.8404***	0.9928	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
527964	INTREPIDWEST	115.0	526	1507	***0.2800***	0.9975	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528009	WIPP 3	115.0	526	1507	***0.3030***	0.9774	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.3117***	0.9641	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528023	POTASH_MINE	115.0	526	1507	***0.3392***	0.9393	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.3294***	0.9490	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.3235***	0.9621	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528035	IMC_#1_TP 3	115.0	526	1507	***0.2819***	0.9898	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528037	IMC_#1 3	115.0	526	1507	***0.2807***	0.9889	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528232	OCHOA 3	115.0	526	1507	***0.4068***	0.9363	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.7665***	0.9729	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528512	EUNICE 3	115.0	526	1508	***0.8656***	1.0081	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528519	WARD 3	115.0	526	1508	***0.6913***	0.9645	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7056***	0.9742	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8621***	1.0038	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6008***	0.9565	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528547	S_JAL 3	115.0	526	1508	***0.6429***	0.9631	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8086***	0.9792	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528554	COOPER_RNCH3	115.0	526	1508	***0.8352***	0.9833	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.6395***	0.9607	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528582	BYRD 3	115.0	526	1508	***0.8869***	0.9928	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8466***	1.0014	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7485***	0.9822	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.7957***	0.9930	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528605	TARGA 3	115.0	526	1508	***0.7665***	0.9856	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528009	WIPP 3	115.0	526	1507	***0.3532***	0.9774	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.3586***	0.9641	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.3786***	0.9393	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.3713***	0.9490	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.3658***	0.9621	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528035	IMC_#1_TP 3	115.0	526	1507	***0.3376***	0.9898	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528037	IMC_#1 3	115.0	526	1507	***0.3363***	0.9889	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.4394***	0.9363	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.7790***	0.9729	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528512	EUNICE 3	115.0	526	1508	***0.8755***	1.0081	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528519	WARD 3	115.0	526	1508	***0.7072***	0.9645	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7217***	0.9742	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8719***	1.0038	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6216***	0.9565	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.6618***	0.9631	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8192***	0.9792	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8447***	0.9833	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.6584***	0.9607	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528582	BYRD 3	115.0	526	1508	***0.8946***	0.9928	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8571***	1.0014	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7629***	0.9822	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8083***	0.9930	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528605	TARGA 3	115.0	526	1508	***0.7802***	0.9856	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.4623***	0.9641	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.4707***	0.9393	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.4673***	0.9490	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528027	REDBLFF_LD3	115.0	526	1507	***0.4635***	0.9621	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.5197***	0.9363	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8112***	0.9729	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528512	EUNICE 3	115.0	526	1508	***0.8999***	1.0081	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528519	WARD 3	115.0	526	1508	***0.7487***	0.9645	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7633***	0.9742	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8963***	1.0038	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6752***	0.9565	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.7105***	0.9631	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8467***	0.9792	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8693***	0.9833	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.7073***	0.9607	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8832***	1.0014	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7997***	0.9822	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8401***	0.9930	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8150***	0.9856	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528009	WIPP 3	115.0	526	1507	***0.4755***	0.9774	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.4726***	0.9641	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.4751***	0.9393	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.4735***	0.9490	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.4698***	0.9621	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.5205***	0.9363	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8086***	0.9729	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528512	EUNICE 3	115.0	526	1508	***0.8975***	1.0081	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528519	WARD 3	115.0	526	1508	***0.7461***	0.9645	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7606***	0.9742	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8938***	1.0038	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6730***	0.9565	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.7080***	0.9631	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8442***	0.9792	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8669***	0.9833	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.7048***	0.9607	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8807***	1.0014	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528596	NA_ENRICHTP3	115.0	526	1508	***0.7970***	0.9822	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8375***	0.9930	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8123***	0.9856	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.5618***	0.9393	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.5613***	0.9490	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.5599***	0.9621	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528232	OCHOA 3	115.0	526	1507	***0.6005***	0.9363	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8415***	0.9729	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528519	WARD 3	115.0	526	1508	***0.7894***	0.9645	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8033***	0.9742	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.7290***	0.9565	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528547	S_JAL 3	115.0	526	1508	***0.7587***	0.9631	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8715***	0.9792	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8906***	0.9833	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.7557***	0.9607	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8342***	0.9822	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8689***	0.9930	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528605	TARGA 3	115.0	526	1508	***0.8472***	0.9856	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.6535***	0.9393	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528232	OCHOA 3	115.0	526	1507	***0.6866***	0.9363	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8784***	0.9729	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528519	WARD 3	115.0	526	1508	***0.8378***	0.9645	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8507***	0.9742	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.7907***	0.9565	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8147***	0.9631	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8119***	0.9607	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8757***	0.9822	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528605	TARGA 3	115.0	526	1508	***0.8862***	0.9856	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528009	WIPP 3	115.0	526	1507	***0.8991***	0.9774	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.8706***	0.9641	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8232***	0.9393	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8382***	0.9490	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.8473***	0.9621	528232 OCHOA 3 115 528540 WHITTEN 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528232	OCHOA 3	115.0	526	1507	***0.8101***	0.9363	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528009	WIPP 3	115.0	526	1507	***0.8305***	0.9774	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.7920***	0.9641	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.7250***	0.9393	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.7454***	0.9490	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.7510***	0.9621	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528232	OCHOA 3	115.0	526	1507	***0.7013***	0.9363	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8073***	0.9729	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528512	EUNICE 3	115.0	526	1508	***0.5826***	1.0081	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528519	WARD 3	115.0	526	1508	***0.7492***	0.9645	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.6102***	0.9742	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.5809***	1.0038	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6873***	0.9565	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528547	S_JAL 3	115.0	526	1508	***0.6467***	0.9631	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8417***	0.9792	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8640***	0.9833	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.6433***	0.9607	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.5797***	1.0014	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.5924***	0.9822	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.5819***	0.9930	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528605	TARGA 3	115.0	526	1508	***0.5860***	0.9856	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8934***	0.9363	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8939***	0.9729	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528519	WARD 3	115.0	526	1508	***0.8972***	0.9645	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528009	WIPP 3	115.0	526	1507	***0.8902***	0.9774	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.8575***	0.9641	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.7993***	0.9393	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8177***	0.9490	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.8261***	0.9621	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.7778***	0.9363	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8546***	0.9729	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528519	WARD 3	115.0	526	1508	***0.8112***	0.9645	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7055***	0.9742	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528540	WHITTEN 3	115.0	526	1508	***0.7655***	0.9565	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.7345***	0.9631	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8809***	0.9792	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8980***	0.9833	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.7314***	0.9607	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.6757***	1.0014	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.6904***	0.9822	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.6804***	0.9930	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528605	TARGA 3	115.0	526	1508	***0.6845***	0.9856	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8978***	0.9393	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8901***	0.9363	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8890***	0.9729	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528519	WARD 3	115.0	526	1508	***0.8928***	0.9645	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8986***	0.9565	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8887***	0.9792	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8933***	0.9393	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8848***	0.9363	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8798***	0.9729	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528519	WARD 3	115.0	526	1508	***0.8847***	0.9645	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8920***	0.9565	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8789***	0.9792	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8786***	0.9833	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8983***	0.9607	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8764***	0.9393	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8898***	0.9490	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8652***	0.9363	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8460***	0.9729	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528519	WARD 3	115.0	526	1508	***0.8550***	0.9645	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8973***	0.9742	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8679***	0.9565	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8784***	0.9631	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8432***	0.9792	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8417***	0.9833	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528561	DOLLARHIDE 3	115.0	526	1508	***0.8758***	0.9607	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528582	BYRD 3	115.0	526	1508	***0.8394***	0.9928	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8766***	0.9393	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8908***	0.9490	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8634***	0.9363	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528519	WARD 3	115.0	526	1508	***0.8887***	0.9645	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8434***	0.9742	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8640***	0.9565	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8523***	0.9631	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8496***	0.9607	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8395***	0.9822	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8390***	0.9930	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8380***	0.9856	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8948***	0.9393	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8837***	0.9363	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8703***	0.9742	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8890***	0.9565	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8791***	0.9631	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8765***	0.9607	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8654***	0.9822	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8633***	0.9856	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1

