Amos - Welton Springs - Point of Rocks 765 kV Line

General Information

Proposing entity name	Confidential Information
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Confidential Information
Company proposal ID	Confidential Information
PJM Proposal ID	708
Project title	Amos - Welton Springs - Point of Rocks 765 kV Line
Project description	This proposal incorporates construction of multiple transmission lines and substation expansions to provide a robust, expandable transmission solution to address the 2024 Open Window 1 violations. This proposal will also ensure the PJM transmission system can safely and reliably accommodate future load growth.
Email	Confidential Information
Project in-service date	12/2029
Tie-line impact	Yes
Interregional project	No
Is the proposer offering a binding cap on capital costs?	Yes
Additional benefits	Confidential Information

Project Components

1. Amos Substation Upgrade
2. Amos - Welton Spring 765 kV Line
3. Welton Spring Switchyard
4. Welton Spring - Point of Rocks 765 kV Line

5. Point of Rocks Substation

6. Point of Rocks 500 kV Line Cut-Ins

7. Black Oak Substation

8. Loop The 502 Jct - Woodside 500 kV Line into Black Oak Substation

9. Doubs No. 1 500/230 kV Transformer Terminal Upgrades

Substation Upgrade Component

Component title	Amos Substation Upgrade
Project description	Confidential Information
Substation name	Amos
Substation zone	AEP
Substation upgrade scope	Add one 765 kV breaker at Amos Substation to expand the breaker and a half scheme to accommodate the new Amos - Welton Spring 765 kV Line.

Transformer Information

None

New equipment description	- New 765 kV breaker
Substation assumptions	The existing AC station service is assumed to be sufficient to accommodate the new substation equipment.
Real-estate description	All necessary land rights are acquired.
Construction responsibility	Confidential Information
Benefits/Comments	Confidential Information
Component Cost Details - In Current Year $	
Engineering & design	Confidential Information
Permitting / routing / siting	Confidential Information
ROW / land acquisition	Confidential Information

Materials & equipment	Confidential Information
Construction & commissioning	Confidential Information
Construction management	Confidential Information
Overheads & miscellaneous costs	Confidential Information
Contingency	Confidential Information
Total component cost	$30,868,262.00
Component cost (in-service year)	$34,742,500.00

Greenfield Transmission Line Component

Component title	Amos - Welton Spring 765 kV Line
Project description	Confidential Information
Point A	Amos
Point B	Welton Spring
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	6743.000000	7253.000000
Winter (MVA)	7512.000000	7918.000000

Conductor size and type	6 Bundled – 795 kcmil (45/7 Strand) ACSR “Tern” conductor
Nominal voltage	AC
Nominal voltage	765 kV
Line construction type	Overhead

General route description	This new approximate 175-mile 765 kV line will be constructed in West Virginia from the existing Amos Substation in eastern Putnam County to the proposed Welton Spring Substation in northwestern Hardy County. The transmission line corridor is proposed to cross twelve counties; Putnam, Kanawha, Roane, Calhoun, Braxton, Lewis, Upshur, Barbour, Tucker, Preston, Grant and Hardy. It is assumed that the 765 kV line will parallel existing ROW for approximately 42 miles and require new ROW for approximately 133 miles. Where feasible, consideration will be given to leveraging existing transmission ROW and transmission infrastructure. A full application will be required from the Public Service Commission of West Virginia.
Terrain description	The terrain for the transmission line corridor is variable and often steep with mountains and ridges, isolated knobs, deeply dissected valleys and streams and upland plateaus. The corridor crosses three major ecoregions; the Western Allegheny Plateau, the Central Appalachian and Ridge and Valley ecoregions. Elevations in the Western Allegheny Plateau range between approximately 435 feet to 1730 feet mean sea level (msl). The Central Appalachian ecoregion is steeper with elevations ranging from approximately 900 feet to 3,560 feet msl. The Ridge and Valley ecoregion in the easterly portion of the corridor ranges in elevation from approximately 445 feet to 4400 feet msl.
Right-of-way width by segment	The right-of-way width is assumed to be 200 feet. This width is based on the typical ROW needed for a 765 kV line and does not account for structure configuration or span lengths. Width may vary depending upon final design and tree clearing requirements. Approximately 42 miles (24%) of the corridor parallels existing transmission facility infrastructure. Where feasible, consideration will be given to sharing transmission ROW or overbuilding existing transmission infrastructure. Any necessary ROW acquisition will be conducted by real estate agents that will approach private landowners for voluntary negotiations of the permanent and/or temporary rights needed for the project. Although eminent domain will be a last resort, it may be necessary for project completion. For public lands, the controlling agency will be contacted to obtain the necessary licenses, special use agreements or other agreements pursuant to their respective requirements. In sensitive areas, the structure type/configuration and span lengths will be evaluated to minimize the amount of ROW needed to accommodate the new line in these areas.
Electrical transmission infrastructure crossings	See information below. Each crossing will not be listed as the route is subject to change.
Civil infrastructure/major waterway facility crossing plan	The proposed 765 kV transmission line corridor will have a total of approximately 25 highway crossings, including Interstate, US and State Highways. There are 5 known railroad crossings. Coordination with the appropriate highway and railroad entities for project control such as flagging, bonding and permitting will be conducted as part of project design. The proposed corridor crosses three 69 kV lines, ten 138 kV lines and five lines over 345 kV. There are numerous gas pipelines throughout the study area which will require coordination with the various gas pipeline owners for crossings. There is one known private airfield within one mile of the proposed transmission corridor. There are no known airports or heliports within the vicinity of the proposed line. The proposed corridor crosses seven major rivers including the Kanawha, Pocatalico, Little Kanasha, Buckhannon, Middle Fork, Tygart Valley and Cheat rivers. Permits through the WVDNR, WVDEP and/or USACOE will be required.

Environmental impacts	The 756 kV transmission line corridor crosses approximately 217 streams, and 30 wetlands. The wetland crossings comprise approximately 25 acres of palustrine forested, scrub shrub and palustrine emergent marsh. In-stream and wetland impacts will be avoided to the extent possible. Adherence to Best Management Practices (BMPs) and permit conditions will be required. Erosion and Sediment control plans and NPDES permits will be submitted for approval by the appropriate agencies. Tree clearing will be required along this corridor, but compatible vegetation such as small shrubs, grasses, ferns and forbs will not be removed. Paralleling existing transmission infrastructure where feasible will minimize vegetation impacts and forest fragmentation. There are several sensitive plants and animals, including several bat species, the bald eagle and the WV northern flying squirrel. The proposed corridor attempts to minimize traversing land specifically managed for conservation value such as the Monongahela National Forest, private conservation easements and Wildlife Management Areas (WMAs). The corridor crosses the northern portion of the Monongahela National Forest in Tucker County and the southern tail of the Burnsville Lake WMA in Braxton County. The corridor crosses the Allegheny Trail, Allegheny Highlands Rail-Trail and the American Discovery Trail. Coordination with the USDA-Forest Service, USDA, USFWS, WNDNR, WVDEP, WVSHPO and other permitting agencies will occur. Mitigation measures, such as seasonal restrictions and those outlined in permits, will be followed.
Tower characteristics	This 765 kV transmission line utilizes a combination of self-supporting and guyed-V lattice tower construction that is horizontally configured. The predominant structure type will be guyed-V suspension towers supported by a center grillage and four bridge-strand anchors. Self-supporting suspension towers, running-corner suspension towers, and tension structures will utilize concrete drilled piers to support foundation loads. Self-supporting suspension structures will be used to the extent possible as an effort to keep electrical infrastructure compatible with agricultural use.
Construction responsibility	Confidential Information
Benefits/Comments	Confidential Information
Component Cost Details - In Current Year $	
Engineering & design	Confidential Information
Permitting / routing / siting	Confidential Information
ROW / land acquisition	Confidential Information
Materials & equipment	Confidential Information
Construction & commissioning	Confidential Information
Construction management	Confidential Information

Overheads & miscellaneous costs	Confidential Information
Contingency	Confidential Information
Total component cost	$875,000,001.00
Component cost (in-service year)	$952,983,049.00

Greenfield Substation Component

Component title	Welton Spring Switchyard
Project description	Confidential Information
Substation name	Welton Spring
Substation description	Construct a new switchyard (Welton Spring) with 765 kV bus, two 250 MVAR shunt capacitors, and a +/-500 MVAR STATCOM. Connect the 765 kV transmission lines: Amos - Welton Spring 765 kV Line and Welton Spring - Point of Rocks 765 kV Line.
Nominal voltage	AC
Nominal voltage	765 kV

Transformer Information

None

Major equipment description	Below Grade: Install foundation, trench, conduit and grounding for new equipment. Install fencing, stoning, grading, access road, and ground grid for new substation. Install conduit for fiber. Above Grade: Install (10) 765 kV, 63 kAIC, 5000 A circuit breakers. Install (18) 765 kV MOAB disconnect switches. Install (6) 765 kV surge arresters. Install (6) 765 kV CVTs. Install (4) 765 kV, 250 MVAR cap banks. Install (2) 765 kV dead-end structures. Install (1) 765 kV, 500 MVAR STATCOM. Install (1) 765 kV SSVT. Install (1) Prefabricated control building. Install (1) lot of fencing and (1) gate. Install (1) lot of cables, steel structures, rigid bus, grounding, and fittings for new equipment. Relaying & Control: Install (2) standard line relaying panels over fiber. Install (4) standard cap bank relaying panels. Install (6) standard breaker control panels. Install (1) SCADA RTU. Install (1) ATS. Install (1) HMI panel including GPS clock and RTAC. Install (1) fiber patch panel. Install (1) lot of control cables, fiber, and SEL cables.

Normal ratings	Emergency ratings

Summer (MVA)	6743.000000	7253.000000
Winter (MVA)	7512.000000	7918.000000
Environmental assessment	Approximately 35 to 40 acres of usable land will be needed for the substation footprint. This does not include land needed for site development (grading, stormwater management, etc.), transmission line ROW, access roads, onsite soils management or mitigation. A suitable site location has been identified. There is a stream and intermittent wetlands on the property that will be avoided for substation construction. Tree clearing will be minimized to the extent practicable and any seasonal restrictions or mitigation for any sensitive species will be followed, as necessary. Permits for construction will be acquired from the appropriate governing agencies. It is assumed that the substation will be included in the application for the associated transmission lines to the WV PSC.	
Outreach plan	Public outreach is a critical component to the Proposing Entity’s siting process, so efforts will include properly informing the public; federal, state, and local agencies; local governments; and other key stakeholders on the need for, and benefits of, this Project. The Proposing Entity’s approach to public outreach is to be always candid and transparent, and to offer a variety of tools and means for directly impacted parties to engage with our staff. The Proposing Entity will provide development updates to local government officials, key stakeholders, and impacted parties as the Project progresses. Public outreach also will involve collecting information about landowner properties and communicating with directly affected landowners during the final siting process.	
Land acquisition plan	The site for the proposed substation has been identified and Real Estate agents for the Proposing Entity will contact the landowners to start discussions and negotiations when appropriate. Approximately 35 to 40 acres of usable land will be needed for the substation footprint. This does not include land needed for site development (grading, stormwater management, etc.), transmission line ROW, access roads, onsite soils management or mitigation.	
Construction responsibility	Confidential Information	
Benefits/Comments	Confidential Information	
Component Cost Details - In Current Year $		
Engineering & design	Confidential Information	
Permitting / routing / siting	Confidential Information	
ROW / land acquisition	Confidential Information	
Materials & equipment	Confidential Information	
Construction & commissioning	Confidential Information	

Construction management	Confidential Information
Overheads & miscellaneous costs	Confidential Information
Contingency	Confidential Information
Total component cost	$213,823,425.00
Component cost (in-service year)	$240,646,163.00

Greenfield Transmission Line Component

Component title	Welton Spring - Point of Rocks 765 kV Line
Project description	Confidential Information
Point A	Welton Spring
Point B	Point of Rocks
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	6743.000000	7253.000000
Winter (MVA)	7512.000000	7918.000000

Conductor size and type	6 Bundled – 795 kcmil (45/7 Strand) ACSR “Tern” conductor
Nominal voltage	AC
Nominal voltage	765
Line construction type	Overhead

General route description	This new approximate 86-mile 765 kV line will be constructed from the proposed Welton Spring Switchyard in Hardy County, WV to the proposed Point of Rocks Substation in Frederick County, MD. The line will traverse Hardy, Hampshire and Jefferson counties in West Virginia; Frederick, Clarke and Loudoun counties in Virginia; and Frederick County, Maryland. It is assumed that the 765 kV line will parallel existing transmission ROW for most of the line except for deviations to avoid developed areas or other constraints. Where feasible, consideration will be given to leveraging existing transmission ROW and transmission infrastructure. Separate Commission applications will be required from the Public Service Commission of West Virginia, the Virginia State Corporation Commission and the Maryland Public Service Commission.
Terrain description	The terrain for the transmission line corridor generally slopes downhill from the proposed Welton Spring Switchyard to the proposed Point of Rocks Substation (west to east). The highest elevation is in Hardy County, West Virginia at near 3,000 feet msl to the lowest elevation near the Potomac River in Frederick County at approximately 220 feet msl. The corridor crosses three major ecoregions; the Ridge and Valley, Blue Ridge and Northern Piedmont ecoregions. Karst topography is present within the limestone valleys throughout the area, mainly east of Hardy and Hampshire counties.
Right-of-way width by segment	The right-of-way width is assumed to be 200 feet. This width is based on the typical ROW needed for a 765 kV line and does not account for structure configuration or span lengths. Width may vary depending upon final design and tree clearing requirements. The 765 kV line will parallel existing transmission ROW for most of the line except for deviations to avoid developed areas or other constraints. Where feasible, consideration will be given to leveraging existing transmission ROW and transmission infrastructure. In sensitive areas, the proposed corridor is paralleling existing transmission corridors and will require some ROW expansion. However, the structure type/configuration and span lengths will be evaluated to minimize the amount of ROW expansion needed to accommodate the new transmission line in these areas. Any necessary ROW acquisition will be conducted by real estate agents that will approach private landowners for voluntary negotiations of the permanent and/or temporary rights needed for the project. Although eminent domain will be a last resort, it may be necessary for project completion. For public lands, the controlling agency will be contacted to obtain the necessary licenses, special use agreements or other agreements pursuant to their respective requirements.
Electrical transmission infrastructure crossings	See information below. Each crossing will not be listed as the route is subject to change.

