

# Stork - Flys 500kV Greenfield Line and Substations

## General Information

Proposing entity name	Company confidential and proprietary information
Does the entity who is submitting this proposal intend to be the Designated Entity for this proposed project?	Company confidential and proprietary information
Company proposal ID	Company confidential and proprietary information
PJM Proposal ID	858
Project title	Stork - Flys 500kV Greenfield Line and Substations
Project description	Construct new Greenfield 500kV “Stork” station north of existing Brambleton station. Tap existing Goose Creek–Brambleton 500kV line. Construct 500kV 3-breaker ring bus. Construct new Greenfield 500/230kV “Flys” station south of existing “Roundtable” station, 230kV double bus double breaker layout. Tap existing Roundtable-Lockridge 230kV. Tap future Roundtable-Barrister 230kV. Rebuild 0.32 mi Roundtable-Flys circuits 1 & 2. Construct 5.04 miles single circuit underground 500kV line east of new Greenfield 500kV “Stork” 500kV station to the new Greenfield 500/230kV “Flys” station. Incumbent rebuild 0.69 miles of Roundtable–Buttermilk 230kV. Incumbent rebuild 2.1 miles of Roundtable-Waxpool 230kV. Incumbent rebuild 0.88 miles of Waxpool-Farmwell 230kV. Incumbent upgrade (6) CBs at Roundtable to 5000A. Incumbent voltage support to address voltage needs in the load area. These supports include an additional (2) 150 MVAR fixed shunt capacitor banks (or one 300 MVAR fixed) at Wishingstar 500 kV. An addition of (2) 150 MVAR fixed shunt capacitor banks (or one 300 MVAR fixed) at Goose Creek 500kV. Adding (1) 150MVAR fixed shunt capacitor bank to existing Cabin Run 230kV station. Adding (2) 150MVAR fixed shunt capacitor banks to existing Pacific 230kV station.
Email	Company confidential and proprietary information
Project in-service date	12/2027
Tie-line impact	Yes
Interregional project	No
Is the proposer offering a binding cap on capital costs?	Yes
Additional benefits	Company confidential and proprietary information

## Project Components

1. Stork 500kV Greenfield Substation
2. Stork - Flys 500 kV Underground Line
3. Flys 500/230kV Substation
4. Roundtable - Buttermilk 230kV Line Rebuild
5. Roundtable - Waxpool 230kV Line Rebuild
6. Waxpool - Farmwell 230kV Line Rebuild
7. Roundtable Station Upgrade
8. Wishingstar Station Upgrade
9. Cabin Run Station Upgrade
10. Pacific Station Upgrade
11. Goose Creek Station Upgrade

## Greenfield Substation Component

Component title	Stork 500kV Greenfield Substation
Project description	Company confidential and proprietary information
Substation name	Stork Substation
Substation description	Construct a new Greenfield 500kV station having (2) 500kV overhead lines; (1) 500kV underground line; a 500kV GIS (gas insulated substation) building having a 3-position ring bus with (3) 5000A circuit breakers; GIB (gas insulated bus) for the connections to the (2) 500kV overhead lines; relay equipment (housed inside the GIS building); AC power system; DC system; ground grid; control cables; conduits; cable trench; power cables; foundations; steel structures; buswork; switches; arresters; PT's; CCVT; line trap; and other associated items. This new station will be situated within a 190ft x 530ft fenced area.
Nominal voltage	AC
Nominal voltage	500

## Transformer Information

None

Major equipment description

Construct a 500kV GIS (gas insulated substation) building having a 3-position ring bus with (3) 5000A circuit breakers; GIB (gas insulated bus) for the connections to the (2) 500kV overhead lines.

**Normal ratings**

**Emergency ratings**

Summer (MVA)

3302.000000

3302.000000

Winter (MVA)

3302.000000

3302.000000

Environmental assessment

Several potential substation sites were vetted during the siting process with the current Stork Substation site selected as the preferred site. The existing property consists of transmission line ROW and tree cover. The proposed Stork station will be 8.1 acres in size and purchased in fee. There are not believed to be any environmental issues with this location in Loudoun County, Virginia. No National Wetlands Inventory (NWI) mapped wetlands are located on the parcel. There is a National Hydrography Dataset (NHD) mapped stream (Beaverdam Creek) located near the northwest corner of the purchased area, but none within the substation footprint or where the transmission lines would cross to tie into the substation. A desktop review of the Virginia Department of Conservation and Recreation (DCR) Natural Heritage Data Explorer database identified that the station is on a moderate ecological core site. Permanent impacts are limited to access roads and the substation site footprint. No impacts to wetlands or drainage features are anticipated on the parcel. Desktop studies and record reviews will be completed for the development parcel including an environmental site assessment(s), wetland and stream delineation, threatened and endangered species review, and cultural resources study. Following these studies, the station will be sited on the property and designed to avoid impacts to sensitive features. It is not anticipated that regulated wetlands or streams will be affected as part of this solution. Major regulatory approvals for the proposed solution would not be anticipated to exceed any general performance standard or require any variance to be readily permitted. A General Virginia Pollutant Discharge Elimination System (VPDES) Permit is required for the project, and will be administered by Loudoun County, who is delegated program authority by the Virginia Department of Environmental Quality. The VPDES permit submission will include a SWPPP, erosion and sediment control plan, stormwater management plan, and pollution prevention plan. The stormwater management plan will include a narrative that describes, among other things, the proposed stormwater management facilities, the limits of clearing and grading, and the proposed drainage patterns on the site, proposed buildings, roads, parking areas, utilities, and the total disturbed acreage for the site.