** From bus **	** To bus ** CKT	ContMVA	BaseFlow	Rating	Loading%	Contingency Description
528491 MONUMENT 3 115	528498 W_HOBBS 3 115 1	***149.3***	110.2	141.0	***105.9***	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528498 W_HOBBS 3 115	528533 DRINKARD_TP3 115 1	***164.9***	108.2	160.0	***103.0***	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115 1	***201.8***	101.6	160.0	***126.1***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528023 POTASH_MINE 115	528232 OCHOA 3 115 1	***207.8***	52.2	176.0	***118.0***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115 1	***246.5***	70.9	141.0	***174.8***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115 1	***145.7***	110.2	141.0	***103.4***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528498 W_HOBBS 3 115	528533 DRINKARD_TP3 115 1	***165.0***	108.2	160.0	***103.1***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115 1	***174.5***	76.5	141.0	***123.7***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115 1	***186.0***	85.8	141.0	***131.9***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1

** From bus **	** To bus **	CKT	ContMVA	BaseFlow	Rating	Loading%	Contingency Description
528519 WARD 3 115	528540 WHITTEN 3 115	1	172.2	75.1	141.0	122.1	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528533 DRINKARD_TP3 115	528589 DRINKARD 3 115	1	165.7	92.2	160.0	103.6	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	188.0	87.8	141.0	133.3	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	191.7	91.6	141.0	136.0	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	202.1	101.6	141.0	143.4	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115	1	199.8	101.6	160.0	124.9	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528023 POTASH_MINE 115	528232 OCHOA 3 115	1	199.1	52.2	176.0	113.1	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115	1	240.3	70.9	141.0	170.4	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	145.2	110.2	141.0	103.0	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528498 W_HOBBS 3 115	528533 DRINKARD_TP3 115	1	164.1	108.2	160.0	102.5	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115	1	171.8	76.5	141.0	121.8	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	183.4	85.8	141.0	130.1	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115	1	169.4	75.1	141.0	120.1	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528533 DRINKARD_TP3 115	528589 DRINKARD 3 115	1	163.9	92.2	160.0	102.4	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	185.5	87.8	141.0	131.5	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	189.3	91.6	141.0	134.3	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	199.9	101.6	141.0	141.8	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115	1	189.3	101.6	160.0	118.3	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528023 POTASH_MINE 115	528232 OCHOA 3 115	1	181.0	52.2	176.0	102.9	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115	1	221.3	70.9	141.0	156.9	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	141.6	110.2	141.0	100.4	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115	1	161.2	76.5	141.0	114.3	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	172.7	85.8	141.0	122.5	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115	1	158.8	75.1	141.0	112.6	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	174.8	87.8	141.0	124.0	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	178.8	91.6	141.0	126.8	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	189.5	101.6	141.0	134.4	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115	1	191.9	101.6	160.0	120.0	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528023 POTASH_MINE 115	528232 OCHOA 3 115	1	184.5	52.2	176.0	104.8	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115	1	224.2	70.9	141.0	159.0	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	142.9	110.2	141.0	101.4	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115	1	163.5	76.5	141.0	116.0	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	175.2	85.8	141.0	124.2	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115	1	161.2	75.1	141.0	114.3	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1

** From bus **	** To bus **	CKT	ContMVA	BaseFlow	Rating	Loading%	Contingency Description
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	177.3	87.8	141.0	125.7	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	181.3	91.6	141.0	128.6	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	192.1	101.6	141.0	136.2	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115	1	175.0	101.6	160.0	109.4	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115	1	196.4	70.9	141.0	139.3	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115	1	146.8	76.5	141.0	104.1	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	158.2	85.8	141.0	112.2	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115	1	144.6	75.1	141.0	102.6	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	160.3	87.8	141.0	113.7	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	164.3	91.6	141.0	116.5	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	175.1	101.6	141.0	124.2	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115	1	158.9	70.9	141.0	112.7	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	141.0	91.6	141.0	100.0	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	151.8	101.6	141.0	107.6	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
527962 POTASH_JCT 3 115	527964 INTREPIDWEST 115	1	186.3	97.4	160.0	116.4	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
527964 INTREPIDWEST 115	528035 IMC_#1_TP 3 115	1	173.9	85.3	160.0	108.7	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528413 TAYLOR 3 115	528470 E_SANGER 3 115	1	146.7	44.9	141.0	104.0	528355 MADDOX 3 115 528491 MONUMENT 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	149.7	110.2	141.0	106.2	528413 TAYLOR 3 115 528470 E_SANGER 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115	1	216.4	101.6	160.0	135.3	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
527962 POTASH_JCT 3 115	527964 INTREPIDWEST 115	1	189.0	97.4	160.0	118.1	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
527964 INTREPIDWEST 115	528035 IMC_#1_TP 3 115	1	176.7	85.3	160.0	110.4	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528009 WIPP 3 115	528016 SAND_DUNES 3 115	1	164.1	71.1	160.0	102.5	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115	1	186.9	76.5	141.0	132.5	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	198.9	85.8	141.0	141.1	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115	1	184.4	75.1	141.0	130.8	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528540 WHITTEN 3 115	528547 S_JAL 3 115	1	162.0	14.7	141.0	114.9	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	201.2	87.8	141.0	142.7	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	205.5	91.6	141.0	145.7	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	216.6	101.6	141.0	153.6	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	142.3	110.2	141.0	100.9	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115	1	190.8	101.6	160.0	119.3	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
527962 POTASH_JCT 3 115	527964 INTREPIDWEST 115	1	166.8	97.4	160.0	104.3	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115	1	162.2	76.5	141.0	115.1	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	173.6	85.8	141.0	123.1	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1

** From bus **	** To bus **	CKT	ContMVA	BaseFlow	Rating	Loading%	Contingency Description
528519 WARD 3 115	528540 WHITTEN 3 115	1	160.3	75.1	141.0	113.7	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	175.8	87.8	141.0	124.7	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	179.9	91.6	141.0	127.6	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	190.9	101.6	141.0	135.4	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	143.2	110.2	141.0	101.5	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	144.8	110.2	141.0	102.7	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	149.3	110.2	141.0	105.9	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528498 W_HOBBS 3 115	528533 DRINKARD_TP3 115	1	164.9	108.2	160.0	103.0	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115	1	160.4	101.6	160.0	100.3	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	143.7	85.8	141.0	101.9	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	145.9	87.8	141.0	103.4	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	149.9	91.6	141.0	106.3	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	160.5	101.6	141.0	113.8	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1

2017W (Winter Peak) without upgrades:

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528023	POTASH_MINE	115.0	526	1507	0.8898	0.9446	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528232	OCHOA 3	115.0	526	1507	0.8807	0.9429	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	0.8617	0.9742	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528519	WARD 3	115.0	526	1508	0.8700	0.9668	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528540	WHITTEN 3	115.0	526	1508	0.8815	0.9593	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528547	S_JAL 3	115.0	526	1508	0.8899	0.9635	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	0.8592	0.9799	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	0.8578	0.9836	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	0.8873	0.9612	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528568	MONUMNT_TP 3	115.0	526	1508	0.8556	1.0001	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528582	BYRD 3	115.0	526	1508	0.8556	0.9918	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
527964	INTREPIDWEST	115.0	526	1507	0.2885	0.9974	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528009	WIPP 3	115.0	526	1507	0.3115	0.9801	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528016	SAND_DUNES 3	115.0	526	1507	***0.3198***	0.9675	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528023	POTASH_MINE	115.0	526	1507	***0.3463***	0.9446	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.3368***	0.9538	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.3311***	0.9670	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528035	IMC_#1_TP 3	115.0	526	1507	***0.2903***	0.9903	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528037	IMC_#1 3	115.0	526	1507	***0.2891***	0.9894	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528232	OCHOA 3	115.0	526	1507	***0.4130***	0.9429	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.7588***	0.9742	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528512	EUNICE 3	115.0	526	1508	***0.8412***	0.9899	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528519	WARD 3	115.0	526	1508	***0.6863***	0.9668	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528526	TEAGUE 3	115.0	526	1508	***0.6962***	0.9707	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8418***	0.9904	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528540	WHITTEN 3	115.0	526	1508	***0.5987***	0.9593	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528547	S_JAL 3	115.0	526	1508	***0.6381***	0.9635	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.7993***	0.9799	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8250***	0.9836	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.6347***	0.9612	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528582	BYRD 3	115.0	526	1508	***0.8747***	0.9918	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8276***	0.9892	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7357***	0.9758	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.7796***	0.9837	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528605	TARGA 3	115.0	526	1508	***0.7524***	0.9780	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528009	WIPP 3	115.0	526	1507	***0.3538***	0.9801	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.3587***	0.9675	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.3778***	0.9446	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.3708***	0.9538	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.3653***	0.9670	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528035	IMC_#1_TP 3	115.0	526	1507	***0.3382***	0.9903	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528037	IMC_#1 3	115.0	526	1507	***0.3369***	0.9894	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.4379***	0.9429	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528505	LEA_ROAD 3	115.0	526	1508	***0.7617***	0.9742	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528512	EUNICE 3	115.0	526	1508	***0.8398***	0.9899	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528519	WARD 3	115.0	526	1508	***0.6930***	0.9668	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7021***	0.9707	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8404***	0.9904	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6105***	0.9593	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.6474***	0.9635	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8004***	0.9799	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8249***	0.9836	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.6440***	0.9612	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528582	BYRD 3	115.0	526	1508	***0.8725***	0.9918	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8269***	0.9892	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7394***	0.9758	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.7811***	0.9837	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528605	TARGA 3	115.0	526	1508	***0.7551***	0.9780	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.4663***	0.9675	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.4747***	0.9446	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.4714***	0.9538	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.4676***	0.9670	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.5238***	0.9429	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8029***	0.9742	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528512	EUNICE 3	115.0	526	1508	***0.8737***	0.9899	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528519	WARD 3	115.0	526	1508	***0.7429***	0.9668	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7522***	0.9707	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8742***	0.9904	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6717***	0.9593	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.7042***	0.9635	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8370***	0.9799	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8587***	0.9836	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.7009***	0.9612	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528589	DRINKARD 3	115.0	526	1508	***0.8625***	0.9892	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7852***	0.9758	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8223***	0.9837	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528605	TARGA 3	115.0	526	1508	***0.7991***	0.9780	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528009	WIPP 3	115.0	526	1507	***0.4883***	0.9801	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.4847***	0.9675	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.4860***	0.9446	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.4848***	0.9538	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.4813***	0.9670	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.5302***	0.9429	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8017***	0.9742	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528512	EUNICE 3	115.0	526	1508	***0.8718***	0.9899	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528519	WARD 3	115.0	526	1508	***0.7424***	0.9668	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7516***	0.9707	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8724***	0.9904	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6726***	0.9593	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.7044***	0.9635	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8355***	0.9799	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8570***	0.9836	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.7012***	0.9612	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528582	BYRD 3	115.0	526	1508	***0.8994***	0.9918	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8607***	0.9892	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7841***	0.9758	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8208***	0.9837	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528605	TARGA 3	115.0	526	1508	***0.7978***	0.9780	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.5712***	0.9446	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.5708***	0.9538	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.5696***	0.9670	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528232	OCHOA 3	115.0	526	1507	***0.6097***	0.9429	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8371***	0.9742	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528512	EUNICE 3	115.0	526	1508	***0.8971***	0.9899	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528519	WARD 3	115.0	526	1508	***0.7878***	0.9668	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7962***	0.9707	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8977***	0.9904	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.7299***	0.9593	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528547	S_JAL 3	115.0	526	1508	***0.7566***	0.9635	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8655***	0.9799	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8837***	0.9836	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.7536***	0.9612	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8880***	0.9892	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8235***	0.9758	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8548***	0.9837	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528605	TARGA 3	115.0	526	1508	***0.8351***	0.9780	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.6638***	0.9446	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528232	OCHOA 3	115.0	526	1507	***0.6966***	0.9429	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8755***	0.9742	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528519	WARD 3	115.0	526	1508	***0.8375***	0.9668	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8448***	0.9707	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.7928***	0.9593	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8137***	0.9635	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8977***	0.9799	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8109***	0.9612	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8662***	0.9758	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8911***	0.9837	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528605	TARGA 3	115.0	526	1508	***0.8752***	0.9780	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8653***	0.9446	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8784***	0.9538	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.8890***	0.9670	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8558***	0.9429	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.8888***	0.9675	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528023	POTASH_MINE	115.0	526	1507	***0.8418***	0.9446	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8571***	0.9538	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.8670***	0.9670	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8268***	0.9429	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8833***	0.9742	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528512	EUNICE 3	115.0	526	1508	***0.7597***	0.9899	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528519	WARD 3	115.0	526	1508	***0.8516***	0.9668	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7782***	0.9707	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.7604***	0.9904	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8186***	0.9593	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528547	S_JAL 3	115.0	526	1508	***0.7975***	0.9635	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.7947***	0.9612	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.7608***	0.9892	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7685***	0.9758	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.7632***	0.9837	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528605	TARGA 3	115.0	526	1508	***0.7647***	0.9780	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8818***	0.9446	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8953***	0.9538	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8704***	0.9429	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528519	WARD 3	115.0	526	1508	***0.8905***	0.9668	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8464***	0.9707	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8678***	0.9593	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8558***	0.9635	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8532***	0.9612	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8422***	0.9892	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8424***	0.9758	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8420***	0.9837	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8408***	0.9780	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8986***	0.9742	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8984***	0.9799	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528232	OCHOA 3	115.0	526	1507	***0.8977***	0.9429	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8919***	0.9742	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528519	WARD 3	115.0	526	1508	***0.8964***	0.9668	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8913***	0.9799	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8911***	0.9836	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8894***	0.9446	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8802***	0.9429	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8608***	0.9742	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528519	WARD 3	115.0	526	1508	***0.8693***	0.9668	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8809***	0.9593	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8894***	0.9635	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8583***	0.9799	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8569***	0.9836	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8868***	0.9612	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528582	BYRD 3	115.0	526	1508	***0.8546***	0.9918	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8947***	0.9446	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8853***	0.9429	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8706***	0.9707	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8866***	0.9593	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8776***	0.9635	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8750***	0.9612	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8676***	0.9758	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8677***	0.9837	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8663***	0.9780	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8889***	0.9707	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8970***	0.9635	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8945***	0.9612	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8842***	0.9758	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8821***	0.9780	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1

** From bus **	** To bus ** CKT	ContMVA	BaseFlow	Rating	Loading%	Contingency Description
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115 1	194.5	89.7	177.0	109.9	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528023 POTASH_MINE 115	528232 OCHOA 3 115 1	207.9	45.1	191.0	108.9	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115 1	240.1	61.4	156.0	153.9	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115 1	168.3	65.8	156.0	107.9	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115 1	180.0	75.1	156.0	115.4	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528519 WARD 3 115	528540 WHITTEN 3 115 1	166.8	64.8	156.0	106.9	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115 1	181.9	77.2	156.0	116.6	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115 1	184.4	79.8	156.0	118.2	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115 1	194.9	89.7	156.0	125.0	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115 1	191.8	89.7	177.0	108.3	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528023 POTASH_MINE 115	528232 OCHOA 3 115 1	198.1	45.1	191.0	103.7	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115 1	230.9	61.4	156.0	148.0	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115 1	164.1	65.8	156.0	105.2	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115 1	176.1	75.1	156.0	112.9	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115 1	162.4	64.8	156.0	104.1	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115 1	178.2	77.2	156.0	114.2	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115 1	180.9	79.8	156.0	116.0	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115 1	191.8	89.7	156.0	122.9	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115 1	181.5	89.7	177.0	102.6	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115 1	214.6	61.4	156.0	137.5	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115 1	166.0	75.1	156.0	106.4	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115 1	168.1	77.2	156.0	107.8	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115 1	170.8	79.8	156.0	109.5	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115 1	181.7	89.7	156.0	116.5	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115 1	183.5	89.7	177.0	103.7	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115 1	216.3	61.4	156.0	138.6	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115 1	167.7	75.1	156.0	107.5	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115 1	169.9	77.2	156.0	108.9	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115 1	172.7	79.8	156.0	110.7	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115 1	183.6	89.7	156.0	117.7	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115 1	189.3	61.4	156.0	121.4	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115 1	166.6	89.7	156.0	106.8	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1