Civil infrastructure/major waterway facility crossing plan	The proposed 765 kV transmission line corridor will have numerous highway and road crossings, including crossings of major highways and interstates including US 220, US 50, US 522, US 11, US 340, US 15 and I-81. There are 7 known railroad crossings, including the crossing of the Baltimore and Ohio Recreational Rail Line in Hardy County, WV. Coordination with the appropriate highway and railroad entities for project control such as flagging, bonding and permitting will be conducted as part of project design. The line parallels the Bismark-Doubs 500 kV Line, crossing over one 138 kV transmission line until it reaches the Gore Substation. The line then continues to parallel the 500 kV and 138 kV transmission line corridor, crossing over the existing lines where necessary to avoid development and other constraints to the Doubs Substation. From there, the line heads in a southerly direction along the existing 500 kV and 230 kV corridor to the proposed Point of Rocks Substation. There are numerous gas pipelines throughout the study area which will require coordination with the various gas pipeline owners for crossings. The proposed corridor crosses four major rivers including the South Branch-Potomac River, Cacapon River, Shenandoah River and the Potomac River. State and Federal permits will be required.
Environmental impacts	The 756 kV transmission line corridor crosses approximately 90 streams, and approximately 20 acres of wetland across the three states. The wetland crossings comprise of palustrine forested, scrub shrub and palustrine emergent marsh. In-stream and wetland impacts will be avoided to the extent possible. Adherence to Best Management Practices (BMPs) and permit conditions will be required. Erosion and Sediment control plans and NPDES permits will be submitted for approval by the appropriate agencies. Tree clearing will be required along this corridor, but compatible vegetation such as small shrubs, grasses, ferns and forbs will not be removed. Paralleling existing transmission infrastructure where feasible will minimize vegetation impacts and forest fragmentation. There are several sensitive plants and animals, including several bat species, the bald eagle and the wood turtle. The proposed corridor attempts to minimize traversing land specifically managed for conservation value such as the Nathaniel and Short Mountain WMAs, the southernmost boundary of the Harpers Ferry National Historical Park, the Appalachian Trail and the C&O Canal Tow Path. In sensitive areas, the proposed transmission line corridor is paralleling existing transmission corridors and will require expansion. However, the structure type/configuration and span lengths will be evaluated to minimize the amount of ROW expansion needed to accommodate the new transmission line in these areas. Note that the Appalachian Trail Conservancy guidelines stipulate that any new utility crossing of the trail should be at already disturbed crossings, which this proposed transmission line will accomplish by using the same corridor as the existing transmission infrastructure. Coordination with USDA, USFWS, NPS and numerous state and local agencies will occur. Mitigation measures, such as seasonal restrictions and those outlined in permits, will be followed.
Tower characteristics	This 765 kV line utilizes a combination of self-supporting and guyed-V lattice tower construction that is horizontally configured. The predominant structure type will be guyed-V suspension towers supported by a center grillage and four bridge-strand anchors. Self-supporting suspension towers, running-corner suspension towers, and tension structures will utilize concrete drilled piers to support foundation loads. Self-supporting suspension structures will be used to the extent possible as an effort to keep electrical infrastructure compatible with agricultural use.

Construction responsibility	Confidential Information
Benefits/Comments	Confidential Information
Component Cost Details - In Current Year $	
Engineering & design	Confidential Information
Permitting / routing / siting	Confidential Information
ROW / land acquisition	Confidential Information
Materials & equipment	Confidential Information
Construction & commissioning	Confidential Information
Construction management	Confidential Information
Overheads & miscellaneous costs	Confidential Information
Contingency	Confidential Information
Total component cost	$430,000,000.00
Component cost (in-service year)	$468,323,098.00

Greenfield Substation Component

Component title	Point of Rocks Substation
Project description	Confidential Information
Substation name	Point of Rocks
Substation description	Construct a new substation called Point of Rocks with a 765 kV and a 500 kV yard. Loop in the Doubs - Goose Creek 500 kV Line, the Doubs - Aspen 500 kV Line, and the Woodside - Goose Creek 500 kV Line.
Nominal voltage	AC
Nominal voltage	765/500

Transformer Information

	Name		Capacity (MVA)	
Transformer	Point of Rocks No. 1		500/667/833	
	High Side	Low Side		Tertiary
Voltage (kV)	765	500		13.8

	Name		Capacity (MVA)	
Transformer	Point of Rocks No. 2		500/667/833	
	High Side	Low Side		Tertiary
Voltage (kV)	765	500		13.8

Major equipment description	Below Grade: Install (1 Lot) of foundations, conduit, and grounding for new equipment. Install (1 Lot) of cable trench. Install (1 Lot) of fencing, stoning, grading, access road, and ground grid for the new substation. Install (1 Lot) of conduit for fiber. Above Grade: Install (8) 765/500 kV single-phase transformers. (2 single-phase units are spare) Install (10) 765 kV circuit breakers. Install (21) 765 kV MOAB disconnect switches. Install (1) 765 kV +/-500 MVAR STATCOM. Install (2) 765 kV 250 MVAR capacitor banks. Install (18) 765 kV CCVTs. Install (3) 765 kV surge arresters. Install (5) 765 kV steel deadend structures. Install (14) 500 kV circuit breakers. Install (34) 500 kV MOAB disconnect switches. Install (2) 500 kV, 250 MVAR capacitor banks. Install (30) 500 kV CCVTs. Install (18) 500 kV surge arresters. Install (8) 500 kV steel dead-end structures. Install (4) aux power transformers to be fed from distribution system. Install (1 Lot) of 765 kV & 500 kV hard bus, fittings, insulators, conductor, connectors, and steel structures. Install (1 Lot) of shielding for lightning protection for new 765 kV & 500 kV yards. Install (1 Lot) of fencing and lighting for new substation yard. Install (2) prefabricated control buildings with battery systems, AC & DC aux power panels, security cabinets, and MPLS network equipment. Relaying & Control: Install (7) line protection panels consisting of (2) SEL-411L relays each. Install (7) bus protection panels consisting of (2) SEL-487B relays each. Install (2) transformer protection panels consisting of (1) SEL-487E, (1) SEL-587, and (1) SEL-421 relays each. Install (4) cap bank protection panels consisting of (2) SEL-487V relays each. Install (24) breaker control panels consisting of (1) SEL-451 relay each. Install (2) SCADA RTU cabinets. Install (2) HMI panels including GPS clocks and RTACs. Install (2) ATSs. Install (1 Lot) of control cable, SEL cables, and fiber jumpers.

Normal ratings	Emergency ratings

Summer (MVA)	0.000000	0.000000
Winter (MVA)	0.000000	0.000000
Environmental assessment	Approximately 50 to 65 acres of usable land will be needed for the substation footprint. This does not include land needed for site development (grading, stormwater management, etc.), transmission line ROW, access roads, onsite soils management or mitigation. The site is located adjacent to the Potomac River and is relatively low lying with streams, wetlands and floodways located on the property. The substation site will be located on the more upland portion of the property and will avoid these features to the extent practicable. Due to its proximity to the river, cultural artifacts may be present. Coordination with SHPO and PPRP will be required. Tree clearing will be necessary for substation construction. Seasonal restrictions and mitigation will be followed. Permits for construction will be acquired from the appropriate governing agencies, include zoning and special exception for construction of a non-governmental substation in Frederick County.	
Outreach plan	Public outreach is a critical component to the Proposing Entity’s siting process, so efforts will include properly informing the public; federal, state, and local agencies; local governments; and other key stakeholders on the need for, and benefits of, this Project. The Proposing Entity’s approach to public outreach is to be always candid and transparent, and to offer a variety of tools and means for directly impacted parties to engage with our staff. The Proposing Entity will provide development updates to local government officials, key stakeholders, and impacted parties as the Project progresses. Public outreach also will involve collecting information about landowner properties and communicating with directly affected landowners during the final siting process	
Land acquisition plan	The Property is owned by the Proposing Party and no additional land acquisition is anticipated.	
Construction responsibility	Confidential Information	
Benefits/Comments	Confidential Information	
Component Cost Details - In Current Year $		
Engineering & design	Confidential Information	
Permitting / routing / siting	Confidential Information	
ROW / land acquisition	Confidential Information	
Materials & equipment	Confidential Information	
Construction & commissioning	Confidential Information	
Construction management	Confidential Information	

Overheads & miscellaneous costs	Confidential Information
Contingency	Confidential Information
Total component cost	$375,635,683.00
Component cost (in-service year)	$423,451,653.00

Greenfield Transmission Line Component

Component title	Point of Rocks 500 kV Line Cut-Ins
Project description	Confidential Information
Point A	See comments below
Point B	See comments below
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	0.000000	0.000000
Winter (MVA)	0.000000	0.000000

Conductor size and type	1113 ACSS 54/19 STR, x3 conductor bundle
Nominal voltage	AC
Nominal voltage	500
Line construction type	Overhead
General route description	The existing Doubs-Goose Creek 500 kV Line and the proposed Doubs-Aspen 500 kV Line and Goose Creek - Woodside 500 kV Line will be looped into the proposed Point of Rocks Substation. These loop lines will be single circuit 500 kV lines and are located on the property owned by the Proposing Party.

Terrain description	The transmission lines are located to the north of the proposed substation on upland area. The substation and lines are located in the Northern Piedmont ecoregion. Karst topography is present within the limestone valleys throughout the area, but no known Karst features are located on the property. Core boring will be conducted prior to construction to determine whether there is any karst features that will need to be addressed as part of construction.
Right-of-way width by segment	The transmission lines are located on property owned by the Proposing Party.
Electrical transmission infrastructure crossings	The transmission lines will be designed to avoid electrical transmission infrastructure crossings to the extent practicable.
Civil infrastructure/major waterway facility crossing plan	The tie-ins will not impact civil infrastructure or major waterways.
Environmental impacts	The site is located adjacent to the Potomac River and is relatively low lying with streams, wetlands and floodways located on the property. The transmission line loops will be located on the more upland portion of the property and will avoid these features to the extent practicable. Due to its proximity to the river, cultural artifacts may be present. Coordination with SHPO and PPRP will be required. It is assumed that any permit requirements for the loop lines will be included in the permits for the substation. It is also assumed that the loop lines will be part of the 765 kV transmission line application with the MD PSC.
Tower characteristics	The structures will be single-circuit steel monopoles on concrete foundations. Angle structures will be vertical configuration while tangent structures will be delta configuration.
Construction responsibility	Confidential Information
Benefits/Comments	Confidential Information
Component Cost Details - In Current Year $	
Engineering & design	Confidential Information
Permitting / routing / siting	Confidential Information
ROW / land acquisition	Confidential Information
Materials & equipment	Confidential Information
Construction & commissioning	Confidential Information
Construction management	Confidential Information
Overheads & miscellaneous costs	Confidential Information

Contingency	Confidential Information
Total component cost	$.00
Component cost (in-service year)	$.00

Substation Upgrade Component

Component title	Black Oak Substation
Project description	Confidential Information
Substation name	Black Oak (Bus # 235103)
Substation zone	201
Substation upgrade scope	Expand the Black Oak Substation fence. Install (1 Lot) of foundations, conduit, and grounding for new equipment. Install (3) 500 kV, 63 kA, 5000 A circuit breakers. Install (8) 500 kV MOAB disconnect switches. Install (3) 500 kV dead-end structures. Install (6) 500 kV CCVTs. Install (6) 500 kV surge arresters. Install (1 Lot) of 500 kV rigid bus, conductor, insulators, fittings, connectors, hardware, and steel support structures. Install (2) line terminal protection panels consisting of (2) SEL-411L relays over fiber. Install (3) breaker control panels consisting of (1) SEL-451 relay each. Remove (1) 500kV disconnect switch.