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 proposed Stork station will be 8.1 acres in size and located on undeveloped land in Loudoun County, Virginia. The station will be purchased in fee. Project land use is forested and utility ROW as verified through the Loudoun County Clerk of the Circuit Court Office. The private land requirements include the new station site/detention pond/grading, transmission line exits (located on the proposed station property) to the Proposing Entity’s facilities located just northeast and southeast of the proposed site. The Station site, transmission line exits (located on the proposed station property) and location of access roads were chosen to minimize impact to adjacent property owners. The Proposing Entity will use proven land acquisition process and approach that are successfully employed on projects over the years. The Proposing Entity’s initial land acquisition step is to verify current ownership by an examination of title, current property tax status, as well as document any liens, and or mortgages. The Proposing Entity will also research the status of the subsurface estate, whether or not it is severed from the surface. Once ownership is established, the Proposing Entity will negotiate with property owners based on the fair market value of the property needed for the station site and access road (both fee purchases). Market data studies and appraisals, both general and for specific tracts, will be conducted to establish values and a basis for acquisition negotiations. Good Faith negotiations must be made with all landowners. Negotiations will be done in an ethical, non-confrontational and non-threatening manner with the landowners. The long-term relationship with the landowners is paramount and will be kept in mind in all negotiations, and honesty, integrity and professionalism will be displayed at all times. Negotiations will continue as long as practical to reach a voluntary agreement. If, and only if, it becomes evident that a voluntary fee purchase agreement between the company and the property owner cannot be reached, and other viable alternatives do not exist the company would seek the necessary approvals in VA to exercise the right of eminent domain to secure required property through condemnation proceedings.
Construction responsibility	Company confidential and proprietary information
Benefits/Comments	Company confidential and proprietary information
<b>Component Cost Details - In Current Year \$</b>	
Engineering & design	Company confidential and proprietary information
Permitting / routing / siting	Company confidential and proprietary information

ROW / land acquisition	Company confidential and proprietary information
Materials & equipment	Company confidential and proprietary information
Construction & commissioning	Company confidential and proprietary information
Construction management	Company confidential and proprietary information
Overheads & miscellaneous costs	Company confidential and proprietary information
Contingency	Company confidential and proprietary information
Total component cost	\$46,420,330.00
Component cost (in-service year)	\$52,245,492.00

### Greenfield Transmission Line Component

Component title	Stork - Flys 500 kV Underground Line
Project description	Company confidential and proprietary information
Point A	Stork Station
Point B	Flys Station
Point C	

	Normal ratings	Emergency ratings
Summer (MVA)	3302.000000	3302.000000
Winter (MVA)	3302.000000	3302.000000
Conductor size and type	500kV 5000 kcmil copper conductor, XLPE insulated cable	
Nominal voltage	AC	
Nominal voltage	500	
Line construction type	Underground	

General route description

The Proposing Entity assessed environmental and land use constraints and opportunities within an area that included the proposed Stork and Fly substations as two endpoints. The evaluation resulted in the Bid Route of 5.04 miles. The 500kV line exits Stork Substation from the south, then travels underground in an easterly direction to the new Flys Substation. The 500kV line crosses multiple tributaries and streams. The underground 500kV line crosses up to seven existing transmission line circuits, however many identified constraints were avoided/minimized by constructing the line underground. No habitable structures are located within the proposed ROW. Overall, the Route selected is the most direct route between the two substations and has the least overall impact to land use and environmental resources based on the Proposing Entity's qualitative review. The Route significantly reduces the number of new access roads, reducing overall constructability impacts. Building the line underground and within road ROW significantly reduces the impacts on visual, natural and human environments. As such, the Bid Route represents a logical and constructible route.

Terrain description

The topography for the Stock–Flys 500kV underground line is flat throughout with a slow and steady decline in elevation as you travel west (~326') to east (~223') along the approximately 5.04 miles of proposed line. The line will be placed entirely within road right-of-way in a highly developed, primarily residential area in Loudoun County, Virginia.