** From bus **	** To bus **	CKT	ContMVA	BaseFlow	Rating	Loading%	Contingency Description
528554 COOPER_RNCH3 115	528582 BYRD 115	1	***157.5***	79.8	156.0	***101.0***	528498 W_HOBBS 115 528533 DRINKARD_TP3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 115	1	***168.4***	89.7	156.0	***107.9***	528498 W_HOBBS 115 528533 DRINKARD_TP3 115 1

2022S (Summer Peak) without upgrades:

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
527707	ARTESIA 3	115.0	526	1507	***0.8931***	1.0143	527711 EAGLE_CREEK3 115 527798 EDDY_CNTY 3 115 1
527711	EAGLE_CREEK3	115.0	526	1507	***0.8939***	1.0148	527711 EAGLE_CREEK3 115 527798 EDDY_CNTY 3 115 1
527715	NAVAJO_2TP 3	115.0	526	1507	***0.8931***	1.0142	527711 EAGLE_CREEK3 115 527798 EDDY_CNTY 3 115 1
527717	NAVAJO_2 3	115.0	526	1507	***0.8916***	1.0129	527711 EAGLE_CREEK3 115 527798 EDDY_CNTY 3 115 1
527720	NAVAJO_3 3	115.0	526	1507	***0.8931***	1.0141	527711 EAGLE_CREEK3 115 527798 EDDY_CNTY 3 115 1
527736	NAVAJO_5TP 3	115.0	526	1507	***0.8933***	1.0143	527711 EAGLE_CREEK3 115 527798 EDDY_CNTY 3 115 1
527739	NAVAJO_4 3	115.0	526	1507	***0.8933***	1.0143	527711 EAGLE_CREEK3 115 527798 EDDY_CNTY 3 115 1
527743	NAVAJO_5 3	115.0	526	1507	***0.8933***	1.0143	527711 EAGLE_CREEK3 115 527798 EDDY_CNTY 3 115 1
527828	CV-12MH 3	115.0	526	1507	***0.8900***	1.0365	527798 EDDY_CNTY 3 115 527828 CV-12MH 3 115 1
527950	LOCO HILLS	115.0	526	1508	***0.8893***	0.9794	527798 EDDY_CNTY 3 115 527828 CV-12MH 3 115 1
527950	LOCO HILLS	115.0	526	1508	***0.8869***	0.9794	527828 CV-12MH 3 115 527950 LOCO HILLS 115 1
528334	LE-LOVINTON3	115.0	526	1508	***0.8805***	0.9702	527848 LEA_CNTY 3 115 528334 LE-LOVINTON3 115 1
528317	ENRON_TP 3	115.0	526	1508	***0.8634***	0.9846	527864 CUNNINHAM 3 115 528348 BUCKEYE_TP 3 115 1
528318	ENRON 3	115.0	526	1508	***0.8628***	0.9841	527864 CUNNINHAM 3 115 528348 BUCKEYE_TP 3 115 1
528341	LE-SANANDRS3	115.0	526	1508	***0.7791***	0.9839	527864 CUNNINHAM 3 115 528348 BUCKEYE_TP 3 115 1
528348	BUCKEYE_TP 3	115.0	526	1508	***0.7813***	0.9916	527864 CUNNINHAM 3 115 528348 BUCKEYE_TP 3 115 1
528385	BUCKEYE 3	115.0	526	1508	***0.7826***	0.9905	527864 CUNNINHAM 3 115 528348 BUCKEYE_TP 3 115 1
528394	SW3H64_V84 3	115.0	526	1508	***0.8499***	0.9828	527864 CUNNINHAM 3 115 528348 BUCKEYE_TP 3 115 1
528399	LEA_NATIONL3	115.0	526	1508	***0.8628***	0.9845	527864 CUNNINHAM 3 115 528348 BUCKEYE_TP 3 115 1
528406	MALJMAR1&2 3	115.0	526	1508	***0.8009***	0.9772	527864 CUNNINHAM 3 115 528348 BUCKEYE_TP 3 115 1
528420	ZIA 3	115.0	526	1508	***0.8419***	0.9817	527864 CUNNINHAM 3 115 528348 BUCKEYE_TP 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.8920***	0.9575	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8455***	0.9297	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528024	REDBLFF_TAP3	115.0	526	1507	***0.8607***	0.9402	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.8707***	0.9530	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8310***	0.9248	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8077***	0.9653	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528519	WARD 3	115.0	526	1508	***0.8173***	0.9546	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8615***	0.9574	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8313***	0.9441	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8416***	0.9485	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8047***	0.9727	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8030***	0.9776	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8390***	0.9461	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528568	MONUMNT_TP 3	115.0	526	1508	***0.8007***	0.9991	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528582	BYRD 3	115.0	526	1508	***0.8006***	0.9886	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8770***	0.9643	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8971***	0.9739	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8839***	0.9671	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
527914	MIDLAND 6	230.0	526	1507	***0.1690***	0.9834	527894 HOBBS_INT 6 230 527914 MIDLAND 6 230 1
528023	POTASH_MINE	115.0	526	1507	***0.8949***	0.9297	3Wnd: OPEN B$0580 GE M100747 1
528232	OCHOA 3	115.0	526	1507	***0.8938***	0.9248	3Wnd: OPEN B$0580 GE M100747 1
527964	INTREPIDWEST	115.0	526	1507	***0.4671***	0.9984	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528009	WIPP 3	115.0	526	1507	***0.4811***	0.9725	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.4847***	0.9575	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528023	POTASH_MINE	115.0	526	1507	***0.4983***	0.9297	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.4940***	0.9402	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.4939***	0.9530	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528035	IMC_#1_TP 3	115.0	526	1507	***0.4673***	0.9892	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528037	IMC_#1 3	115.0	526	1507	***0.4662***	0.9883	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528232	OCHOA 3	115.0	526	1507	***0.5397***	0.9248	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8057***	0.9653	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528512	EUNICE 3	115.0	526	1508	***0.8801***	0.9857	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528519	WARD 3	115.0	526	1508	***0.7448***	0.9546	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7550***	0.9574	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528533	DRINKARD_TP3	115.0	526	1508	***0.8789***	0.9841	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6763***	0.9441	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528547	S_JAL 3	115.0	526	1508	***0.7077***	0.9485	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8409***	0.9727	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8635***	0.9776	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.7051***	0.9461	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8662***	0.9815	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7883***	0.9643	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8260***	0.9739	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528605	TARGA 3	115.0	526	1508	***0.8026***	0.9671	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528009	WIPP 3	115.0	526	1507	***0.3262***	0.9725	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.3318***	0.9575	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.3523***	0.9297	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.3448***	0.9402	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.3391***	0.9530	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528035	IMC_#1_TP 3	115.0	526	1507	***0.3111***	0.9892	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528037	IMC_#1 3	115.0	526	1507	***0.3098***	0.9883	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.4131***	0.9248	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.7631***	0.9653	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528512	EUNICE 3	115.0	526	1508	***0.8450***	0.9857	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528519	WARD 3	115.0	526	1508	***0.6877***	0.9546	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.6944***	0.9574	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8440***	0.9841	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.5977***	0.9441	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.6359***	0.9485	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8053***	0.9727	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8321***	0.9776	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.6324***	0.9461	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528582	BYRD 3	115.0	526	1508	***0.8843***	0.9886	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8285***	0.9815	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7347***	0.9643	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.7795***	0.9739	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528605	TARGA 3	115.0	526	1508	***0.7517***	0.9671	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.4283***	0.9575	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.4368***	0.9297	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.4333***	0.9402	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.4287***	0.9530	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.4863***	0.9248	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.7949***	0.9653	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528512	EUNICE 3	115.0	526	1508	***0.8708***	0.9857	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528519	WARD 3	115.0	526	1508	***0.7273***	0.9546	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7345***	0.9574	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8697***	0.9841	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6478***	0.9441	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.6820***	0.9485	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8330***	0.9727	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8573***	0.9776	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.6787***	0.9461	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8558***	0.9815	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7710***	0.9643	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8117***	0.9739	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528605	TARGA 3	115.0	526	1508	***0.7864***	0.9671	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528009	WIPP 3	115.0	526	1507	***0.4344***	0.9725	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.4321***	0.9575	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.4361***	0.9297	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.4339***	0.9402	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.4293***	0.9530	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.4832***	0.9248	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.7920***	0.9653	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528512	EUNICE 3	115.0	526	1508	***0.8687***	0.9857	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528519	WARD 3	115.0	526	1508	***0.7238***	0.9546	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7311***	0.9574	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8676***	0.9841	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6439***	0.9441	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528547	S_JAL 3	115.0	526	1508	***0.6782***	0.9485	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8306***	0.9727	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8551***	0.9776	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.6749***	0.9461	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8535***	0.9815	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7679***	0.9643	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8089***	0.9739	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528605	TARGA 3	115.0	526	1508	***0.7834***	0.9671	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.5152***	0.9297	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.5145***	0.9402	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.5117***	0.9530	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528232	OCHOA 3	115.0	526	1507	***0.5558***	0.9248	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8209***	0.9653	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528512	EUNICE 3	115.0	526	1508	***0.8884***	0.9857	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528519	