Transformer Information

None

New equipment description	Expand the Black Oak Substation fence. Install (1 Lot) of foundations, conduit, and grounding for new equipment. Install (3) 500 kV, 63 kA, 5000 A circuit breakers. Install (8) 500 kV MOAB disconnect switches. Install (3) 500 kV dead-end structures. Install (6) 500 kV CCVTs. Install (6) 500 kV surge arresters. Install (1 Lot) of 500 kV rigid bus, conductor, insulators, fittings, connectors, hardware, and steel support structures. Install (2) line terminal protection panels consisting of (2) SEL-411L relays over fiber. Install (3) breaker control panels consisting of (1) SEL-451 relay each. Remove (1) 500kV disconnect switch.
Substation assumptions	- Substation fence will require expansion. - Existing control house can accommodate additional relaying.
Real-estate description	Black Oak Substation will require an expansion, but additional property acquisition is not required.
Construction responsibility	Confidential Information

Benefits/Comments	Confidential Information
Component Cost Details - In Current Year $	
Engineering & design	Confidential Information
Permitting / routing / siting	Confidential Information
ROW / land acquisition	Confidential Information
Materials & equipment	Confidential Information
Construction & commissioning	Confidential Information
Construction management	Confidential Information
Overheads & miscellaneous costs	Confidential Information
Contingency	Confidential Information
Total component cost	$.00
Component cost (in-service year)	$.00

Transmission Line Upgrade Component

Component title	Loop The 502 Jct - Woodside 500 kV Line into Black Oak Substation
Project description	Confidential Information
Impacted transmission line	502 Jct - Woodside 500 kV Line
Point A	502 Jct (Bus # 235111)
Point B	Woodside (Bus # 235098)
Point C	Black Oak (Bus # 235103)

Terrain description	The terrain is flat and mountainous. The Black Oak Substation is located at the bottom of a river valley with steep ridges on each side. The structure installed to the east of the substation will be installed in the river valley. The approximately (0.75) miles and (5) structures installed on the west side of the substation will cross up and over one of the steep ridges. The line crosses a minor road a total of (1) time. Traffic control and flagging may be required. The line crosses a CSX Owned railroad a total of (1) time. Crossing permits and flagging may be required. The line crosses the existing Black Oak - Junction 138 kV Line and the Black Oak - Cross School 138 kV Line a total of (1) time each. The new 500 kV line loop will parallel the existing Black Oak - Hatfield 500 kV Line and the Black Oak - Bedington 500 kV Line.

Existing Line Physical Characteristics

Operating voltage	500
Conductor size and type	3x 1113 kcmil 54/19 ACSS
Hardware plan description	Since the 502 Jct - Woodside 500 kV Line is not yet constructed, the design of this line can include the loop into Black Oak Substation, resulting in no removal of recently installed hardware.
Tower line characteristics	The 502 Jct - Woodside 500 kV Line is assumed to be constructed on single circuit, steel monopoles utilizing 3x 1113 kcmil 54/19 ACSS conductor and OPGW. The 502 Jct - Woodside 500 kV Line is planned to be constructed adjacent to Black Oak Substation. The loop into and out of Black Oak Substation will also utilize 3x 1113 kcmil 54/19 ACSS conductor and OPGW. It is assumed that the first structure to the west and east of the Black Oak Substation will be a 3-pole dead-end.

Proposed Line Characteristics

	Designed	Operating
Voltage (kV)	500.000000	500.000000
	Normal ratings	Emergency ratings
Summer (MVA)	4295.000000	4357.000000
Winter (MVA)	5066.000000	5196.000000
Conductor size and type	3x 1113 kcmil 54/19 ACSS	
Shield wire size and type	7#6 Alumoweld	
Rebuild line length	N/A	

Rebuild portion description	There will be no sections of this line that need rebuilt.
Right of way	Acquisition of new rights of way for the 0.85 miles of new 500 kV transmission line will be required. Approximately a total of (9) parcels will be affected. It is assumed that all new ROW will be adjacent to existing ROW.
Construction responsibility	Confidential Information
Benefits/Comments	Confidential Information
Component Cost Details - In Current Year $	
Engineering & design	Confidential Information
Permitting / routing / siting	Confidential Information
ROW / land acquisition	Confidential Information
Materials & equipment	Confidential Information
Construction & commissioning	Confidential Information
Construction management	Confidential Information
Overheads & miscellaneous costs	Confidential Information
Contingency	Confidential Information
Total component cost	$19,229,056.48
Component cost (in-service year)	$21,534,924.00

Substation Upgrade Component

Component title	Doubs No. 1 500/230 kV Transformer Terminal Upgrades
Project description	Confidential Information
Substation name	Doubs
Substation zone	201

Substation upgrade scope	Replace (1 Lot) of limiting conductor. Install (1 Lot) of connectors. Replace existing 230 kV surge arrestors.

Transformer Information

None

New equipment description	All new equipment will exceed the ratings of the transformer.
Substation assumptions	All work will be accomplished within the boundaries of the substation
Real-estate description	No real estate acquisition is required.
Construction responsibility	Confidential Information
Benefits/Comments	Confidential Information
Component Cost Details - In Current Year $	
Engineering & design	Confidential Information
Permitting / routing / siting	Confidential Information
ROW / land acquisition	Confidential Information
Materials & equipment	Confidential Information
Construction & commissioning	Confidential Information
Construction management	Confidential Information
Overheads & miscellaneous costs	Confidential Information
Contingency	Confidential Information
Total component cost	$431,867.29
Component cost (in-service year)	$453,396.00