Right-of-way width by segment

The Stork–Flys 500kV underground line will be 50 feet in width and will be placed entirely within road right-of-way. No private right-of-way will be required. This line best minimizes potential impacts to the natural and human environments.

Electrical transmission infrastructure crossings

-Lat: 38°59'16.84"N/Lon: 77°32'48.94"W, -Lat: 39° 0'15.39"N/Lon: 77°28'28.23"W, -Lat: 39° 0'23.47"N/Lon: 77°27'38.15"W, -Lat: 39° 0'5.85"N/Lon: 77°28'31.77"W, -Lat: 39° 0'8.07"N/Lon: 77°28'30.75"W

Civil infrastructure/major waterway facility crossing plan

The Stork – Flys 500 kV underground line crosses and runs parallel with multiple roadways. The line will be placed entirely within the road right-of-way and require a significant amount of coordination with local municipalities. The underground line will not involve any infrastructure/major waterway facility crossings.

Environmental impacts	Land use along the Bid Route corridor is road ROW. The route does not intersect any FEMA-mapped floodplains and/or floodway or NWI-mapped wetlands. Unnamed streams also bisect the route in various locations. Based on existing aerial photography, the proposed route likely passes unmapped wetland or drainage features. Desktop studies and record reviews will be conducted for wetlands and streams, hazardous materials, and cultural resources. No major environmental impacts or concerns were identified based on a preliminary desktop review. A General Virginia Pollutant Discharge Elimination System (VPDES) Permit is required for the project, and will be administered by Loudoun County, who is delegated program authority by the Virginia Department of Environmental Quality. The VPDES permit submission will include a SWPPP, erosion and sediment control plan, stormwater management plan, and pollution prevention plan. There would be no proposed stormwater management facilities associated with the linear project and therefore the work would not represent a risk to the overall project schedule, cost, or ability to meet the identified requirements of the RFP.
Tower characteristics	N/A - underground line
Construction responsibility	Company confidential and proprietary information
Benefits/Comments	Company confidential and proprietary information
<b>Component Cost Details - In Current Year \$</b>	
Engineering & design	Company confidential and proprietary information
Permitting / routing / siting	Company confidential and proprietary information
ROW / land acquisition	Company confidential and proprietary information
Materials & equipment	Company confidential and proprietary information
Construction & commissioning	Company confidential and proprietary information
Construction management	Company confidential and proprietary information
Overheads & miscellaneous costs	Company confidential and proprietary information
Contingency	Company confidential and proprietary information
Total component cost	\$266,729,379.00
Component cost (in-service year)	\$317,088,898.00

## Greenfield Substation Component

Component title	Flys 500/230kV Substation
Project description	Company confidential and proprietary information
Substation name	Flys Station
Substation description	Construct a 500/230kV station having a 500kV GIS (gas insulated substation) building with (1) 5000A circuit breaker and connections for (1) 500kV underground line and (2) 500kV transformers; GIB (gas insulated bus) for the connections to the (2) 500kV transformers; (2) 500/230kV auto-transformers connected in parallel (via 500kV GIS bus and a 230kV end bus), each consisting of (3) 500MVA, 1-phase units; (4) 230kV double CB/double bus strings; (8) 230kV, 5000A circuit breakers; (4) 230kV lines; a 16ft x 60ft DICM (drop-in control module); relay equipment; AC power system; DC system; ground grid; control cables; conduits; cable trench; power cables; foundations; steel structures; buswork; switches; arresters; PT's; CCVT's; and other associated items. This new station will be situated within a 550ft x 820ft fenced area.
Nominal voltage	AC
Nominal voltage	500/230

## Transformer Information

	Name	Capacity (MVA)		
Transformer	Transformer Bank 1	500		
	<b>High Side</b>	<b>Low Side</b>	<b>Tertiary</b>	
Voltage (kV)	500	230		
	Name	Capacity (MVA)		
Transformer	Transformer Bank 2	500		
	<b>High Side</b>	<b>Low Side</b>	<b>Tertiary</b>	
Voltage (kV)	500	230		



Major equipment description

500/230kV station having a 500kV GIS (gas insulated substation) building with: (1) 5000A circuit breaker and connections for (1) 500kV underground line; (2) 500kV transformers; GIB (gas insulated bus) for the connections to the (2) 500kV transformers; (2) 500/230kV auto-transformers connected in parallel (via 500kV GIS bus and a 230kV end bus), each consisting of (3) 500MVA 1-phase units (4) 230kV double CB/double bus strings; (8) 230kV, 5000A circuit breakers; (4) 230kV lines; (1) 16ft x 60ft DICM (drop-in control module)