WARD 3	115.0	526	1508	***0.7622***	0.9546	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7689***	0.9574	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8871***	0.9841	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6939***	0.9441	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528547	S_JAL 3	115.0	526	1508	***0.7233***	0.9485	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8544***	0.9727	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8757***	0.9776	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.7202***	0.9461	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8750***	0.9815	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8007***	0.9643	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8366***	0.9739	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528605	TARGA 3	115.0	526	1508	***0.8141***	0.9671	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.6029***	0.9297	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528232	OCHOA 3	115.0	526	1507	***0.6377***	0.9248	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8557***	0.9653	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528519	WARD 3	115.0	526	1508	***0.8080***	0.9546	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8139***	0.9574	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.7524***	0.9441	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528547	S_JAL 3	115.0	526	1508	***0.7765***	0.9485	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8832***	0.9727	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.7736***	0.9461	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8401***	0.9643	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8699***	0.9739	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528605	TARGA 3	115.0	526	1508	***0.8511***	0.9671	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528009	WIPP 3	115.0	526	1507	***0.8454***	0.9725	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.8103***	0.9575	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.7527***	0.9297	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.7700***	0.9402	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.7765***	0.9530	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.7363***	0.9248	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528009	WIPP 3	115.0	526	1507	***0.8062***	0.9725	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.7596***	0.9575	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.6779***	0.9297	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.7022***	0.9402	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.7059***	0.9530	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528037	IMC_#1 3	115.0	526	1507	***0.8997***	0.9883	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528232	OCHOA 3	115.0	526	1507	***0.6461***	0.9248	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.7732***	0.9653	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528512	EUNICE 3	115.0	526	1508	***0.4533***	0.9857	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528519	WARD 3	115.0	526	1508	***0.7024***	0.9546	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.5130***	0.9574	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.4536***	0.9841	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6242***	0.9441	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528547	S_JAL 3	115.0	526	1508	***0.5678***	0.9485	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8142***	0.9727	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8405***	0.9776	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.5642***	0.9461	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528582	BYRD 3	115.0	526	1508	***0.8929***	0.9886	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.4539***	0.9815	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.4841***	0.9643	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528603	NA_ENRICH 3	115.0	526	1508	***0.4637***	0.9739	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528605	TARGA 3	115.0	526	1508	***0.4734***	0.9671	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8944***	0.9297	528505 LEA_ROAD 3 115 528519 WARD 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8857***	0.9248	528505 LEA_ROAD 3 115 528519 WARD 3 115 1
528519	WARD 3	115.0	526	1508	***0.8943***	0.9546	528505 LEA_ROAD 3 115 528519 WARD 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8956***	0.9441	528505 LEA_ROAD 3 115 528519 WARD 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8989***	0.9461	528505 LEA_ROAD 3 115 528519 WARD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8813***	0.9297	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8946***	0.9402	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8705***	0.9248	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8678***	0.9653	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528519	WARD 3	115.0	526	1508	***0.8712***	0.9546	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8984***	0.9574	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8768***	0.9441	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8839***	0.9485	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8813***	0.9461	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8963***	0.9297	528519 WARD 3 115 528540 WHITTEN 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8882***	0.9248	528519 WARD 3 115 528540 WHITTEN 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8991***	0.9441	528519 WARD 3 115 528540 WHITTEN 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8981***	0.9248	528526 TEAGUE 3 115 528596 NA_ENRICHTP3 115 1
528009	WIPP 3	115.0	526	1507	***0.8426***	0.9725	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.8022***	0.9575	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.7310***	0.9297	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.7527***	0.9402	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.7585***	0.9530	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.7036***	0.9248	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8096***	0.9653	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528519	WARD 3	115.0	526	1508	***0.7511***	0.9546	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.6000***	0.9574	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6874***	0.9441	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.6427***	0.9485	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8440***	0.9727	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528554	COOPER_RNCH3	115.0	526	1508	***0.8661***	0.9776	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.6393***	0.9461	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.5529***	0.9815	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.5772***	0.9643	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.5609***	0.9739	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528605	TARGA 3	115.0	526	1508	***0.5684***	0.9671	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8775***	0.9297	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8909***	0.9402	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8664***	0.9248	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8620***	0.9653	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528519	WARD 3	115.0	526	1508	***0.8659***	0.9546	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8947***	0.9574	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8722***	0.9441	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8797***	0.9485	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8617***	0.9727	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8771***	0.9461	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8725***	0.9297	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8864***	0.9402	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.8973***	0.9530	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8604***	0.9248	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8510***	0.9653	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528519	WARD 3	115.0	526	1508	***0.8563***	0.9546	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8881***	0.9574	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8644***	0.9441	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8723***	0.9485	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8500***	0.9727	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8496***	0.9776	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8697***	0.9461	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.8916***	0.9575	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8450***	0.9297	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8602***	0.9402	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.8702***	0.9530	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528232	OCHOA 3	115.0	526	1507	***0.8304***	0.9248	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8067***	0.9653	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528519	WARD 3	115.0	526	1508	***0.8165***	0.9546	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8610***	0.9574	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8306***	0.9441	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8410***	0.9485	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8037***	0.9727	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8020***	0.9776	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8384***	0.9461	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528582	BYRD 3	115.0	526	1508	***0.7996***	0.9886	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8766***	0.9643	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8967***	0.9739	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8835***	0.9671	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8656***	0.9297	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8806***	0.9402	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.8913***	0.9530	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8505***	0.9248	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528519	WARD 3	115.0	526	1508	***0.8783***	0.9546	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8270***	0.9574	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8509***	0.9441	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8373***	0.9485	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8346***	0.9461	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8225***	0.9643	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8215***	0.9739	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8207***	0.9671	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8971***	0.9248	528596 NA_ENRICHTP3 115 528605 TARGA 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8858***	0.9297	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8996***	0.9402	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8733***	0.9248	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8587***	0.9574	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8790***	0.9441	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8680***	0.9485	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528561	DOLLARHIDE 3	115.0	526	1508	***0.8655***	0.9461	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8536***	0.9643	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8514***	0.9671	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1