Congestion Drivers

None

Existing Flowgates

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM556	235477	01INWOOD	235477	01INWOOD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM557	235477	01INWOOD	235477	01INWOOD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM550	235483	01MDWBRK	235483	01MDWBRK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM551	235480	01METTIKI	235480	01METTIKI	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM548	235483	01MDWBRK	235483	01MDWBRK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM549	235483	01MDWBRK	235483	01MDWBRK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM554	235479	01JUNCTN	235479	01JUNCTN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM555	235478	01JENING	235478	01JENING	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM552	235479	01JUNCTN	235479	01JUNCTN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM553	235479	01JUNCTN	235479	01JUNCTN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM567	235475	01HALFWY	235475	01HALFWY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM561	235477	01INWOOD	235477	01INWOOD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM562	235477	01INWOOD	235477	01INWOOD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM559	235477	01INWOOD	235477	01INWOOD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM560	235477	01INWOOD	235477	01INWOOD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM565	235475	01HALFWY	235475	01HALFWY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM566	235475	01HALFWY	235475	01HALFWY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM563	235476	01HARDY	235476	01HARDY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM564	235475	01HALFWY	235475	01HALFWY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM558	235477	01INWOOD	235477	01INWOOD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM277	237310	01DANSMTN	237310	01DANSMTN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM275	237317	01FINZEL	237317	01FINZEL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM276	237313	01KELSOG	237313	01KELSOG	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM269	237320	01VANVL	237320	01VANVL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM270	237320	01VANVL	237320	01VANVL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM268	237320	01VANVL	237320	01VANVL	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM273	237320	01VANVL	237320	01VANVL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM274	237320	01VANVL	237320	01VANVL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM271	237320	01VANVL	237320	01VANVL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM272	237320	01VANVL	237320	01VANVL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM288	235725	01GLFNUG	235725	01GLFNUG	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM286	235805	01STEPHN	235805	01STEPHN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM287	235725	01GLFNUG	235725	01GLFNUG	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM280	235805	01STEPHN	235805	01STEPHN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM281	235805	01STEPHN	235805	01STEPHN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM278	235810	01INT COAL	235810	01INT COAL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM279	235810	01INT COAL	235810	01INT COAL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM284	235805	01STEPHN	235805	01STEPHN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM285	235805	01STEPHN	235805	01STEPHN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM282	235805	01STEPHN	235805	01STEPHN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM283	235805	01STEPHN	235805	01STEPHN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM298	235598	01HAMPS36	235598	01HAMPS36	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S193	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM299	235598	01HAMPS36	235598	01HAMPS36	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM297	235598	01HAMPS36	235598	01HAMPS36	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S202	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-S196	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM291	235599	01HAMPS64	235599	01HAMPS64	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S197	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM292	235599	01HAMPS64	235599	01HAMPS64	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S194	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM289	235599	01HAMPS64	235599	01HAMPS64	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S195	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM290	235599	01HAMPS64	235599	01HAMPS64	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM295	235599	01HAMPS64	235599	01HAMPS64	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S200	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1N1SVM296	235598	01HAMPS36	235598	01HAMPS36	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S201	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM293	235599	01HAMPS64	235599	01HAMPS64	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S198	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1-IPD-S199	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM294	235599	01HAMPS64	235599	01HAMPS64	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S203	235453	01CHERYR	235490	01MORGAN	1	138	201	Summer IPD	Included
2024W1N1SVM309	235597	01LOVETT	235597	01LOVETT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM310	235593	01HAMPS53	235593	01HAMPS53	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S204	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1N1SVM68	235112	01PRNTY	235112	01PRNTY	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM308	235597	01LOVETT	235597	01LOVETT	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S207	235453	01CHERYR	235490	01MORGAN	1	138	201	Summer IPD	Included
2024W1N1SVM302	235598	01HAMPS36	235598	01HAMPS36	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S208	235453	01CHERYR	235490	01MORGAN	1	138	201	Summer IPD	Included
2024W1N1SVM303	235597	01LOVETT	235597	01LOVETT	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S205	235453	01CHERYR	235490	01MORGAN	1	138	201	Summer IPD	Included
2024W1N1SVM300	235598	01HAMPS36	235598	01HAMPS36	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S206	235453	01CHERYR	235490	01MORGAN	1	138	201	Summer IPD	Included
2024W1N1SVM301	235598	01HAMPS36	235598	01HAMPS36	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S211	235445	01BEDNGT	235101	01BEDNGT	4	138/500	201	Summer IPD	Included
2024W1N1SVM306	235597	01LOVETT	235597	01LOVETT	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S212	235235	01FLINTRUN	235100	01FLINTRN	2	500/138	201	Summer IPD	Included
2024W1N1SVM307	235597	01LOVETT	235597	01LOVETT	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S209	235453	01CHERYR	235490	01MORGAN	1	138	201	Summer IPD	Included
2024W1N1SVM304	235597	01LOVETT	235597	01LOVETT	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM305	235597	01LOVETT	235597	01LOVETT	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S210	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM320	235592	01HAMPS45	235592	01HAMPS45	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM78	235110	01MDWBRK	235110	01MDWBRK	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM321	235592	01HAMPS45	235592	01HAMPS45	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM79	235110	01MDWBRK	235110	01MDWBRK	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM318	235592	01HAMPS45	235592	01HAMPS45	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM319	235592	01HAMPS45	235592	01HAMPS45	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S182	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-GD-S494	235334	01GLENFL	235306	01BRIDGP	1	138	201	Summer Gen Deliv	Included
2024W1-IPD-W34	235445	01BEDNGT	235101	01BEDNGT	2	138/500	201	Winter IPD	Included
2024W1-IPD-S180	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-GD-S794	235334	01GLENFL	235306	01BRIDGP	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM77	235110	01MDWBRK	235110	01MDWBRK	1	500	201	Summer Voltage Magnitude	Included
2024W1-IPD-S181	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-W33	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Winter IPD	Included
2024W1N1SVM71	235111	01 502 J	235111	01 502 J	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM313	235593	01HAMPS53	235593	01HAMPS53	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S174	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1-IPD-W28	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Winter IPD	Included
2024W1N1SVM72	235111	01 502 J	235111	01 502 J	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM314	235593	01HAMPS53	235593	01HAMPS53	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S175	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM69	235111	01 502 J	235111	01 502 J	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM311	235593	01HAMPS53	235593	01HAMPS53	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM70	235111	01 502 J	235111	01 502 J	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM312	235593	01HAMPS53	235593	01HAMPS53	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S173	235492	01MTZION	238184	AF2-356 TAP	1	138	201	Summer IPD	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM75	235111	01 502 J	235111	01 502 J	1	500	201	Summer Voltage Magnitude	Included
2024W1-IPD-S178	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-W32	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Winter IPD	Included
2024W1N1SVM317	235592	01HAMPS45	235592	01HAMPS45	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S113	235389	01POWELM	235296	01BAYS	1	138	201	Summer Gen Deliv	Included
2024W1-IPD-S179	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-W31	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Winter IPD	Included
2024W1-GD-S488	235334	01GLENFL	235306	01BRIDGP	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM76	235110	01MDWBRK	235110	01MDWBRK	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM73	235111	01 502 J	235111	01 502 J	1	500	201	Summer Voltage Magnitude	Included
2024W1-IPD-S176	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM315	235593	01HAMPS53	235593	01HAMPS53	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-W30	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Winter IPD	Included
2024W1N1SVM74	235111	01 502 J	235111	01 502 J	1	500	201	Summer Voltage Magnitude	Included
2024W1-IPD-S177	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM316	235593	01HAMPS53	235593	01HAMPS53	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-W29	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Winter IPD	Included
2024W1N1SVM328	235561	01NIPETN	235561	01NIPETN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM89	235106	01FMARTN	235106	01FMARTN	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM331	235558	01SHORTG	235558	01SHORTG	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM90	235106	01FMARTN	235106	01FMARTN	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM332	235557	01LETTER	235557	01LETTER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM329	235561	01NIPETN	235561	01NIPETN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM88	235107	01HARRSN	235107	01HARRSN	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM330	235561	01NIPETN	235561	01NIPETN	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S191	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S192	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S185	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM82	235110	01MDWBRK	235110	01MDWBRK	1	500	201	Summer Voltage Magnitude	Included
2024W1-GD-S501	235486	01MILLVL	235597	01LOVETT	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM324	235561	01NIPETN	235561	01NIPETN	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S186	235453	01CHERYR	235490	01MORGAN	1	138	201	Summer IPD	Included
2024W1N1SVM83	235108	01HATFLD	235108	01HATFLD	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM325	235561	01NIPETN	235561	01NIPETN	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S183	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM322	235592	01HAMPS45	235592	01HAMPS45	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM80	235110	01MDWBRK	235110	01MDWBRK	1	500	201	Summer Voltage Magnitude	Included
2024W1-IPD-S184	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM323	235592	01HAMPS45	235592	01HAMPS45	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM81	235110	01MDWBRK	235110	01MDWBRK	1	500	201	Summer Voltage Magnitude	Included
2024W1-IPD-S189	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM86	235107	01HARRSN	235107	01HARRSN	1	500	201	Summer Voltage Magnitude	Included
2024W1-IPD-S190	235453	01CHERYR	235490	01MORGAN	1	138	201	Summer IPD	Included
2024W1N1SVM87	235107	01HARRSN	235107	01HARRSN	1	500	201	Summer Voltage Magnitude	Included
2024W1-IPD-S187	235453	01CHERYR	235490	01MORGAN	1	138	201	Summer IPD	Included
2024W1N1SVM84	235108	01HATFLD	235108	01HATFLD	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM326	235561	01NIPETN	235561	01NIPETN	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S188	235453	01CHERYR	235490	01MORGAN	1	138	201	Summer IPD	Included
2024W1N1SVM85	235107	01HARRSN	235107	01HARRSN	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM327	235561	01NIPETN	235561	01NIPETN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM338	235548	01KLINEM	235548	01KLINEM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM339	235548	01KLINEM	235548	01KLINEM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM100	235105	01DOUBS	235105	01DOUBS	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM342	235546	01EAGLE	235546	01EAGLE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM101	235105	01DOUBS	235105	01DOUBS	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM343	235546	01EAGLE	235546	01EAGLE	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM98	235105	01DOUBS	235105	01DOUBS	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM340	235546	01EAGLE	235546	01EAGLE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM99	235105	01DOUBS	235105	01DOUBS	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM341	235546	01EAGLE	235546	01EAGLE	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S160	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1-IPD-S161	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-S158	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1-IPD-S159	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1-IPD-S162	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM93	235106	01FMARTN	235106	01FMARTN	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM335	235548	01KLINEM	235548	01KLINEM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM94	235106	01FMARTN	235106	01FMARTN	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM336	235548	01KLINEM	235548	01KLINEM	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S153	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1N1SVM91	235106	01FMARTN	235106	01FMARTN	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM333	235548	01KLINEM	235548	01KLINEM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM92	235106	01FMARTN	235106	01FMARTN	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM334	235548	01KLINEM	235548	01KLINEM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM97	235105	01DOUBS	235105	01DOUBS	1	500	201	Summer Voltage Magnitude	Included
2024W1-IPD-S156	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-S157	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1N1SVM95	235106	01FMARTN	235106	01FMARTN	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM337	235548	01KLINEM	235548	01KLINEM	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S154	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1N1SVM96	235105	01DOUBS	235105	01DOUBS	1	500	201	Summer Voltage Magnitude	Included
2024W1-IPD-S155	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM349	235540	01KEARNY	235540	01KEARNY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM108	235101	01BEDNGT	235101	01BEDNGT	1	500	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM350	235540	01KEARNY	235540	01KEARNY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM348	235540	01KEARNY	235540	01KEARNY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM111	235101	01BEDNGT	235101	01BEDNGT	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM353	235540	01KEARNY	235540	01KEARNY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM354	235539	01NFRANK	235539	01NFRANK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM112	235098	WOODSIDE	235098	WOODSIDE	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM109	235101	01BEDNGT	235101	01BEDNGT	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM351	235540	01KEARNY	235540	01KEARNY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM110	235101	01BEDNGT	235101	01BEDNGT	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM352	235540	01KEARNY	235540	01KEARNY	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S171	235492	01MTZION	238184	AF2-356 TAP	1	138	201	Summer IPD	Included
2024W1-IPD-W25	235492	01MTZION	235518	01WESTVA	1	138	201	Winter IPD	Included
2024W1-IPD-S172	235492	01MTZION	238184	AF2-356 TAP	1	138	201	Summer IPD	Included
2024W1-IPD-S169	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-S170	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-W27	235492	01MTZION	235518	01WESTVA	1	138	201	Winter IPD	Included
2024W1-IPD-W26	235492	01MTZION	235518	01WESTVA	1	138	201	Winter IPD	Included