**Normal ratings**

**Emergency ratings**

Summer (MVA)

3300.000000

3300.000000

Winter (MVA)

3300.000000

3300.000000

Environmental assessment

The proposed Flys station will be 15-acres in size and purchased in fee. There are not believed to be any environmental issues with this location in Loudoun County, Virginia. Land use at the proposed parcel for Flys Station is partially developed in the west and undeveloped in the east. The undeveloped portion consists predominately of forested land bordering existing transmission line ROW. No National Wetlands Inventory (NWI) mapped wetlands are located on the parcel. There are two National Hydrography Dataset (NHD) mapped streams located on the station parcel. One small stream is present in the northeastern corner of the parcel, directly adjacent to the northeast corner of the station footprint. The other stream (Broad Run) is larger and located along the eastern border of the station parcel, outside of the station footprint. A desktop review of the Virginia Department of Conservation and Recreation (DCR) Natural Heritage Data Explorer database identified the station is on a moderate ecological core site. Permanent impacts are limited to access roads and the substation site footprint. No permanent impacts to wetlands or drainage features are anticipated on the parcel. Desktop studies and record reviews will be completed for the development parcel including an environmental site assessment(s), wetland and stream delineation, threatened and endangered species review, and cultural resource study. Following these studies, the station will be sited on the property and designed to avoid impacts to sensitive features. It is not anticipated that regulated wetlands or streams will be affected as part of this solution. Major regulatory approvals for the proposed solution would not be anticipated to exceed any general performance standard or require any variance to be readily permitted. A General VPDES Permit is required for the project, and will be administered by Loudoun County, who is delegated program authority by the Virginia Department of Environmental Quality. The VPDES permit submission will include a SWPPP, erosion & sediment control plan, stormwater management plan, and pollution prevention plan. The stormwater management plan will include a narrative that describes, among other things, the proposed stormwater management facilities, the limits of clearing and grading, and the proposed drainage patterns on the site, proposed buildings, roads, parking areas, utilities, and the total disturbed acreage for the site.

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 proposed Flys station will be 15-acres in size and located on undeveloped land in Loudoun County, Virginia. The station will be purchased in fee. A tabletop analysis found there were no public lands required for this Project. Project land use is mixed developed and forested land including portions with cleared and maintained utility ROW as verified through the Loudoun County Clerk of the Circuit Court Office. The private land requirements include the new station site/detention pond/grading, transmission line exits (located on the proposed station property) to the Proposing Entity’s facilities located just northeast and southeast of the proposed site. The Station site, transmission line exits (located on the proposed station property) and location of access roads were chosen to minimize impact to adjacent property owners. The Proposing Entity will use proven land acquisition process and approach that are successfully employed on projects over the years. The Proposing Entity’s initial land acquisition step is to verify current ownership by an examination of title, current property tax status, as well as document any liens, and or mortgages. The Proposing Entity will also research the status of the subsurface estate, whether or not it is severed from the surface. Once ownership is established, the Proposing Entity will negotiate with property owners based on the fair market value of the property needed for the station site and access road (both fee purchases). Market data studies and appraisals, both general and for specific tracts, will be conducted to establish values and a basis for acquisition negotiations. Good Faith negotiations must be made with all landowners. Negotiations will be done in an ethical, non-confrontational and non-threatening manner with the landowners. The long-term relationship with the landowners is paramount and will be kept in mind in all negotiations, and honesty, integrity and professionalism will be displayed at all times. Negotiations will continue as long as practical to reach a voluntary agreement. If, and only if, it becomes evident that a voluntary fee purchase agreement between the company and the property owner cannot be reached, and other viable alternatives do not exist the company would seek the necessary approvals in VA to exercise the right of eminent domain to secure required property through condemnation proceedings.
Construction responsibility	Company confidential and proprietary information
Benefits/Comments	Company confidential and proprietary information
<b>Component Cost Details - In Current Year \$</b>	
Engineering & design	Company confidential and proprietary information
Permitting / routing / siting	Company confidential and proprietary information

ROW / land acquisition	Company confidential and proprietary information
Materials & equipment	Company confidential and proprietary information
Construction & commissioning	Company confidential and proprietary information
Construction management	Company confidential and proprietary information
Overheads & miscellaneous costs	Company confidential and proprietary information
Contingency	Company confidential and proprietary information
Total component cost	\$155,257,337.00
Component cost (in-service year)	\$175,916,971.00

### **Transmission Line Upgrade Component**

Component title	Roundtable - Buttermilk 230kV Line Rebuild
Project description	Company confidential and proprietary information
Impacted transmission line	Roundtable-Buttermilk
Point A	Roundtable Station
Point B	Buttermilk Station
Point C	
Terrain description	The topography for the Roundtable-Buttermilk 230kV line is relatively flat. Land use in the area is primarily light industrial, with pockets of undeveloped woodlots. The line will be reconstructed within existing ROW, so no additional tree clearing, or land use impacts are anticipated.