** From bus **	** To bus ** CKT	ContMVA	BaseFlow	Rating	Loading%	Contingency Description
527962 POTASH_JCT 3 115	527964 INTREPIDWEST 115 1	***166.5***	103.3	160.0	***104.1***	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115 1	***159.5***	116.4	141.0	***113.1***	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528498 W_HOBBS 3 115	528533 DRINKARD_TP3 115 1	***173.7***	109.0	160.0	***108.6***	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528533 DRINKARD_TP3 115	528589 DRINKARD 3 115 1	***161.5***	95.3	160.0	***100.9***	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115 1	***216.2***	104.4	160.0	***135.1***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528023 POTASH_MINE 115	528232 OCHOA 3 115 1	***215.3***	49.5	176.0	***122.3***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115 1	***254.9***	68.8	141.0	***180.8***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115 1	***163.3***	116.4	141.0	***115.8***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528498 W_HOBBS 3 115	528533 DRINKARD_TP3 115 1	***185.4***	109.0	160.0	***115.9***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115 1	***187.3***	78.2	141.0	***132.8***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115 1	***198.5***	87.7	141.0	***140.8***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528519 WARD 3 115	528540 WHITTEN 3 115 1	***185.2***	76.5	141.0	***131.4***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528533 DRINKARD_TP3 115	528589 DRINKARD 3 115 1	***175.9***	95.3	160.0	***109.9***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115 1	***200.5***	89.8	141.0	***142.2***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115 1	***205.6***	94.3	141.0	***145.8***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115 1	***216.7***	104.4	141.0	***153.7***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115 1	***204.4***	104.4	160.0	***127.7***	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528023 POTASH_MINE 115	528232 OCHOA 3 115 1	***195.7***	49.5	176.0	***111.2***	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115 1	***238.8***	68.8	141.0	***169.3***	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115 1	***155.9***	116.4	141.0	***110.5***	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528498 W_HOBBS 3 115	528533 DRINKARD_TP3 115 1	***175.7***	109.0	160.0	***109.8***	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115 1	***176.5***	78.2	141.0	***125.1***	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115 1	***188.1***	87.7	141.0	***133.4***	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115 1	***173.7***	76.5	141.0	***123.2***	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528533 DRINKARD_TP3 115	528589 DRINKARD 3 115 1	***168.5***	95.3	160.0	***105.3***	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115 1	***190.0***	89.8	141.0	***134.7***	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1

** From bus **	** To bus ** CKT	ContMVA	BaseFlow	Rating	Loading%	Contingency Description
528554 COOPER_RNCH3 115	528582 BYRD 3 115 1	194.4	94.3	141.0	137.9	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115 1	204.8	104.4	141.0	145.3	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115 1	197.5	104.4	160.0	123.5	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528023 POTASH_MINE 115	528232 OCHOA 3 115 1	179.7	49.5	176.0	102.1	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115 1	224.0	68.8	141.0	158.9	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115 1	153.1	116.4	141.0	108.5	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528498 W_HOBBS 3 115	528533 DRINKARD_TP3 115 1	170.3	109.0	160.0	106.4	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115 1	168.6	78.2	141.0	119.6	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115 1	180.3	87.7	141.0	127.9	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115 1	165.7	76.5	141.0	117.5	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528533 DRINKARD_TP3 115	528589 DRINKARD 3 115 1	162.3	95.3	160.0	101.4	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115 1	182.4	89.8	141.0	129.3	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115 1	187.0	94.3	141.0	132.6	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115 1	197.7	104.4	141.0	140.2	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115 1	200.3	104.4	160.0	125.2	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528023 POTASH_MINE 115	528232 OCHOA 3 115 1	184.0	49.5	176.0	104.5	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115 1	227.7	68.8	141.0	161.5	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115 1	154.4	116.4	141.0	109.5	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528498 W_HOBBS 3 115	528533 DRINKARD_TP3 115 1	172.5	109.0	160.0	107.8	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115 1	171.2	78.2	141.0	121.4	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115 1	182.9	87.7	141.0	129.7	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115 1	168.3	76.5	141.0	119.4	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528533 DRINKARD_TP3 115	528589 DRINKARD 3 115 1	164.5	95.3	160.0	102.8	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115 1	185.0	89.8	141.0	131.2	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115 1	189.7	94.3	141.0	134.5	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115 1	200.4	104.4	141.0	142.1	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115 1	185.4	104.4	160.0	115.9	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115 1	203.3	68.8	141.0	144.2	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115 1	148.5	116.4	141.0	105.3	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528498 W_HOBBS 3 115	528533 DRINKARD_TP3 115 1	161.9	109.0	160.0	101.2	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115 1	156.4	78.2	141.0	110.9	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115 1	167.9	87.7	141.0	119.1	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115 1	153.7	76.5	141.0	109.0	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1

** From bus **	** To bus **	CKT	ContMVA	BaseFlow	Rating	Loading%	Contingency Description
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	170.1	89.8	141.0	120.6	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	174.8	94.3	141.0	123.9	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	185.5	104.4	141.0	131.6	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115	1	164.2	104.4	160.0	102.6	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115	1	169.9	68.8	141.0	120.5	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	146.8	87.7	141.0	104.1	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	148.9	89.8	141.0	105.6	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	153.6	94.3	141.0	108.9	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	164.4	104.4	141.0	116.6	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
527962 POTASH_JCT 3 115	527964 INTREPIDWEST 115	1	205.1	103.3	160.0	128.2	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
527964 INTREPIDWEST 115	528035 IMC_#1_TP 3 115	1	192.6	91.1	160.0	120.4	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528009 WIPP 3 115	528016 SAND_DUNES 3 115	1	177.5	77.0	160.0	110.9	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528009 WIPP 3 115	528035 IMC_#1_TP 3 115	1	174.7	76.2	160.0	109.2	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	148.8	116.4	141.0	105.5	528355 MADDOX 3 115 528463 SANGER_SW 3 115 1
528413 TAYLOR 3 115	528470 E_SANGER 3 115	1	157.4	46.8	141.0	111.6	528355 MADDOX 3 115 528491 MONUMENT 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	158.4	116.4	141.0	112.3	528413 TAYLOR 3 115 528470 E_SANGER 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	142.5	116.4	141.0	101.1	528449 W_BENDER 3 115 528575 OXYPERMIAN 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	148.8	116.4	141.0	105.5	528463 SANGER_SW 3 115 528575 OXYPERMIAN 3 115 1
528413 TAYLOR 3 115	528470 E_SANGER 3 115	1	146.4	46.8	141.0	103.8	528491 MONUMENT 3 115 528498 W_HOBBS 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115	1	228.2	104.4	160.0	142.6	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
527962 POTASH_JCT 3 115	527964 INTREPIDWEST 115	1	205.8	103.3	160.0	128.6	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
527964 INTREPIDWEST 115	528035 IMC_#1_TP 3 115	1	193.9	91.1	160.0	121.2	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528009 WIPP 3 115	528016 SAND_DUNES 3 115	1	182.0	77.0	160.0	113.8	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528009 WIPP 3 115	528035 IMC_#1_TP 3 115	1	175.2	76.2	160.0	109.5	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115	1	197.7	78.2	141.0	140.2	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	210.1	87.7	141.0	149.0	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115	1	194.8	76.5	141.0	138.2	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528540 WHITTEN 3 115	528547 S_JAL 3 115	1	176.6	12.1	141.0	125.3	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	212.3	89.8	141.0	150.6	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	217.2	94.3	141.0	154.1	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	228.3	104.4	141.0	161.9	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	146.3	116.4	141.0	103.8	528505 LEA_ROAD 3 115 528519 WARD 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	150.6	116.4	141.0	106.8	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1