2024W1N1SVM104	235103	01BLACKO	235103	01BLACKO	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM346	235546	01EAGLE	235546	01EAGLE	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S163	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM105	235101	01BEDNGT	235101	01BEDNGT	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM347	235540	01KEARNY	235540	01KEARNY	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S164	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM102	235105	01DOUBS	235105	01DOUBS	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM344	235546	01EAGLE	235546	01EAGLE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM103	235103	01BLACKO	235103	01BLACKO	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM345	235546	01EAGLE	235546	01EAGLE	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S167	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1-IPD-S168	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM106	235101	01BEDNGT	235101	01BEDNGT	1	500	201	Summer Voltage Magnitude	Included
2024W1-IPD-S165	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM107	235101	01BEDNGT	235101	01BEDNGT	1	500	201	Summer Voltage Magnitude	Included
2024W1-IPD-S166	235446	01BLACKO	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM360	235534	01SLEEPH	235534	01SLEEPH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM118	235098	WOODSIDE	235098	WOODSIDE	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM361	235534	01SLEEPH	235534	01SLEEPH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM119	235554	01WJEFFERSON	235554	01WJEFFERSON	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM358	235534	01SLEEPH	235534	01SLEEPH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM359	235534	01SLEEPH	235534	01SLEEPH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM364	235523	01BETHEL+	235523	01BETHEL+	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM122	235554	01WJEFFERSON	235554	01WJEFFERSON	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM365	235523	01BETHEL+	235523	01BETHEL+	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM123	235554	01WJEFFERSON	235554	01WJEFFERSON	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM362	235534	01SLEEPH	235534	01SLEEPH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM120	235554	01WJEFFERSON	235554	01WJEFFERSON	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM363	235529	01BIGSAVAGE	235529	01BIGSAVAGE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM121	235554	01WJEFFERSON	235554	01WJEFFERSON	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM357	235534	01SLEEPH	235534	01SLEEPH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM115	235098	WOODSIDE	235098	WOODSIDE	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM116	235098	WOODSIDE	235098	WOODSIDE	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM355	235537	01BAKER	235537	01BAKER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM113	235098	WOODSIDE	235098	WOODSIDE	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM356	235534	01SLEEPH	235534	01SLEEPH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM114	235098	WOODSIDE	235098	WOODSIDE	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM117	235098	WOODSIDE	235098	WOODSIDE	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM129	235544	01BOONES	235544	01BOONES	1	230	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM130	235544	01BOONES	235544	01BOONES	1	230	201	Summer Voltage Magnitude	Included
2024W1-N1-ST8	235492	01MTZION	235518	01WESTVA	1	138/138	201/201	Summer Thermal	Included
2024W1N1SVM128	235544	01BOONES	235544	01BOONES	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM133	235543	01FROSTN	235543	01FROSTN	1	230	201	Summer Voltage Magnitude	Included
2024W1-N1-ST11	235518	01WESTVA	237506	01CROSSCHOOL	1	138/138	201/201	Summer Thermal	Included
2024W1N1SVM134	235543	01FROSTN	235543	01FROSTN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM131	235544	01BOONES	235544	01BOONES	1	230	201	Summer Voltage Magnitude	Included
2024W1-N1-ST9	235518	01WESTVA	237506	01CROSSCHOOL	1	138/138	201/201	Summer Thermal	Included
2024W1N1SVM132	235544	01BOONES	235544	01BOONES	1	230	201	Summer Voltage Magnitude	Included
2024W1-N1-ST10	235518	01WESTVA	237506	01CROSSCHOOL	1	138/138	201/201	Summer Thermal	Included
2024W1-IPD-S149	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-S150	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-S147	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-S148	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-S151	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-S152	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM126	235544	01BOONES	235544	01BOONES	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM127	235544	01BOONES	235544	01BOONES	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM366	235523	01BETHEL+	235523	01BETHEL+	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM124	235554	01WJEFFERSON	235554	01WJEFFERSON	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM367	235523	01BETHEL+	235523	01BETHEL+	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM125	235554	01WJEFFERSON	235554	01WJEFFERSON	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S145	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1-IPD-S146	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1-N1-ST6	235492	01MTZION	235518	01WESTVA	1	138/138	201/201	Summer Thermal	Included
2024W1-IPD-S144	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1-N1-ST7	235492	01MTZION	235518	01WESTVA	1	138/138	201/201	Summer Thermal	Included
2024W1N1SVM140	235532	01ALIGN_DATA	235532	01ALIGN_DATA	1	230	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1-GD-S107	235389	01POWELM	235296	01BAYS	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM141	235532	01ALIGN_DATA	235532	01ALIGN_DATA	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM138	235543	01FROSTN	235543	01FROSTN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM139	235543	01FROSTN	235543	01FROSTN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM144	235532	01ALIGN_DATA	235532	01ALIGN_DATA	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S470	235334	01GLENFL	235306	01BRIDGP	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM145	235532	01ALIGN_DATA	235532	01ALIGN_DATA	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM142	235532	01ALIGN_DATA	235532	01ALIGN_DATA	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S763	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM143	235532	01ALIGN_DATA	235532	01ALIGN_DATA	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S764	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM137	235543	01FROSTN	235543	01FROSTN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM135	235543	01FROSTN	235543	01FROSTN	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S790	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S327	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM136	235543	01FROSTN	235543	01FROSTN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM151	235521	01NMARKT	235521	01NMARKT	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM152	235521	01NMARKT	235521	01NMARKT	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM149	235521	01NMARKT	235521	01NMARKT	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM150	235521	01NMARKT	235521	01NMARKT	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM155	235514	01QUANTUM400	235514	01QUANTUM400	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S478	235334	01GLENFL	235306	01BRIDGP	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM156	235514	01QUANTUM400	235514	01QUANTUM400	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM153	235521	01NMARKT	235521	01NMARKT	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM154	235514	01QUANTUM400	235514	01QUANTUM400	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM148	235521	01NMARKT	235521	01NMARKT	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S332	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM146	235532	01ALIGN_DATA	235532	01ALIGN_DATA	1	230	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1-GD-S331	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM147	235521	01NMARKT	235521	01NMARKT	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM162	235506	01RINGLD	235506	01RINGLD	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM768	235533	01PRATTS	235533	01PRATTS	1	115	201	Summer Voltage Magnitude	Included
2024W1N1SVM163	235506	01RINGLD	235506	01RINGLD	1	230	201	Summer Voltage Magnitude	Included
2024W1-N1-ST41	243347	05TIDD 3-4	235363	01MAHNSL	1	138/138	205/201	Summer Thermal	Included
2024W1N1SVM160	235514	01QUANTUM400	235514	01QUANTUM400	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM161	235506	01RINGLD	235506	01RINGLD	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S309	237506	01CROSSCHOOL	235446	01BLACKO	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM166	235506	01RINGLD	235506	01RINGLD	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S101	235389	01POWELM	235296	01BAYS	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM167	235506	01RINGLD	235506	01RINGLD	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-W117	235101	01BEDNGT	235445	01BEDNGT	2	500/138	201	Winter Gen Deliv	Included
2024W1-GD-S786	235492	01MTZION	235518	01WESTVA	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM164	235506	01RINGLD	235506	01RINGLD	1	230	201	Summer Voltage Magnitude	Included
2024W1-N1-ST42	243347	05TIDD 3-4	235363	01MAHNSL	1	138/138	205/201	Summer Thermal	Included
2024W1N1SVM165	235506	01RINGLD	235506	01RINGLD	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM158	235514	01QUANTUM400	235514	01QUANTUM400	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM159	235514	01QUANTUM400	235514	01QUANTUM400	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S316	243347	05TIDD 3-4	235363	01MAHNSL	1	138	201/205	Summer Gen Deliv	Included
2024W1-GD-S860	243347	05TIDD 3-4	235363	01MAHNSL	1	138	201/205	Summer Gen Deliv	Included
2024W1-GD-S312	237506	01CROSSCHOOL	235446	01BLACKO	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM157	235514	01QUANTUM400	235514	01QUANTUM400	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S787	235389	01POWELM	235296	01BAYS	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S761	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S762	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S788	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S892	235492	01MTZION	235518	01WESTVA	1	138	201	Summer Gen Deliv	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1-GD-S893	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S789	235492	01MTZION	235518	01WESTVA	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S319	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1-N1-ST66	237506	01CROSSCHOOL	235446	01BLACKO	1	138/138	201/201	Summer Thermal	Included
2024W1-N1-ST67	237506	01CROSSCHOOL	235446	01BLACKO	1	138/138	201/201	Summer Thermal	Included
2024W1-N1-ST65	237506	01CROSSCHOOL	235446	01BLACKO	1	138/138	201/201	Summer Thermal	Included
2024W1-GD-S4	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S781	235431	01WOLFRN	235437	01SUTT T	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S440	235431	01WOLFRN	235437	01SUTT T	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S785	235431	01WOLFRN	235437	01SUTT T	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S782	235431	01WOLFRN	235437	01SUTT T	1	138	201	Summer Gen Deliv	Included
2024W1-N1-ST74	235490	01MORGAN	235453	01CHERYR	1	138/138	201/201	Summer Thermal	Included
2024W1-N1-ST72	235490	01MORGAN	235453	01CHERYR	1	138/138	201/201	Summer Thermal	Included
2024W1-N1-ST75	235490	01MORGAN	235453	01CHERYR	1	138/138	201/201	Summer Thermal	Included
2024W1-N1-ST70	235101	01BEDNGT	235445	01BEDNGT	4	500/138	201/201	Summer Thermal	Included
2024W1-GD-S456	235101	01BEDNGT	235445	01BEDNGT	2	500/138	201	Summer Gen Deliv	Included
2024W1-GD-S454	235389	01POWELM	235296	01BAYS	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S455	314797	4EDINBRG	235513	01STRASB	1	138	201/345	Summer Gen Deliv	Included
2024W1-GD-S458	235458	01DOUBS	235459	01DOUBS	5	138/230	201	Summer Gen Deliv	Included
2024W1N1SVM569	235475	01HALFWY	235475	01HALFWY	1	138	201	Summer Voltage Magnitude	Included
2024W1-N1-ST84	235490	01MORGAN	235453	01CHERYR	1	138/138	201/201	Summer Thermal	Included
2024W1N1SVM570	235475	01HALFWY	235475	01HALFWY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM568	235475	01HALFWY	235475	01HALFWY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM573	235474	01GREENW	235474	01GREENW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM574	235474	01GREENW	235474	01GREENW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM571	235474	01GREENW	235474	01GREENW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM572	235474	01GREENW	235474	01GREENW	1	138	201	Summer Voltage Magnitude	Included
2024W1-N1-ST87	238184	AF2-356 TAP	235492	01MTZION	1	138/138	201/201	Summer Thermal	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1-N1-ST80	235235	01FLINTRUN	235100	01FLINTRN	2	500/138	201/201	Summer Thermal	Included
2024W1-N1-ST81	235235	01FLINTRUN	235100	01FLINTRN	1	500/138	201/201	Summer Thermal	Included
2024W1-GD-S428	235102	01BELMNT	235299	01BELMNT	3	500/138	201	Summer Gen Deliv	Included
2024W1N1SVM580	235471	01GORE	235471	01GORE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM581	235471	01GORE	235471	01GORE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM578	235471	01GORE	235471	01GORE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM579	235471	01GORE	235471	01GORE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM584	235471	01GORE	235471	01GORE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM585	235469	01GARRET	235469	01GARRET	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM582	235471	01GORE	235471	01GORE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM583	235471	01GORE	235471	01GORE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM577	235474	01GREENW	235474	01GREENW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM575	235474	01GREENW	235474	01GREENW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM576	235474	01GREENW	235474	01GREENW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM591	235467	01FRNCHM	235467	01FRNCHM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM592	235467	01FRNCHM	235467	01FRNCHM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM589	235467	01FRNCHM	235467	01FRNCHM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM590	235467	01FRNCHM	235467	01FRNCHM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM595	235465	01FEAGNM	235465	01FEAGNM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM596	235465	01FEAGNM	235465	01FEAGNM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM593	235467	01FRNCHM	235467	01FRNCHM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM594	235465	01FEAGNM	235465	01FEAGNM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM588	235467	01FRNCHM	235467	01FRNCHM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM586	235468	01FROSTB	235468	01FROSTB	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM587	235467	01FRNCHM	235467	01FRNCHM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM602	235462	01EHAGER	235462	01EHAGER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM603	235462	01EHAGER	235462	01EHAGER	1	138	201	Summer Voltage Magnitude	Included
2024W1-N1-SVD6	235103	01BLACKO	235103	01BLACKO	1	500	201	Summer Voltage Drop	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM600	235465	01FEAGNM	235465	01FEAGNM	1	138	201	Summer Voltage Magnitude	Included
2024W1-N1-SVD7	235103	01BLACKO	235103	01BLACKO	1	500	201	Summer Voltage Drop	Included
2024W1N1SVM601	235462	01EHAGER	235462	01EHAGER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM606	235462	01EHAGER	235462	01EHAGER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM607	235462	01EHAGER	235462	01EHAGER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM604	235462	01EHAGER	235462	01EHAGER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM605	235462	01EHAGER	235462	01EHAGER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM598	235465	01FEAGNM	235465	01FEAGNM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM599	235465	01FEAGNM	235465	01FEAGNM	1	138	201	Summer Voltage Magnitude	Included
2024W1-N1-SVD5	235110	01MDWBRK	235110	01MDWBRK	1	500	201	Summer Voltage Drop	Included
2024W1N1SVM597	235465	01FEAGNM	235465	01FEAGNM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM371	235522	01BETHEL	235522	01BETHEL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM613	235458	01DOUBS	235458	01DOUBS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM372	235522	01BETHEL	235522	01BETHEL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM614	235458	01DOUBS	235458	01DOUBS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM369	235523	01BETHEL+	235523	01BETHEL+	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM611	235458	01DOUBS	235458	01DOUBS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM370	235523	01BETHEL+	235523	01BETHEL+	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM612	235458	01DOUBS	235458	01DOUBS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM375	235522	01BETHEL	235522	01BETHEL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM617	235457	01DTG	235457	01DTG	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM376	235522	01BETHEL	235522	01BETHEL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM373	235522	01BETHEL	235522	01BETHEL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM615	235457	01DTG	235457	01DTG	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM374	235522	01BETHEL	235522	01BETHEL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM616	235457	01DTG	235457	01DTG	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM609	235458	01DOUBS	235458	01DOUBS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM368	235523	01BETHEL+	235523	01BETHEL+	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM610	235458	01DOUBS	235458	01DOUBS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM608	235458	01DOUBS	235458	01DOUBS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM624	235454	01CUMBRL	235454	01CUMBRL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM382	235519	01W WINC	235519	01W WINC	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM625	235454	01CUMBRL	235454	01CUMBRL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM383	235519	01W WINC	235519	01W WINC	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM622	235454	01CUMBRL	235454	01CUMBRL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM380	235519	01W WINC	235519	01W WINC	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM623	235454	01CUMBRL	235454	01CUMBRL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM381	235519	01W WINC	235519	01W WINC	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM386	235517	01HARMNY	235517	01HARMNY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM387	235517	01HARMNY	235517	01HARMNY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM626	235453	01CHERYR	235453	01CHERYR	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM384	235519	01W WINC	235519	01W WINC	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM627	235453	01CHERYR	235453	01CHERYR	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM385	235518	01WESTVA	235518	01WESTVA	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM620	235457	01DTG	235457	01DTG	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM378	235519	01W WINC	235519	01W WINC	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM621	235457	01DTG	235457	01DTG	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM379	235519	01W WINC	235519	01W WINC	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM618	235457	01DTG	235457	01DTG	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM619	235457	01DTG	235457	01DTG	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM377	235522	01BETHEL	235522	01BETHEL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM635	235452	01CATOCT	235452	01CATOCT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM393	235516	01WALKER	235516	01WALKER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM636	235452	01CATOCT	235452	01CATOCT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM394	235516	01WALKER	235516	01WALKER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM633	235452	01CATOCT	235452	01CATOCT	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM391	235517	01HARMNY	235517	01HARMNY	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S349	235117	01KAMMER	235111	01 502 J	1	500	201	Summer Gen Deliv	Included