### **Existing Line Physical Characteristics**

Operating voltage	230
Conductor size and type	Unknown
Hardware plan description	It is assumed no hardware could be reused.

Tower line characteristics

The condition of the existing line is assumed to be in good working order. Structure loading at adjacent structures would remain unchanged due to proposing structure locations on centerline and near existing tower locations.

**Proposed Line Characteristics**

	<b>Designed</b>	<b>Operating</b>
Voltage (kV)	230.000000	230.000000
	<b>Normal ratings</b>	<b>Emergency ratings</b>
Summer (MVA)	1991.000000	1991.000000
Winter (MVA)	2267.000000	2267.000000
Conductor size and type	unknown	
Shield wire size and type	unknown	
Rebuild line length	0.69 miles	
Rebuild portion description	The tie-in involves the incumbent rebuilding approximately 0.7-miles of 230kV line from Roundtable–Buttermilk 230kV Transmission Line into Flys Station.	
Right of way	It is anticipated that the Proposed Solution would not require new ROW; however, current landowners that are crossed by the existing transmission line would need to be notified of the proposed upgrades.	
Construction responsibility	Company confidential and proprietary information	
Benefits/Comments	Company confidential and proprietary information	
<b>Component Cost Details - In Current Year \$</b>		
Engineering & design	Company confidential and proprietary information	
Permitting / routing / siting	Company confidential and proprietary information	
ROW / land acquisition	Company confidential and proprietary information	
Materials & equipment	Company confidential and proprietary information	

Construction & commissioning	Company confidential and proprietary information
Construction management	Company confidential and proprietary information
Overheads & miscellaneous costs	Company confidential and proprietary information
Contingency	Company confidential and proprietary information
Total component cost	\$3,410,400.00
Component cost (in-service year)	\$3,838,435.00

### **Transmission Line Upgrade Component**

Component title	Roundtable - Waxpool 230kV Line Rebuild
Project description	Company confidential and proprietary information
Impacted transmission line	Roundtable–Waxpool
Point A	Roundtable Station
Point B	Waxpool Station
Point C	
Terrain description	The topography for the Roundtable-Waxpool 230kV line is relatively flat. Land use in the area is primarily light industrial. The line will be reconstructed within existing ROW, so no additional tree clearing, or land use impacts are anticipated.
<b>Existing Line Physical Characteristics</b>	
Operating voltage	230
Conductor size and type	unknown
Hardware plan description	It is assumed no hardware could be reused
Tower line characteristics	The condition of the existing line is assumed to be in good working order. Structure loading at adjacent structures would remain unchanged due to proposing structure locations on centerline and near existing tower locations.?

## Proposed Line Characteristics

	<b>Designed</b>	<b>Operating</b>
Voltage (kV)	230.000000	230.000000
	<b>Normal ratings</b>	<b>Emergency ratings</b>
Summer (MVA)	1573.000000	1573.000000
Winter (MVA)	1648.000000	1648.000000
Conductor size and type	unknown	
Shield wire size and type	unknown	
Rebuild line length	2.1 miles	
Rebuild portion description	The tie-in involves the incumbent rebuilding approximately 2.1 miles of 230kV line from Roundtable –Waxpool 230kV Transmission Line into Fly Station.	
Right of way	It is anticipated that the Proposed Solution would not require new ROW; however, current landowners that are crossed by the existing transmission line would need to be notified of the proposed upgrades.	
Construction responsibility	Company confidential and proprietary information	
Benefits/Comments	Company confidential and proprietary information	
<b>Component Cost Details - In Current Year \$</b>		
Engineering & design	Company confidential and proprietary information	
Permitting / routing / siting	Company confidential and proprietary information	
ROW / land acquisition	Company confidential and proprietary information	
Materials & equipment	Company confidential and proprietary information	
Construction & commissioning	Company confidential and proprietary information	
Construction management	Company confidential and proprietary information	

Overheads & miscellaneous costs	Company confidential and proprietary information
Contingency	Company confidential and proprietary information
Total component cost	\$9,878,400.00
Component cost (in-service year)	\$11,118,226.00

**Transmission Line Upgrade Component**

Component title	Waxpool - Farmwell 230kV Line Rebuild
Project description	Company confidential and proprietary information
Impacted transmission line	Waxpool-Farmwell
Point A	Waxpool station
Point B	Farmwell Station
Point C	
Terrain description	The topography for the Waxpool-Farmwell 230kV line is relatively flat. Land use in the area is primarily light industrial. The line will be reconstructed within existing ROW, so no additional tree clearing, or land use impacts are anticipated.