** From bus **	** To bus **	CKT	ContMVA	BaseFlow	Rating	Loading%	Contingency Description
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	145.6	116.4	141.0	103.3	528519 WARD 3 115 528540 WHITTEN 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115	1	210.5	104.4	160.0	131.5	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
527962 POTASH_JCT 3 115	527964 INTREPIDWEST 115	1	188.7	103.3	160.0	118.0	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
527964 INTREPIDWEST 115	528035 IMC_#1_TP 3 115	1	176.8	91.1	160.0	110.5	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528009 WIPP 3 115	528016 SAND_DUNES 3 115	1	164.9	77.0	160.0	103.1	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115	1	180.5	78.2	141.0	128.0	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	192.4	87.7	141.0	136.4	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115	1	177.9	76.5	141.0	126.2	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528540 WHITTEN 3 115	528547 S_JAL 3 115	1	154.8	12.1	141.0	109.8	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	194.6	89.8	141.0	138.0	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	199.5	94.3	141.0	141.5	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	210.6	104.4	141.0	149.3	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	151.7	116.4	141.0	107.6	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528498 W_HOBBS 3 115	528533 DRINKARD_TP3 115	1	161.5	109.0	160.0	100.9	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	153.7	116.4	141.0	109.0	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528498 W_HOBBS 3 115	528533 DRINKARD_TP3 115	1	164.6	109.0	160.0	102.9	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
527962 POTASH_JCT 3 115	527964 INTREPIDWEST 115	1	166.6	103.3	160.0	104.1	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528491 MONUMENT 3 115	528498 W_HOBBS 3 115	1	159.5	116.4	141.0	113.1	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528498 W_HOBBS 3 115	528533 DRINKARD_TP3 115	1	173.7	109.0	160.0	108.6	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528533 DRINKARD_TP3 115	528589 DRINKARD 3 115	1	161.6	95.3	160.0	101.0	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115	1	164.0	104.4	160.0	102.5	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	146.4	87.7	141.0	103.8	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	148.6	89.8	141.0	105.4	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	153.3	94.3	141.0	108.8	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	164.0	104.4	141.0	116.3	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
527962 POTASH_JCT 3 115	B$0580 GE M1007471.00	1	174.3	117.2	173.0	100.7	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
527963 POTASH_JCT 6 230	B$0580 GE M1007471.00	1	177.5	117.9	173.0	102.6	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1

2022W (Winter Peak) without upgrades:

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528023	POTASH_MINE	115.0	526	1507	***0.8748***	0.9390	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8884***	0.9488	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.8995***	0.9619	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8633***	0.9357	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8416***	0.9715	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528519	WARD 3	115.0	526	1508	***0.8503***	0.9622	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8901***	0.9664	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8626***	0.9526	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8709***	0.9558	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8389***	0.9783	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8375***	0.9827	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8683***	0.9535	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528568	MONUMNT_TP 3	115.0	526	1508	***0.8353***	1.0019	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
528582	BYRD 3	115.0	526	1508	***0.8352***	0.9924	527864 CUNNINHAM 3 115 528568 MONUMNT_TP 3 115 1
527964	INTREPIDWEST	115.0	526	1507	***0.6762***	0.9981	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528009	WIPP 3	115.0	526	1507	***0.6842***	0.9778	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.6830***	0.9642	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528023	POTASH_MINE	115.0	526	1507	***0.6843***	0.9390	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.6848***	0.9488	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.6906***	0.9619	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528035	IMC_#1_TP 3	115.0	526	1507	***0.6753***	0.9903	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528037	IMC_#1 3	115.0	526	1507	***0.6744***	0.9894	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528232	OCHOA 3	115.0	526	1507	***0.7088***	0.9357	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8757***	0.9715	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528519	WARD 3	115.0	526	1508	***0.8374***	0.9622	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8472***	0.9664	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528540	WHITTEN 3	115.0	526	1508	***0.7945***	0.9526	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528547	S_JAL 3	115.0	526	1508	***0.8142***	0.9558	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8984***	0.9783	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528561	DOLLARHIDE 3	115.0	526	1508	***0.8117***	0.9535	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8703***	0.9740	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8972***	0.9843	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528605	TARGA 3	115.0	526	1508	***0.8802***	0.9771	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528009	WIPP 3	115.0	526	1507	***0.6895***	0.9778	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.6879***	0.9642	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.6881***	0.9390	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.6890***	0.9488	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.6947***	0.9619	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528035	IMC_#1_TP 3	115.0	526	1507	***0.6810***	0.9903	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528037	IMC_#1 3	115.0	526	1507	***0.6800***	0.9894	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.7119***	0.9357	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8768***	0.9715	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528519	WARD 3	115.0	526	1508	***0.8388***	0.9622	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8485***	0.9664	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.7964***	0.9526	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8158***	0.9558	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8993***	0.9783	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8134***	0.9535	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8713***	0.9740	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8979***	0.9843	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8811***	0.9771	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.4586***	0.9642	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.4671***	0.9390	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.4637***	0.9488	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.4597***	0.9619	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.5162***	0.9357	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8044***	0.9715	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528512	EUNICE 3	115.0	526	1508	***0.8840***	0.9964	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528519	WARD 3	115.0	526	1508	***0.7420***	0.9622	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7520***	0.9664	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8825***	0.9946	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528540	WHITTEN 3	115.0	526	1508	***0.6679***	0.9526	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.7003***	0.9558	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8399***	0.9783	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8624***	0.9827	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.6971***	0.9535	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8698***	0.9924	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7875***	0.9740	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8272***	0.9843	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8025***	0.9771	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528009	WIPP 3	115.0	526	1507	***0.4779***	0.9778	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.4746***	0.9642	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.4766***	0.9390	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.4752***	0.9488	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.4715***	0.9619	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.5215***	0.9357	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8043***	0.9715	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528512	EUNICE 3	115.0	526	1508	***0.8837***	0.9964	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528519	WARD 3	115.0	526	1508	***0.7422***	0.9622	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7522***	0.9664	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.8822***	0.9946	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.6690***	0.9526	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.7011***	0.9558	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8396***	0.9783	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8620***	0.9827	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.6978***	0.9535	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8695***	0.9924	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7875***	0.9740	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8270***	0.9843	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8024***	0.9771	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.5560***	0.9390	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.5555***	0.9488	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.5539***	0.9619	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528232	OCHOA 3	115.0	526	1507	***0.5950***	0.9357	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8342***	0.9715	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528519	WARD 3	115.0	526	1508	***0.7818***	0.9622	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7909***	0.9664	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.7202***	0.9526	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528547	S_JAL 3	115.0	526	1508	***0.7471***	0.9558	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8643***	0.9783	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8835***	0.9827	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.7441***	0.9535	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.8915***	0.9924	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8211***	0.9740	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8553***	0.9843	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528605	TARGA 3	115.0	526	1508	***0.8338***	0.9771	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.6493***	0.9390	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528232	OCHOA 3	115.0	526	1507	***0.6825***	0.9357	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8730***	0.9715	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528519	WARD 3	115.0	526	1508	***0.8319***	0.9622	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8400***	0.9664	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.7835***	0.9526	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8046***	0.9558	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8969***	0.9783	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8018***	0.9535	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8644***	0.9740	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8924***	0.9843	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528605	TARGA 3	115.0	526	1508	***0.8747***	0.9771	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.8864***	0.9642	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8432***	0.9390	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8571***	0.9488	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.8670***	0.9619	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8321***	0.9357	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
528009	WIPP 3	115.0	526	1507	***0.8765***	0.9778	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.8434***	0.9642	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528023	POTASH_MINE	115.0	526	1507	***0.7851***	0.9390	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8034***	0.9488	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.8113***	0.9619	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528232	OCHOA 3	115.0	526	1507	***0.7645***	0.9357	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8451***	0.9715	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528512	EUNICE 3	115.0	526	1508	***0.6677***	0.9964	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528519	WARD 3	115.0	526	1508	***0.7993***	0.9622	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.6897***	0.9664	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528533	DRINKARD_TP3	115.0	526	1508	***0.6670***	0.9946	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.7508***	0.9526	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528547	S_JAL 3	115.0	526	1508	***0.7176***	0.9558	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8726***	0.9783	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8905***	0.9827	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.7144***	0.9535	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.6665***	0.9924	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.6759***	0.9740	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.6682***	0.9843	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528605	TARGA 3	115.0	526	1508	***0.6708***	0.9771	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8985***	0.9390	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8902***	0.9357	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8868***	0.9715	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528519	WARD 3	115.0	526	1508	***0.8902***	0.9622	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8952***	0.9526	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8985***	0.9535	528505 LEA_ROAD 3 115 528552 OIL_CENTER 3 115 1
528016	SAND_DUNES 3	115.0	526	1507	***0.8873***	0.9642	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8376***	0.9390	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8538***	0.9488	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.8635***	0.9619	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8205***	0.9357	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8819***	0.9715	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528519	WARD 3	115.0	526	1508	***0.8475***	0.9622	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.7697***	0.9664	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528540	WHITTEN 3	115.0	526	1508	***0.8117***	0.9526	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.7882***	0.9558	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.7854***	0.9535	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528589	DRINKARD 3	115.0	526	1508	***0.7534***	0.9924	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.7603***	0.9740	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.7554***	0.9843	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528605	TARGA 3	115.0	526	1508	***0.7567***	0.9771	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8955***	0.9390	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8870***	0.9357	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8820***	0.9715	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528519	WARD 3	115.0	526	1508	***0.8858***	0.9622	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8915***	0.9526	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8976***	0.9558	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8817***	0.9783	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8951***	0.9535	528552 OIL_CENTER 3 115 528554 COOPER_RNCH3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8925***	0.9390	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8834***	0.9357	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8751***	0.9715	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528519	WARD 3	115.0	526	1508	***0.8799***	0.9622	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8868***	0.9526	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8931***	0.9558	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8744***	0.9783	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8741***	0.9827	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8906***	0.9535	528554 COOPER_RNCH3 115 528582 BYRD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8744***	0.9390	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8880***	0.9488	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528027	REDBLFF_LD3	115.0	526	1507	***0.8990***	0.9619	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8628***	0.9357	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528505	LEA_ROAD 3	115.0	526	1508	***0.8407***	0.9715	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528519	WARD 3	115.0	526	1508	***0.8496***	0.9622	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8897***	0.9664	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8620***	0.9526	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1