2024W1N1SVM634	235452	01CATOCT	235452	01CATOCT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM392	235517	01HARMNY	235517	01HARMNY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM397	235516	01WALKER	235516	01WALKER	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S352	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM637	235452	01CATOCT	235452	01CATOCT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM395	235516	01WALKER	235516	01WALKER	1	138	201	Summer Voltage Magnitude	Included
2024W1-32GD-S17	235110	01MDWBRK	313440	8VINTHIL	1	500	201/345	2032 Summer Gen Deliv	Included
2024W1N1SVM396	235516	01WALKER	235516	01WALKER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM628	235453	01CHERYR	235453	01CHERYR	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM631	235453	01CHERYR	235453	01CHERYR	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM389	235517	01HARMNY	235517	01HARMNY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM632	235453	01CHERYR	235453	01CHERYR	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM390	235517	01HARMNY	235517	01HARMNY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM629	235453	01CHERYR	235453	01CHERYR	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM630	235453	01CHERYR	235453	01CHERYR	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM388	235517	01HARMNY	235517	01HARMNY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM646	235448	01BOONES	235448	01BOONES	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM404	235515	01VISCOS	235515	01VISCOS	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S765	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM647	235448	01BOONES	235448	01BOONES	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM405	235515	01VISCOS	235515	01VISCOS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM644	235448	01BOONES	235448	01BOONES	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S354	235490	01MORGAN	235453	01CHERYR	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM402	235515	01VISCOS	235515	01VISCOS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM645	235448	01BOONES	235448	01BOONES	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM403	235515	01VISCOS	235515	01VISCOS	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1-GD-S23	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM406	235515	01VISCOS	235515	01VISCOS	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S356	235117	01KAMMER	235111	01 502 J	1	500	201	Summer Gen Deliv	Included
2024W1N1SVM407	235513	01STRASB	235513	01STRASB	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM638	235452	01CATOCT	235452	01CATOCT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM639	235452	01CATOCT	235452	01CATOCT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM642	235448	01BOONES	235448	01BOONES	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM400	235515	01VISCOS	235515	01VISCOS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM643	235448	01BOONES	235448	01BOONES	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM401	235515	01VISCOS	235515	01VISCOS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM640	235449	01CARLOS	235449	01CARLOS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM398	235516	01WALKER	235516	01WALKER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM641	235448	01BOONES	235448	01BOONES	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM399	235516	01WALKER	235516	01WALKER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM657	235444	01BART 1	235444	01BART 1	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM415	235512	01STONEW	235512	01STONEW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM416	235512	01STONEW	235512	01STONEW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM655	235445	01BEDNGT	235445	01BEDNGT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM413	235513	01STRASB	235513	01STRASB	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM656	235444	01BART 1	235444	01BART 1	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM414	235512	01STONEW	235512	01STONEW	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S333	242925	05KAMMER	235117	01KAMMER	1	765/500	201/205	Summer Gen Deliv	Included
2024W1N1SVM417	235512	01STONEW	235512	01STONEW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM649	235445	01BEDNGT	235445	01BEDNGT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM650	235445	01BEDNGT	235445	01BEDNGT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM408	235513	01STRASB	235513	01STRASB	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM648	235446	01BLACKO	235446	01BLACKO	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM653	235445	01BEDNGT	235445	01BEDNGT	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM411	235513	01STRASB	235513	01STRASB	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM654	235445	01BEDNGT	235445	01BEDNGT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM412	235513	01STRASB	235513	01STRASB	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM651	235445	01BEDNGT	235445	01BEDNGT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM409	235513	01STRASB	235513	01STRASB	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM652	235445	01BEDNGT	235445	01BEDNGT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM410	235513	01STRASB	235513	01STRASB	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S338	242925	05KAMMER	235117	01KAMMER	1	765/500	201/205	Summer Gen Deliv	Included
2024W1-GD-S337	242925	05KAMMER	235117	01KAMMER	1	765/500	201/205	Summer Gen Deliv	Included
2024W1-GD-S339	242925	05KAMMER	235117	01KAMMER	1	765/500	201/205	Summer Gen Deliv	Included
2024W1N1SVM426	235511	01PARAMT	235511	01PARAMT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM427	235511	01PARAMT	235511	01PARAMT	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S344	242925	05KAMMER	235117	01KAMMER	1	765/500	201/205	Summer Gen Deliv	Included
2024W1N1SVM666	235443	01ANTITM	235443	01ANTITM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM424	235511	01PARAMT	235511	01PARAMT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM667	235443	01ANTITM	235443	01ANTITM	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S342	235117	01KAMMER	235111	01 502 J	1	500	201	Summer Gen Deliv	Included
2024W1N1SVM425	235511	01PARAMT	235511	01PARAMT	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S346	235117	01KAMMER	235111	01 502 J	1	500	201	Summer Gen Deliv	Included
2024W1-32GD-S8	235105	01DOUBS	314939	8GOOSE CREEK	1	500	201/345	2032 Summer Gen Deliv	Included
2024W1-GD-S347	235490	01MORGAN	235453	01CHERYR	1	138	201	Summer Gen Deliv	Included
2024W1-32GD-S7	235105	01DOUBS	314939	8GOOSE CREEK	1	500	201/345	2032 Summer Gen Deliv	Included
2024W1-GD-S345	238184	AF2-356 TAP	235492	01MTZION	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM660	235444	01BART 1	235444	01BART 1	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM418	235512	01STONEW	235512	01STONEW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM661	235444	01BART 1	235444	01BART 1	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM419	235512	01STONEW	235512	01STONEW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM658	235444	01BART 1	235444	01BART 1	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM659	235444	01BART 1	235444	01BART 1	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM664	235443	01ANTITM	235443	01ANTITM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM422	235511	01PARAMT	235511	01PARAMT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM665	235443	01ANTITM	235443	01ANTITM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM423	235511	01PARAMT	235511	01PARAMT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM662	235444	01BART 1	235444	01BART 1	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM420	235512	01STONEW	235512	01STONEW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM663	235443	01ANTITM	235443	01ANTITM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM421	235511	01PARAMT	235511	01PARAMT	1	138	201	Summer Voltage Magnitude	Included
2024W1-32GD-S12	235117	01KAMMER	235111	01 502 J	1	500	201	2032 Summer Gen Deliv	Included
2024W1-32GD-S11	235117	01KAMMER	235111	01 502 J	1	500	201	2032 Summer Gen Deliv	Included
2024W1-32GD-S10	235117	01KAMMER	235111	01 502 J	1	500	201	2032 Summer Gen Deliv	Included
2024W1-GD-S348	238184	AF2-356 TAP	235492	01MTZION	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S350	235117	01KAMMER	235111	01 502 J	1	500	201	Summer Gen Deliv	Included
2024W1-32GD-S9	235105	01DOUBS	314939	8GOOSE CREEK	1	500	201/345	2032 Summer Gen Deliv	Included
2024W1-32GD-S16	235110	01MDWBRK	313440	8VINTHIL	1	500	201/345	2032 Summer Gen Deliv	Included
2024W1-32GD-S15	235110	01MDWBRK	313440	8VINTHIL	1	500	201/345	2032 Summer Gen Deliv	Included
2024W1-32GD-S14	235117	01KAMMER	235111	01 502 J	1	500	201	2032 Summer Gen Deliv	Included
2024W1-32GD-S13	235117	01KAMMER	235111	01 502 J	1	500	201	2032 Summer Gen Deliv	Included
2024W1N1SVM437	235509	01RPSMTH	235509	01RPSMTH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM435	235509	01RPSMTH	235509	01RPSMTH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM436	235509	01RPSMTH	235509	01RPSMTH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM429	235510	01SPERYV	235510	01SPERYV	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM430	235510	01SPERYV	235510	01SPERYV	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM428	235510	01SPERYV	235510	01SPERYV	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM433	235510	01SPERYV	235510	01SPERYV	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM434	235510	01SPERYV	235510	01SPERYV	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM431	235510	01SPERYV	235510	01SPERYV	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM432	235510	01SPERYV	235510	01SPERYV	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S237	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S238	235235	01FLINTRUN	235100	01FLINTRN	2	500/138	201	Summer IPD	Included
2024W1-IPD-S235	235235	01FLINTRUN	235100	01FLINTRN	2	500/138	201	Summer IPD	Included
2024W1-IPD-S236	235235	01FLINTRUN	235100	01FLINTRN	1	500/138	201	Summer IPD	Included
2024W1-IPD-S241	235235	01FLINTRUN	235100	01FLINTRN	1	500/138	201	Summer IPD	Included
2024W1-IPD-S242	235235	01FLINTRUN	235100	01FLINTRN	2	500/138	201	Summer IPD	Included
2024W1-IPD-S239	235235	01FLINTRUN	235100	01FLINTRN	1	500/138	201	Summer IPD	Included
2024W1-IPD-S240	235235	01FLINTRUN	235100	01FLINTRN	2	500/138	201	Summer IPD	Included
2024W1-IPD-S233	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-S234	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM446	235508	01SHEPRD	235508	01SHEPRD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM447	235508	01SHEPRD	235508	01SHEPRD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM440	235509	01RPSMTH	235509	01RPSMTH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM441	235509	01RPSMTH	235509	01RPSMTH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM438	235509	01RPSMTH	235509	01RPSMTH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM439	235509	01RPSMTH	235509	01RPSMTH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM444	235508	01SHEPRD	235508	01SHEPRD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM445	235508	01SHEPRD	235508	01SHEPRD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM442	235508	01SHEPRD	235508	01SHEPRD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM443	235508	01SHEPRD	235508	01SHEPRD	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S248	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S249	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S246	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-S247	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S252	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S250	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S251	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1-IPD-S244	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S245	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S243	235235	01FLINTRUN	235100	01FLINTRN	1	500/138	201	Summer IPD	Included
2024W1-32GD-S4	235105	01DOUBS	313403	8ASPEN	1	500	201/345	2032 Summer Gen Deliv	Included
2024W1-32GD-S3	235105	01DOUBS	313403	8ASPEN	1	500	201/345	2032 Summer Gen Deliv	Included
2024W1N1SVM457	235505	01RINGLD	235505	01RINGLD	1	138	201	Summer Voltage Magnitude	Included
2024W1-32GD-S2	235105	01DOUBS	313403	8ASPEN	1	500	201/345	2032 Summer Gen Deliv	Included
2024W1-32GD-S1	235105	01DOUBS	313403	8ASPEN	1	500	201/345	2032 Summer Gen Deliv	Included
2024W1-32GD-S6	235105	01DOUBS	314939	8GOOSE CREEK	1	500	201/345	2032 Summer Gen Deliv	Included
2024W1-32GD-S5	235105	01DOUBS	314939	8GOOSE CREEK	1	500	201/345	2032 Summer Gen Deliv	Included
2024W1N1SVM451	235507	01RIVERT	235507	01RIVERT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM452	235507	01RIVERT	235507	01RIVERT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM449	235507	01RIVERT	235507	01RIVERT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM450	235507	01RIVERT	235507	01RIVERT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM455	235507	01RIVERT	235507	01RIVERT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM456	235505	01RINGLD	235505	01RINGLD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM453	235507	01RIVERT	235507	01RIVERT	1	138	201	Summer Voltage Magnitude	Included
2024W1-32GD-W23	235105	01DOUBS	314939	8GOOSE CREEK	1	500	201/345	2032 Winter Gen Deliv	Included
2024W1N1SVM454	235507	01RIVERT	235507	01RIVERT	1	138	201	Summer Voltage Magnitude	Included
2024W1-32GD-W22	235105	01DOUBS	314939	8GOOSE CREEK	1	500	201/345	2032 Winter Gen Deliv	Included
2024W1N1SVM448	235508	01SHEPRD	235508	01SHEPRD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM462	235505	01RINGLD	235505	01RINGLD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM463	235504	01RIDGLY	235504	01RIDGLY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM460	235505	01RINGLD	235505	01RINGLD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM461	235505	01RINGLD	235505	01RINGLD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM466	235504	01RIDGLY	235504	01RIDGLY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM467	235504	01RIDGLY	235504	01RIDGLY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM464	235504	01RIDGLY	235504	01RIDGLY	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM465	235504	01RIDGLY	235504	01RIDGLY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM458	235505	01RINGLD	235505	01RINGLD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM459	235505	01RINGLD	235505	01RINGLD	1	138	201	Summer Voltage Magnitude	Included
2024W1-32GD-LL10	235105	01DOUBS	314939	8GOOSE CREEK	1	500	201/345	2032 Light Load Gen Deliv	Included
2024W1-32GD-LL9	235105	01DOUBS	314939	8GOOSE CREEK	1	500	201/345	2032 Light Load Gen Deliv	Included
2024W1-32GD-LL8	235105	01DOUBS	314939	8GOOSE CREEK	1	500	201/345	2032 Light Load Gen Deliv	Included
2024W1-32GD-LL7	235105	01DOUBS	313403	8ASPEN	1	500	201/345	2032 Light Load Gen Deliv	Included
2024W1-32GD-LL13	235105	01DOUBS	314939	8GOOSE CREEK	1	500	201/345	2032 Light Load Gen Deliv	Included
2024W1-32GD-LL12	235105	01DOUBS	314939	8GOOSE CREEK	1	500	201/345	2032 Light Load Gen Deliv	Included
2024W1-32GD-LL11	235105	01DOUBS	314939	8GOOSE CREEK	1	500	201/345	2032 Light Load Gen Deliv	Included
2024W1N1SVM178	235491	01MTAIRY	235491	01MTAIRY	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S416	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM176	235491	01MTAIRY	235491	01MTAIRY	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM177	235491	01MTAIRY	235491	01MTAIRY	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM170	235494	01OLDFRM	235494	01OLDFRM	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM171	235494	01OLDFRM	235494	01OLDFRM	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM168	235494	01OLDFRM	235494	01OLDFRM	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM169	235494	01OLDFRM	235494	01OLDFRM	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S71	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM174	235494	01OLDFRM	235494	01OLDFRM	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM175	235491	01MTAIRY	235491	01MTAIRY	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM172	235494	01OLDFRM	235494	01OLDFRM	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM173	235494	01OLDFRM	235494	01OLDFRM	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM188	235489	01MONTGY	235489	01MONTGY	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM189	235488	01MONOCY	235488	01MONOCY	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM187	235489	01MONTGY	235489	01MONTGY	1	230	201	Summer Voltage Magnitude	Included