**Existing Line Physical Characteristics**

Operating voltage	230
Conductor size and type	unknown
Hardware plan description	It is assumed no hardware could be reused.
Tower line characteristics	The condition of the existing line is assumed to be in good working order. Structure loading at adjacent structures would remain unchanged due to proposing structure locations on centerline and near existing tower locations.

**Proposed Line Characteristics**

	<b>Designed</b>	<b>Operating</b>
Voltage (kV)	230.000000	230.000000

	<b>Normal ratings</b>	<b>Emergency ratings</b>
Summer (MVA)	1573.000000	1573.000000
Winter (MVA)	1648.000000	1648.000000
Conductor size and type	unknown	
Shield wire size and type	unknown	
Rebuild line length	0.88 miles	
Rebuild portion description	The tie-in involves the incumbent rebuilding approximately 0.9-mile of 230kV line from Waxpool–Farmwell 230kV Transmission Line into Flys Station.	
Right of way	It is anticipated that the Proposed Solution would not require new ROW; however, current landowners that are crossed by the existing transmission line would need to be notified of the proposed upgrades.	
Construction responsibility	Company confidential and proprietary information	
Benefits/Comments	Company confidential and proprietary information	
<b>Component Cost Details - In Current Year \$</b>		
Engineering & design	Company confidential and proprietary information	
Permitting / routing / siting	Company confidential and proprietary information	
ROW / land acquisition	Company confidential and proprietary information	
Materials & equipment	Company confidential and proprietary information	
Construction & commissioning	Company confidential and proprietary information	
Construction management	Company confidential and proprietary information	
Overheads & miscellaneous costs	Company confidential and proprietary information	
Contingency	Company confidential and proprietary information	
Total component cost	\$5,001,920.00	



Component cost (in-service year) \$5,629,705.00

### **Substation Upgrade Component**

Component title Roundtable Station Upgrade  
Project description Company confidential and proprietary information  
Substation name Roundtable Station  
Substation zone Dominion  
Substation upgrade scope Upgrade (6) circuit breakers at Roundtable to 5,000A.

### **Transformer Information**

None  
New equipment description (6) new 5,000 A circuit breakers.  
Substation assumptions The existing AC station service is assumed to be sufficient to accommodate the new substation equipment. The existing station control enclosure is assumed to be sufficient to accommodate the new transmission line and circuit breaker protection and control relay panels.  
Real-estate description All necessary land rights are acquired.  
Construction responsibility Company confidential and proprietary information  
Benefits/Comments Company confidential and proprietary information

### **Component Cost Details - In Current Year \$**

Engineering & design Company confidential and proprietary information  
Permitting / routing / siting Company confidential and proprietary information  
ROW / land acquisition Company confidential and proprietary information  
Materials & equipment Company confidential and proprietary information  
Construction & commissioning Company confidential and proprietary information  
Construction management Company confidential and proprietary information

Overheads & miscellaneous costs	Company confidential and proprietary information
Contingency	Company confidential and proprietary information
Total component cost	\$2,970,380.00
Component cost (in-service year)	\$3,343,189.00

**Substation Upgrade Component**

Component title	Wishingstar Station Upgrade
Project description	Company confidential and proprietary information
Substation name	Wishingstar Station
Substation zone	Dominion
Substation upgrade scope	Add (2) 150 MVAr fixed shunt capacitors (or one 300 MVAr fixed cap) at Wishingstar 500kV to address voltage needs in the load area.

**Transformer Information**

None	
New equipment description	(2) 150 MVAr fixed shunt capacitors
Substation assumptions	The existing AC station service is assumed to be sufficient to accommodate the new substation equipment. The existing station control enclosure is assumed to be sufficient to accommodate the new transmission line and circuit breaker protection and control relay panels.
Real-estate description	All necessary land rights are acquired.
Construction responsibility	Company confidential and proprietary information
Benefits/Comments	Company confidential and proprietary information

**Component Cost Details - In Current Year \$**

Engineering & design	Company confidential and proprietary information
Permitting / routing / siting	Company confidential and proprietary information

ROW / land acquisition	Company confidential and proprietary information
Materials & equipment	Company confidential and proprietary information
Construction & commissioning	Company confidential and proprietary information
Construction management	Company confidential and proprietary information
Overheads & miscellaneous costs	Company confidential and proprietary information
Contingency	Company confidential and proprietary information
Total component cost	\$6,860,000.00
Component cost (in-service year)	\$7,720,990.00

**Substation Upgrade Component**

Component title	Cabin Run Station Upgrade
Project description	Company confidential and proprietary information
Substation name	Cabin Run Station
Substation zone	Dominion
Substation upgrade scope	Add (1) 150 MVAR fixed shunt capacitor bank to existing Cabin Run 230kV station.