Bus #	Bus Name	KV	Area	Zone	ContVolt	BaseVolt	Contingency Description
528547	S_JAL 3	115.0	526	1508	***0.8704***	0.9558	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528552	OIL_CENTER 3	115.0	526	1508	***0.8380***	0.9783	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528554	COOPER_RNCH3	115.0	526	1508	***0.8365***	0.9827	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8678***	0.9535	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528582	BYRD 3	115.0	526	1508	***0.8342***	0.9924	528568 MONUMNT_TP 3 115 528582 BYRD 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8781***	0.9390	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528024	REDBLFF_TAP3	115.0	526	1507	***0.8922***	0.9488	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8650***	0.9357	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528519	WARD 3	115.0	526	1508	***0.8883***	0.9622	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8398***	0.9664	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8629***	0.9526	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8488***	0.9558	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8461***	0.9535	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8357***	0.9740	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528603	NA_ENRICH 3	115.0	526	1508	***0.8350***	0.9843	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8341***	0.9771	528589 DRINKARD 3 115 528603 NA_ENRICH 3 115 1
528023	POTASH_MINE	115.0	526	1507	***0.8944***	0.9390	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528232	OCHOA 3	115.0	526	1507	***0.8835***	0.9357	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528526	TEAGUE 3	115.0	526	1508	***0.8652***	0.9664	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528540	WHITTEN 3	115.0	526	1508	***0.8864***	0.9526	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528547	S_JAL 3	115.0	526	1508	***0.8740***	0.9558	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528561	DOLLARHIDE 3	115.0	526	1508	***0.8714***	0.9535	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528596	NA_ENRICHTP3	115.0	526	1508	***0.8602***	0.9740	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1
528605	TARGA 3	115.0	526	1508	***0.8581***	0.9771	528603 NA_ENRICH 3 115 528605 TARGA 3 115 1

** From bus **	** To bus ** CKT	ContMVA	BaseFlow	Rating	Loading%	Contingency Description
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115 1	***192.0***	96.7	177.0	***108.5***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528023 POTASH_MINE 115	528232 OCHOA 3 115 1	***203.6***	51.6	191.0	***106.6***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115 1	***231.4***	68.5	156.0	***148.3***	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1

** From bus **	** To bus **	CKT	ContMVA	BaseFlow	Rating	Loading%	Contingency Description
528505 LEA_ROAD 3 115	528519 WARD 3 115	1	167.0	72.0	156.0	107.1	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	177.4	81.4	156.0	113.7	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528519 WARD 3 115	528540 WHITTEN 3 115	1	166.1	70.8	156.0	106.4	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	179.2	83.5	156.0	114.9	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	182.1	86.6	156.0	116.8	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	192.5	96.7	156.0	123.4	527962 POTASH_JCT 3 115 527964 INTREPIDWEST 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115	1	180.7	96.7	177.0	102.1	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115	1	209.5	68.5	156.0	134.3	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	165.3	81.4	156.0	105.9	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	167.3	83.5	156.0	107.2	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	170.4	86.6	156.0	109.2	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	181.0	96.7	156.0	116.0	527964 INTREPIDWEST 115 528035 IMC_#1_TP 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115	1	186.2	96.7	177.0	105.2	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115	1	217.4	68.5	156.0	139.4	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115	1	158.7	72.0	156.0	101.7	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	170.3	81.4	156.0	109.2	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115	1	156.8	70.8	156.0	100.5	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	172.4	83.5	156.0	110.5	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	175.6	86.6	156.0	112.6	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	186.4	96.7	156.0	119.5	528009 WIPP 3 115 528016 SAND_DUNES 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115	1	188.3	96.7	177.0	106.4	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115	1	219.9	68.5	156.0	140.9	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115	1	160.6	72.0	156.0	103.0	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	172.3	81.4	156.0	110.4	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115	1	158.7	70.8	156.0	101.7	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	174.4	83.5	156.0	111.8	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	177.7	86.6	156.0	113.9	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115	1	188.5	96.7	156.0	120.8	528009 WIPP 3 115 528035 IMC_#1_TP 3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115	1	193.3	68.5	156.0	123.9	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115	1	156.0	81.4	156.0	100.0	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115	1	158.1	83.5	156.0	101.4	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115	1	161.4	86.6	156.0	103.5	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1

** From bus **	** To bus ** CKT	ContMVA	BaseFlow	Rating	Loading%	Contingency Description
528568 MONUMNT_TP 3 115	528582 BYRD 3 115 1	***172.3***	96.7	156.0	***110.4***	528016 SAND_DUNES 3 115 528024 REDBLFF_TAP3 115 1
528232 OCHOA 3 115	528540 WHITTEN 3 115 1	***156.2***	68.5	156.0	***100.1***	528023 POTASH_MINE 115 528024 REDBLFF_TAP3 115 1
527962 POTASH_JCT 3 115	527964 INTREPIDWEST 115 1	***179.9***	97.8	177.0	***101.7***	528232 OCHOA 3 115 528540 WHITTEN 3 115 1
527864 CUNNINHAM 3 115	528568 MONUMNT_TP 3 115 1	***194.1***	96.7	177.0	***109.6***	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528505 LEA_ROAD 3 115	528519 WARD 3 115 1	***166.0***	72.0	156.0	***106.4***	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115 1	***177.5***	81.4	156.0	***113.8***	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528519 WARD 3 115	528540 WHITTEN 3 115 1	***164.4***	70.8	156.0	***105.4***	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115 1	***179.7***	83.5	156.0	***115.2***	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115 1	***183.1***	86.6	156.0	***117.4***	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115 1	***194.2***	96.7	156.0	***124.5***	528498 W_HOBBS 3 115 528533 DRINKARD_TP3 115 1
528505 LEA_ROAD 3 115	528552 OIL_CENTER 3 115 1	***157.7***	81.4	156.0	***101.1***	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528552 OIL_CENTER 3 115	528554 COOPER_RNCH3 115 1	***159.9***	83.5	156.0	***102.5***	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528554 COOPER_RNCH3 115	528582 BYRD 3 115 1	***163.3***	86.6	156.0	***104.7***	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1
528568 MONUMNT_TP 3 115	528582 BYRD 3 115 1	***174.1***	96.7	156.0	***111.6***	528533 DRINKARD_TP3 115 528589 DRINKARD 3 115 1

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