2024W1-N1-WVD2	235103	01BLACKO	235103	01BLACKO	1	500	201	Winter Voltage Drop	Included
2024W1N1SVM181	235491	01MTAIRY	235491	01MTAIRY	1	230	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1-N1-WVD1	235103	01BLACKO	235103	01BLACKO	1	500	201	Winter Voltage Drop	Included
2024W1N1SVM182	235489	01MONTGY	235489	01MONTGY	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM179	235491	01MTAIRY	235491	01MTAIRY	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM180	235491	01MTAIRY	235491	01MTAIRY	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM185	235489	01MONTGY	235489	01MONTGY	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S779	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM186	235489	01MONTGY	235489	01MONTGY	1	230	201	Summer Voltage Magnitude	Included
2024W1-N1-WVD4	235103	01BLACKO	235103	01BLACKO	1	500	201	Winter Voltage Drop	Included
2024W1N1SVM183	235489	01MONTGY	235489	01MONTGY	1	230	201	Summer Voltage Magnitude	Included
2024W1-N1-WVD3	235103	01BLACKO	235103	01BLACKO	1	500	201	Winter Voltage Drop	Included
2024W1N1SVM184	235489	01MONTGY	235489	01MONTGY	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM199	235482	01MCCAIN	235482	01MCCAIN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM200	235482	01MCCAIN	235482	01MCCAIN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM198	235482	01MCCAIN	235482	01MCCAIN	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S295	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM192	235488	01MONOCY	235488	01MONOCY	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S296	235296	01BAYS	235389	01POWELM	1	138	201	Summer IPD	Included
2024W1N1SVM193	235488	01MONOCY	235488	01MONOCY	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S293	235467	01FRNCHM	235592	01HAMPS45	1	138	201	Summer IPD	Included
2024W1N1SVM190	235488	01MONOCY	235488	01MONOCY	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S294	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM191	235488	01MONOCY	235488	01MONOCY	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S299	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM196	235482	01MCCAIN	235482	01MCCAIN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM197	235482	01MCCAIN	235482	01MCCAIN	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S297	235296	01BAYS	235389	01POWELM	1	138	201	Summer IPD	Included
2024W1N1SVM194	235488	01MONOCY	235488	01MONOCY	1	230	201	Summer Voltage Magnitude	Included
2024W1-N1-WT7	235101	01BEDNGT	235445	01BEDNGT	2	500/138	201/201	Winter Thermal	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1-IPD-S298	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM195	235488	01MONOCY	235488	01MONOCY	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM210	235466	01FREDRK	235466	01FREDRK	1	230	201	Summer Voltage Magnitude	Included
2024W1-N1-ST88	238184	AF2-356 TAP	235492	01MTZION	1	138/138	201/201	Summer Thermal	Included
2024W1N1SVM211	235466	01FREDRK	235466	01FREDRK	1	230	201	Summer Voltage Magnitude	Included
2024W1-N1-ST89	238184	AF2-356 TAP	235492	01MTZION	1	138/138	201/201	Summer Thermal	Included
2024W1N1SVM208	235481	01LIMEKN	235481	01LIMEKN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM209	235481	01LIMEKN	235481	01LIMEKN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM203	235481	01LIMEKN	235481	01LIMEKN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM204	235481	01LIMEKN	235481	01LIMEKN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM201	235482	01MCCAIN	235482	01MCCAIN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM202	235482	01MCCAIN	235482	01MCCAIN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM207	235481	01LIMEKN	235481	01LIMEKN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM205	235481	01LIMEKN	235481	01LIMEKN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM206	235481	01LIMEKN	235481	01LIMEKN	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM218	235461	01SAGE	235461	01SAGE	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM221	235461	01SAGE	235461	01SAGE	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM222	235461	01SAGE	235461	01SAGE	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM219	235461	01SAGE	235461	01SAGE	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM220	235461	01SAGE	235461	01SAGE	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S281	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S282	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S279	235467	01FRNCHM	235479	01JUNCTN	1	138	201	Summer IPD	Included
2024W1-IPD-S37	235363	01MAHNSL	243347	05TIDD 3-4	1	138	201/205	Summer IPD	Included
2024W1-IPD-S280	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM214	235466	01FREDRK	235466	01FREDRK	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S273	235486	01MILLVL	235597	01LOVETT	1	138	201	Summer IPD	Included
2024W1-IPD-S274	235296	01BAYS	235389	01POWELM	1	138	201	Summer IPD	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM215	235466	01FREDRK	235466	01FREDRK	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM212	235466	01FREDRK	235466	01FREDRK	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM213	235466	01FREDRK	235466	01FREDRK	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S277	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S278	235486	01MILLVL	235597	01LOVETT	1	138	201	Summer IPD	Included
2024W1-IPD-S36	235363	01MAHNSL	243347	05TIDD 3-4	1	138	201/205	Summer IPD	Included
2024W1N1SVM216	235466	01FREDRK	235466	01FREDRK	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S275	235467	01FRNCHM	235479	01JUNCTN	1	138	201	Summer IPD	Included
2024W1-IPD-S276	235467	01FRNCHM	235479	01JUNCTN	1	138	201	Summer IPD	Included
2024W1N1SVM217	235461	01SAGE	235461	01SAGE	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM228	235460	01EAGLEH	235460	01EAGLEH	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM229	235460	01EAGLEH	235460	01EAGLEH	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM232	235459	01DOUBS	235459	01DOUBS	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM233	235459	01DOUBS	235459	01DOUBS	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM230	235460	01EAGLEH	235460	01EAGLEH	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM231	235459	01DOUBS	235459	01DOUBS	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S292	235471	01GORE	235599	01HAMPS64	1	138	201	Summer IPD	Included
2024W1-IPD-S290	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S291	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S284	235296	01BAYS	235389	01POWELM	1	138	201	Summer IPD	Included
2024W1N1SVM225	235460	01EAGLEH	235460	01EAGLEH	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM226	235460	01EAGLEH	235460	01EAGLEH	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S285	235471	01GORE	235599	01HAMPS64	1	138	201	Summer IPD	Included
2024W1N1SVM223	235461	01SAGE	235461	01SAGE	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S283	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM224	235460	01EAGLEH	235460	01EAGLEH	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S288	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-IPD-S289	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM227	235460	01EAGLEH	235460	01EAGLEH	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S286	235467	01FRNCHM	235592	01HAMPS45	1	138	201	Summer IPD	Included
2024W1-IPD-S287	235486	01MILLVL	235597	01LOVETT	1	138	201	Summer IPD	Included
2024W1N1SVM239	235456	01AQUEDT	235456	01AQUEDT	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM240	235456	01AQUEDT	235456	01AQUEDT	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM238	235456	01AQUEDT	235456	01AQUEDT	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM243	235456	01AQUEDT	235456	01AQUEDT	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM244	235456	01AQUEDT	235456	01AQUEDT	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM241	235456	01AQUEDT	235456	01AQUEDT	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM242	235456	01AQUEDT	235456	01AQUEDT	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S259	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S260	235467	01FRNCHM	235479	01JUNCTN	1	138	201	Summer IPD	Included
2024W1-IPD-S257	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S258	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S261	235445	01BEDNGT	235101	01BEDNGT	2	138/500	201	Summer IPD	Included
2024W1-IPD-S262	235486	01MILLVL	235597	01LOVETT	1	138	201	Summer IPD	Included
2024W1N1SVM236	235459	01DOUBS	235459	01DOUBS	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM237	235459	01DOUBS	235459	01DOUBS	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM234	235459	01DOUBS	235459	01DOUBS	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM235	235459	01DOUBS	235459	01DOUBS	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S255	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S256	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S253	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S254	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM250	235455	01DAMASC	235455	01DAMASC	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM251	235455	01DAMASC	235455	01DAMASC	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM248	235455	01DAMASC	235455	01DAMASC	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM249	235455	01DAMASC	235455	01DAMASC	1	230	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM254	235451	01CARROL	235451	01CARROL	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM255	235451	01CARROL	235451	01CARROL	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM252	235451	01CARROL	235451	01CARROL	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM253	235451	01CARROL	235451	01CARROL	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S270	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S271	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S268	235467	01FRNCHM	235479	01JUNCTN	1	138	201	Summer IPD	Included
2024W1-IPD-S269	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S272	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM247	235455	01DAMASC	235455	01DAMASC	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S263	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM245	235455	01DAMASC	235455	01DAMASC	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM246	235455	01DAMASC	235455	01DAMASC	1	230	201	Summer Voltage Magnitude	Included
2024W1-IPD-S266	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S267	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1-IPD-S264	235467	01FRNCHM	235479	01JUNCTN	1	138	201	Summer IPD	Included
2024W1-IPD-S265	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM261	237323	01GARFIELD	237323	01GARFIELD	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S387	235102	01BELMNT	235235	01FLINTRUN	1	500	201	Summer Gen Deliv	Included
2024W1N1SVM262	237323	01GARFIELD	237323	01GARFIELD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM259	237513	01ROTHROCK	237513	01ROTHROCK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM260	237506	01CROSSCHOOL	237506	01CROSSCHOOL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM265	237323	01GARFIELD	237323	01GARFIELD	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S388	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM266	237323	01GARFIELD	237323	01GARFIELD	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S62	238184	AF2-356 TAP	235492	01MTZION	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM263	237323	01GARFIELD	237323	01GARFIELD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM264	237323	01GARFIELD	237323	01GARFIELD	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM258	235451	01CARROL	235451	01CARROL	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S391	235389	01POWELM	235296	01BAYS	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM256	235451	01CARROL	235451	01CARROL	1	230	201	Summer Voltage Magnitude	Included
2024W1N1SVM257	235451	01CARROL	235451	01CARROL	1	230	201	Summer Voltage Magnitude	Included
2024W1-GD-S393	235486	01MILLVL	235597	01LOVETT	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S394	235492	01MTZION	235518	01WESTVA	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM267	237323	01GARFIELD	237323	01GARFIELD	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S776	235389	01POWELM	235296	01BAYS	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S46	237506	01CROSSCHOOL	235446	01BLACKO	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S370	235467	01FRNCHM	235592	01HAMPS45	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S371	235389	01POWELM	235296	01BAYS	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S369	235599	01HAMPS64	235471	01GORE	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S373	235599	01HAMPS64	235471	01GORE	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S382	235101	01BEDNGT	235445	01BEDNGT	4	500/138	201	Summer Gen Deliv	Included
2024W1-GD-S374	235467	01FRNCHM	235592	01HAMPS45	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S775	235389	01POWELM	235296	01BAYS	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S384	235102	01BELMNT	235235	01FLINTRUN	1	500	201	Summer Gen Deliv	Included
2024W1-GD-S383	235492	01MTZION	235518	01WESTVA	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S385	235102	01BELMNT	235235	01FLINTRUN	1	500	201	Summer Gen Deliv	Included
2024W1N1SVM668	235443	01ANTITM	235443	01ANTITM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM63	235112	01PRNTY	235112	01PRNTY	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM669	235443	01ANTITM	235443	01ANTITM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM64	235112	01PRNTY	235112	01PRNTY	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM62	235112	01PRNTY	235112	01PRNTY	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM67	235112	01PRNTY	235112	01PRNTY	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM672	235405	01S MORG	235405	01S MORG	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S40	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM673	235403	01SNWYCK	235403	01SNWYCK	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM65	235112	01PRNTY	235112	01PRNTY	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM670	235427	01WILLIM	235427	01WILLIM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM66	235112	01PRNTY	235112	01PRNTY	1	500	201	Summer Voltage Magnitude	Included
2024W1N1SVM671	235405	01S MORG	235405	01S MORG	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S366	235479	01JUNCTN	235467	01FRNCHM	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S42	235490	01MORGAN	235453	01CHERYR	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S43	235490	01MORGAN	235453	01CHERYR	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S875	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S773	235389	01POWELM	235296	01BAYS	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM679	235399	01VOLGA TAP	235399	01VOLGA TAP	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM680	235390	01PRICEH	235390	01PRICEH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM678	235399	01VOLGA TAP	235399	01VOLGA TAP	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S367	235479	01JUNCTN	235467	01FRNCHM	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM683	235385	01PARSNS	235385	01PARSNS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM684	235359	01LEERWEST	235359	01LEERWEST	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM681	235390	01PRICEH	235390	01PRICEH	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM682	235385	01PARSNS	235385	01PARSNS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM676	235399	01VOLGA TAP	235399	01VOLGA TAP	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S774	235389	01POWELM	235296	01BAYS	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM677	235399	01VOLGA TAP	235399	01VOLGA TAP	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM674	235402	01SNOW T	235402	01SNOW T	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM675	235400	01SENECA	235400	01SENECA	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM690	235352	01LEERSS	235352	01LEERSS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM691	235342	01BRKHVN	235342	01BRKHVN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM688	235352	01LEERSS	235352	01LEERSS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM689	235352	01LEERSS	235352	01LEERSS	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM694	235327	01ELKGRD	235327	01ELKGRD	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S214	235235	01FLINTRUN	235100	01FLINTRN	1	500/138	201	Summer IPD	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM695	235320	01DENVER	235320	01DENVER	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S215	235235	01FLINTRUN	235100	01FLINTRN	2	500/138	201	Summer IPD	Included
2024W1N1SVM692	235338	01GRAFTN	235338	01GRAFTN	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S213	235235	01FLINTRUN	235100	01FLINTRN	1	500/138	201	Summer IPD	Included
2024W1N1SVM693	235338	01GRAFTN	235338	01GRAFTN	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S218	235235	01FLINTRUN	235100	01FLINTRN	2	500/138	201	Summer IPD	Included
2024W1N1SVM687	235352	01LEERSS	235352	01LEERSS	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S219	235492	01MTZION	238184	AF2-356 TAP	1	138	201	Summer IPD	Included
2024W1-IPD-S216	235453	01CHERYR	235490	01MORGAN	1	138	201	Summer IPD	Included
2024W1N1SVM685	235359	01LEERWEST	235359	01LEERWEST	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S217	235235	01FLINTRUN	235100	01FLINTRN	1	500/138	201	Summer IPD	Included