**Transformer Information**

None	
New equipment description	(1) 150 MVAR fixed shunt capacitor.
Substation assumptions	The existing AC station service is assumed to be sufficient to accommodate the new substation equipment. The existing station control enclosure is assumed to be sufficient to accommodate the new transmission line and circuit breaker protection and control relay panels.
Real-estate description	All necessary land rights are acquired.
Construction responsibility	Company confidential and proprietary information
Benefits/Comments	Company confidential and proprietary information

### **Component Cost Details - In Current Year \$**

Engineering & design	Company confidential and proprietary information
Permitting / routing / siting	Company confidential and proprietary information
ROW / land acquisition	Company confidential and proprietary information
Materials & equipment	Company confidential and proprietary information
Construction & commissioning	Company confidential and proprietary information
Construction management	Company confidential and proprietary information
Overheads & miscellaneous costs	Company confidential and proprietary information
Contingency	Company confidential and proprietary information
Total component cost	\$2,940,000.00
Component cost (in-service year)	\$3,308,996.00

### **Substation Upgrade Component**

Component title	Pacific Station Upgrade
Project description	Company confidential and proprietary information
Substation name	Pacific Station
Substation zone	Dominion
Substation upgrade scope	Add (1) 300 MVAR fixed shunt capacitor bank to existing Pacific 230kV station.

### **Transformer Information**

None	
New equipment description	(1) 300 MVAR fixed shunt capacitor.
Substation assumptions	The existing AC station service is assumed to be sufficient to accommodate the new substation equipment. The existing station control enclosure is assumed to be sufficient to accommodate the new transmission line and circuit breaker protection and control relay panels.

Real-estate description	All necessary land rights are acquired.
Construction responsibility	Company confidential and proprietary information
Benefits/Comments	Company confidential and proprietary information
<b>Component Cost Details - In Current Year \$</b>	
Engineering & design	Company confidential and proprietary information
Permitting / routing / siting	Company confidential and proprietary information
ROW / land acquisition	Company confidential and proprietary information
Materials & equipment	Company confidential and proprietary information
Construction & commissioning	Company confidential and proprietary information
Construction management	Company confidential and proprietary information
Overheads & miscellaneous costs	Company confidential and proprietary information
Contingency	Company confidential and proprietary information
Total component cost	\$6,076,000.00
Component cost (in-service year)	\$6,838,592.00
<b>Substation Upgrade Component</b>	
Component title	Goose Creek Station Upgrade
Project description	Company confidential and proprietary information
Substation name	Goose Creek Station
Substation zone	Dominion
Substation upgrade scope	Add (1) 300 MVar fixed shunt capacitor bank to existing Goose Creek 500kV station.

**Transformer Information**

None	
New equipment description	(1) 300 MVAR fixed shunt capacitor.
Substation assumptions	The existing AC station service is assumed to be sufficient to accommodate the new substation equipment. The existing station control enclosure is assumed to be sufficient to accommodate the new transmission line and circuit breaker protection and control relay panels.
Real-estate description	All necessary land rights are acquired.
Construction responsibility	Company confidential and proprietary information
Benefits/Comments	Company confidential and proprietary information
<b>Component Cost Details - In Current Year \$</b>	
Engineering & design	Company confidential and proprietary information
Permitting / routing / siting	Company confidential and proprietary information
ROW / land acquisition	Company confidential and proprietary information
Materials & equipment	Company confidential and proprietary information
Construction & commissioning	Company confidential and proprietary information
Construction management	Company confidential and proprietary information
Overheads & miscellaneous costs	Company confidential and proprietary information
Contingency	Company confidential and proprietary information
Total component cost	\$4,900,000.00
Component cost (in-service year)	\$5,514,993.00