2024W1N1SVM686	235356	01KINGWD	235356	01KINGWD	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S222	235492	01MTZION	238184	AF2-356 TAP	1	138	201	Summer IPD	Included
2024W1-IPD-S220	235492	01MTZION	238184	AF2-356 TAP	1	138	201	Summer IPD	Included
2024W1-IPD-S221	235453	01CHERYR	235490	01MORGAN	1	138	201	Summer IPD	Included
2024W1N1SVM701	235310	01CANANV	235310	01CANANV	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM702	235285	01TEX E6	235285	01TEX E6	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM699	235314	01CORDER	235314	01CORDER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM700	235313	01BACKBONEMT	235313	01BACKBONEMT	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S225	235492	01MTZION	238184	AF2-356 TAP	1	138	201	Summer IPD	Included
2024W1N1SVM705	235271	01WWAYNE	235271	01WWAYNE	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S226	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer IPD	Included
2024W1N1SVM706	235271	01WWAYNE	235271	01WWAYNE	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S223	235492	01MTZION	238184	AF2-356 TAP	1	138	201	Summer IPD	Included
2024W1N1SVM703	235285	01TEX E6	235285	01TEX E6	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S224	235492	01MTZION	238184	AF2-356 TAP	1	138	201	Summer IPD	Included
2024W1N1SVM704	235285	01TEX E6	235285	01TEX E6	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM698	235314	01CORDER	235314	01CORDER	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1-GD-S874	235492	01MTZION	235518	01WESTVA	1	138	201	Summer Gen Deliv	Included
2024W1-IPD-S229	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1-GD-S32	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1-IPD-S230	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1-GD-S29	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM696	235314	01CORDER	235314	01CORDER	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S227	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1N1SVM697	235314	01CORDER	235314	01CORDER	1	138	201	Summer Voltage Magnitude	Included
2024W1-IPD-S228	235492	01MTZION	235518	01WESTVA	1	138	201	Summer IPD	Included
2024W1-GD-S359	235235	01FLINTRUN	235100	01FLINTRN	1	500/138	201	Summer Gen Deliv	Included
2024W1-IPD-S231	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1-GD-S358	235235	01FLINTRUN	235100	01FLINTRN	2	500/138	201	Summer Gen Deliv	Included
2024W1-IPD-S232	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer IPD	Included
2024W1N1SVM470	235503	01REID	235503	01REID	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM712	235267	01WARFOR	235267	01WARFOR	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM471	235503	01REID	235503	01REID	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM713	235267	01WARFOR	235267	01WARFOR	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM468	235504	01RIDGLY	235504	01RIDGLY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM710	235271	01WWAYNE	235271	01WWAYNE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM469	235504	01RIDGLY	235504	01RIDGLY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM711	235271	01WWAYNE	235271	01WWAYNE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM474	235503	01REID	235503	01REID	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM716	235267	01WARFOR	235267	01WARFOR	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM475	235503	01REID	235503	01REID	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM717	235267	01WARFOR	235267	01WARFOR	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM472	235503	01REID	235503	01REID	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM714	235267	01WARFOR	235267	01WARFOR	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM473	235503	01REID	235503	01REID	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM715	235267	01WARFOR	235267	01WARFOR	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM708	235271	01WWAYNE	235271	01WWAYNE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM709	235271	01WWAYNE	235271	01WWAYNE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM707	235271	01WWAYNE	235271	01WWAYNE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM723	235189	01GUILFD	235189	01GUILFD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM481	235502	01REDBUD	235502	01REDBUD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM724	235187	01GRANDP	235187	01GRANDP	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM482	235502	01REDBUD	235502	01REDBUD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM721	235217	01MCCONL	235217	01MCCONL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM479	235502	01REDBUD	235502	01REDBUD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM722	235189	01GUILFD	235189	01GUILFD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM480	235502	01REDBUD	235502	01REDBUD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM727	235180	01FAYETT	235180	01FAYETT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM485	235500	01PAGE	235500	01PAGE	1	138	201	Summer Voltage Magnitude	Included
2024W1-32GD-LL3	235105	01DOUBS	313403	8ASPEN	1	500	201/345	2032 Light Load Gen Deliv	Included
2024W1N1SVM486	235500	01PAGE	235500	01PAGE	1	138	201	Summer Voltage Magnitude	Included
2024W1-32GD-LL2	235105	01DOUBS	313403	8ASPEN	1	500	201/345	2032 Light Load Gen Deliv	Included
2024W1N1SVM725	235187	01GRANDP	235187	01GRANDP	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM483	235502	01REDBUD	235502	01REDBUD	1	138	201	Summer Voltage Magnitude	Included
2024W1-32GD-LL1	235105	01DOUBS	313403	8ASPEN	1	500	201/345	2032 Light Load Gen Deliv	Included
2024W1N1SVM726	235187	01GRANDP	235187	01GRANDP	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM484	235501	01PARRN	235501	01PARRN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM719	235217	01MCCONL	235217	01MCCONL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM720	235217	01MCCONL	235217	01MCCONL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM478	235502	01REDBUD	235502	01REDBUD	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM718	235267	01WARFOR	235267	01WARFOR	1	138	201	Summer Voltage Magnitude	Included
2024W1-32GD-LL6	235105	01DOUBS	313403	8ASPEN	1	500	201/345	2032 Light Load Gen Deliv	Included
2024W1N1SVM476	235503	01REID	235503	01REID	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1-32GD-LL5	235105	01DOUBS	313403	8ASPEN	1	500	201/345	2032 Light Load Gen Deliv	Included
2024W1N1SVM477	235502	01REDBUD	235502	01REDBUD	1	138	201	Summer Voltage Magnitude	Included
2024W1-32GD-LL4	235105	01DOUBS	313403	8ASPEN	1	500	201/345	2032 Light Load Gen Deliv	Included
2024W1N1SVM734	235172	01EWAYNE	235172	01EWAYNE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM492	235499	01OPEQUN	235499	01OPEQUN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM735	235172	01EWAYNE	235172	01EWAYNE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM493	235499	01OPEQUN	235499	01OPEQUN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM732	235180	01FAYETT	235180	01FAYETT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM490	235500	01PAGE	235500	01PAGE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM733	235172	01EWAYNE	235172	01EWAYNE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM491	235500	01PAGE	235500	01PAGE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM496	235499	01OPEQUN	235499	01OPEQUN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM497	235499	01OPEQUN	235499	01OPEQUN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM736	235172	01EWAYNE	235172	01EWAYNE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM494	235499	01OPEQUN	235499	01OPEQUN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM737	235172	01EWAYNE	235172	01EWAYNE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM495	235499	01OPEQUN	235499	01OPEQUN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM730	235180	01FAYETT	235180	01FAYETT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM488	235500	01PAGE	235500	01PAGE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM731	235180	01FAYETT	235180	01FAYETT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM489	235500	01PAGE	235500	01PAGE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM728	235180	01FAYETT	235180	01FAYETT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM729	235180	01FAYETT	235180	01FAYETT	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM487	235500	01PAGE	235500	01PAGE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM745	235136	01ANTRIM	235136	01ANTRIM	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S288	235492	01MTZION	235518	01WESTVA	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM503	235498	01OCHAPL	235498	01OCHAPL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM746	235136	01ANTRIM	235136	01ANTRIM	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM504	235498	01OCHAPL	235498	01OCHAPL	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S289	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM743	235136	01ANTRIM	235136	01ANTRIM	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S286	235492	01MTZION	235518	01WESTVA	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM501	235498	01OCHAPL	235498	01OCHAPL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM744	235136	01ANTRIM	235136	01ANTRIM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM502	235498	01OCHAPL	235498	01OCHAPL	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S287	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM507	235496	01NSHEND	235496	01NSHEND	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S3	235492	01MTZION	235518	01WESTVA	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM747	235123	01MARLOW	235123	01MARLOW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM505	235498	01OCHAPL	235498	01OCHAPL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM506	235497	01OAKPRK	235497	01OAKPRK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM738	235172	01EWAYNE	235172	01EWAYNE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM741	235136	01ANTRIM	235136	01ANTRIM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM499	235498	01OCHAPL	235498	01OCHAPL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM742	235136	01ANTRIM	235136	01ANTRIM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM500	235498	01OCHAPL	235498	01OCHAPL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM739	235172	01EWAYNE	235172	01EWAYNE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM740	235136	01ANTRIM	235136	01ANTRIM	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM498	235499	01OPEQUN	235499	01OPEQUN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM514	235495	01NPETER	235495	01NPETER	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM756	235099	WOODSIDE	235099	WOODSIDE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM515	235490	01MORGAN	235490	01MORGAN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM757	235099	WOODSIDE	235099	WOODSIDE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM512	235496	01NSHEND	235496	01NSHEND	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM754	235099	WOODSIDE	235099	WOODSIDE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM513	235496	01NSHEND	235496	01NSHEND	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM755	235099	WOODSIDE	235099	WOODSIDE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM516	235490	01MORGAN	235490	01MORGAN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM517	235490	01MORGAN	235490	01MORGAN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM748	235123	01MARLOW	235123	01MARLOW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM749	235123	01MARLOW	235123	01MARLOW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM752	235123	01MARLOW	235123	01MARLOW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM510	235496	01NSHEND	235496	01NSHEND	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM753	235123	01MARLOW	235123	01MARLOW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM511	235496	01NSHEND	235496	01NSHEND	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM750	235123	01MARLOW	235123	01MARLOW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM508	235496	01NSHEND	235496	01NSHEND	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM751	235123	01MARLOW	235123	01MARLOW	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM509	235496	01NSHEND	235496	01NSHEND	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM525	235487	01MONOCY	235487	01MONOCY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM767	235533	01PRATTS	235533	01PRATTS	1	115	201	Summer Voltage Magnitude	Included
2024W1-32GD-S147	235098	WOODSIDE	235105	01DOUBS	1	500	201	2032 Summer Gen Deliv	Included
2024W1N1SVM526	235487	01MONOCY	235487	01MONOCY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM523	235487	01MONOCY	235487	01MONOCY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM765	235533	01PRATTS	235533	01PRATTS	1	115	201	Summer Voltage Magnitude	Included
2024W1N1SVM524	235487	01MONOCY	235487	01MONOCY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM766	235533	01PRATTS	235533	01PRATTS	1	115	201	Summer Voltage Magnitude	Included
2024W1-32GD-S150	235098	WOODSIDE	235105	01DOUBS	1	500	201	2032 Summer Gen Deliv	Included
2024W1N1SVM527	235487	01MONOCY	235487	01MONOCY	1	138	201	Summer Voltage Magnitude	Included
2024W1-32GD-S149	235098	WOODSIDE	235105	01DOUBS	1	500	201	2032 Summer Gen Deliv	Included
2024W1-32GD-S148	235098	WOODSIDE	235105	01DOUBS	1	500	201	2032 Summer Gen Deliv	Included
2024W1N1SVM759	235099	WOODSIDE	235099	WOODSIDE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM518	235490	01MORGAN	235490	01MORGAN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM760	235099	WOODSIDE	235099	WOODSIDE	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM758	235099	WOODSIDE	235099	WOODSIDE	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM521	235490	01MORGAN	235490	01MORGAN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM763	235533	01PRATTS	235533	01PRATTS	1	115	201	Summer Voltage Magnitude	Included
2024W1N1SVM522	235487	01MONOCY	235487	01MONOCY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM764	235533	01PRATTS	235533	01PRATTS	1	115	201	Summer Voltage Magnitude	Included
2024W1N1SVM519	235490	01MORGAN	235490	01MORGAN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM761	235050	01SULPHURCTY	235050	01SULPHURCTY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM520	235490	01MORGAN	235490	01MORGAN	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM762	235533	01PRATTS	235533	01PRATTS	1	115	201	Summer Voltage Magnitude	Included
2024W1N1SVM536	235485	01METTIK+	235485	01METTIK+	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S401	235518	01WESTVA	237506	01CROSSCHOOL	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM537	235484	01MESSCK	235484	01MESSCK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM534	235486	01MILLVL	235486	01MILLVL	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S66	235296	01BAYS	235431	01WOLFRN	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM535	235486	01MILLVL	235486	01MILLVL	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S405	235389	01POWELM	235296	01BAYS	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S403	235389	01POWELM	235296	01BAYS	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM528	235487	01MONOCY	235487	01MONOCY	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM529	235486	01MILLVL	235486	01MILLVL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM532	235486	01MILLVL	235486	01MILLVL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM533	235486	01MILLVL	235486	01MILLVL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM530	235486	01MILLVL	235486	01MILLVL	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM531	235486	01MILLVL	235486	01MILLVL	1	138	201	Summer Voltage Magnitude	Included
2024W1-GD-S413	235492	01MTZION	235518	01WESTVA	1	138	201	Summer Gen Deliv	Included
2024W1-GD-S778	235492	01MTZION	235518	01WESTVA	1	138	201	Summer Gen Deliv	Included
2024W1N1SVM547	235483	01MDWBRK	235483	01MDWBRK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM545	235483	01MDWBRK	235483	01MDWBRK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM546	235483	01MDWBRK	235483	01MDWBRK	1	138	201	Summer Voltage Magnitude	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2024W1N1SVM539	235484	01MESSCK	235484	01MESSCK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM540	235484	01MESSCK	235484	01MESSCK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM538	235484	01MESSCK	235484	01MESSCK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM543	235484	01MESSCK	235484	01MESSCK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM544	235483	01MDWBRK	235483	01MDWBRK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM541	235484	01MESSCK	235484	01MESSCK	1	138	201	Summer Voltage Magnitude	Included
2024W1N1SVM542	235484	01MESSCK	235484	01MESSCK	1	138	201	Summer Voltage Magnitude	Included

New Flowgates

Confidential Information

Financial Information

Capital spend start date	01/2025
Construction start date	04/2027
Project Duration (In Months)	59

Cost Containment Commitment

Cost cap (in current year)	Confidential Information
Cost cap (in-service year)	Confidential Information

Components covered by cost containment

1. Amos - Welton Spring 765 kV Line - TRAILCo
2. Welton Spring Switchyard - TRAILCo
3. Welton Spring - Point of Rocks 765 kV Line - TRAILCo
4. Point of Rocks Substation - TRAILCo
5. Point of Rocks 500 kV Line Cut-Ins - TRAILCo

Cost elements covered by cost containment

Engineering & design	Yes
Permitting / routing / siting	No
ROW / land acquisition	No
Materials & equipment	No
Construction & commissioning	No
Construction management	No
Overheads & miscellaneous costs	No
Taxes	No
AFUDC	No
Escalation	No
Additional Information	Confidential Information
Is the proposer offering a binding cap on ROE?	Yes
Would this ROE cap apply to the determination of AFUDC?	No
Would the proposer seek to increase the proposed ROE if FERC finds that a higher ROE would not be unreasonable?	No
Is the proposer offering a Debt to Equity Ratio cap?	Confidential Information

Additional Comments

Please call or email with any questions.