## 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
2022W3-GD-W124	313399	6MARS	313805	6SHELLHORN1	1	230	345	Winter Gen Deliv	Included
2022W3-N1-ST25	314004	6ASHBURN	314010	6BEAMEAD	1	230/230	345/345	Summer N-1	Included
2022W3-GD-S1693	314006	6ASHBURA	314010	6BEAMEAD	1	230	345	Summer Gen Deliv	Included
2022W3-N1-ST25	314290	6EDFERRY	313911	6TWINCREEKS	1	230/230	345/345	Summer N-1	Included
2022W3-GD-W123	313393	8MARS	313399	6MARS	1	500/230	345	Winter Gen Deliv	Included
2022W3-N1-ST25	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1	Included
2022W3-N1-ST25	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1	Included
2022W3-N1-ST93	314009	6BRADOCK	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-S1658	314084	6SULLY	314035	6DISCOVR	1	230	345	Summer Gen Deliv	Included
2022W3-N1-ST89	314009	6BRADOCK	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST91	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST215	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-W49	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-S1700	313393	8MARS	313399	6MARS	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S1703	313393	8MARS	313399	6MARS	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S1779	313393	8MARS	313399	6MARS	1	500/230	345	Summer Gen Deliv	Included
2022W3-N1-ST107	314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST108	313752	6TAKEOFF	313774	6LINC PRK	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD_128	223938	DICKH230	223937	DICK 230	2	230/230	233/233	Light Load Gen Deliv	Included
2022W3-N1-ST99	313399	6MARS	313746	6SOJOURNER	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD_122	223938	DICKH230	223937	DICK 230	1	230/230	233/233	Light Load Gen Deliv	Included
2022W3-N1-ST103	313393	8MARS	313399	6MARS	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-S1703	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S1783	314039	6GALLOWS A	314052	6IDYLWOD	1	230	345	Summer Gen Deliv	Included
2022W3-GD-S1705	314072	6PL VIEW	314004	6ASHBURN	1	230	345	Summer Gen Deliv	Included
2022W3-GD-W57	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD_L3593	314041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Light Load Gen Deliv	Included
2022W3-N1-ST119	313393	8MARS	313399	6MARS	1	500/230	345/345	Summer N-1 Thermal	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2022W3-GD_L276	314041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Light Load Gen Deliv	Included
2022W3-GD-S170	314035	6DISCOVER	313774	6LINC PRK	1	230	345	Summer Gen Deliv	Included
2022W3-N1-ST110	313399	6MARS	313746	6SOJOURNER	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST111	314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST112	314009	6BRADOCK	314052	6IDYLLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST114	314039	6GALLOWS A	314052	6IDYLLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST235	314004	6ASHBURN	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST115	314068	6OX	314039	6GALLOWS A	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-S1712	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-W59	313393	8MARS	313399	6MARS	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-S1653	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S3333	314010	6BEAMEAD	313743	6INTERCONN	1	230	345	Summer Gen Deliv	Included
2022W3-GD-W60	313393	8MARS	313399	6MARS	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-S2043	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S1797	313746	6SOJOURNER	313822	6RUNWAY	1	230	345	Summer Gen Deliv	Included
2022W3-N1-ST130	314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-W840	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-W1370	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-N1-WT138	313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT139	313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT140	313752	6TAKEOFF	313774	6LINC PRK	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST120	313393	8MARS	313399	6MARS	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST121	314004	6ASHBURN	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST242	313815	6SPRINGH	314079	6RESTON	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT132	314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST122	313815	6SPRINGH	314079	6RESTON	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-S1676	313904	6GOOSECRK	314006	6ASHBURA	1	230	345	Summer Gen Deliv	Included
2022W3-N1-WT133	313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Winter N-1 Thermal	Included



FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2022W3-N1-ST123	313393	8MARS	313399	6MARS	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT134	313399	6MARS	313746	6SOJOURNER	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST124	313393	8MARS	313399	6MARS	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST125	314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST126	314068	6OX	314039	6GALLOWS A	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-S2103	314039	6GALLOWS A	314052	6IDYLOWOD	1	230	345	Summer Gen Deliv	Included
2022W3-GD-S1722	313399	6MARS	313805	6SHELLHORN1	1	230	345	Summer Gen Deliv	Included
2022W3-N1-ST144	313393	8MARS	313399	6MARS	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST131	314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST132	314035	6DISCOVR	313774	6LINC PRK	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT143	313399	6MARS	313746	6SOJOURNER	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST137	314068	6OX	314039	6GALLOWS A	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST173	314084	6SULLY	314035	6DISCOVR	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST138	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-GD_L2693	314820	6BALLSTN	314120	6CLRNDNC	1	230/230	345/345	Light Load Gen Deliv	Included
2022W3-N1-ST149	314009	6BRADOCK	314052	6IDYLOWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD_L3093	314820	6BALLSTN	314120	6CLRNDNC	1	230/230	345/345	Light Load Gen Deliv	Included
2022W3-N1-ST150	314009	6BRADOCK	314052	6IDYLOWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT163	314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST31	313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-S1803	313393	8MARS	313399	6MARS	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S1723	313815	6SPRINGH	314079	6RESTON	1	230	345	Summer Gen Deliv	Included
2022W3-N1-WT168	314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT403	313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT153	314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST143	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST263	314010	6BEAMEAD	313743	6INTERCONN	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST147	314068	6OX	314039	6GALLOWS A	1	230/230	345/345	Summer N-1 Thermal	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2022W3-N1-ST148	313805	6SHELLHORN1	314098	6GREENWAY1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST168	314072	6PL VIEW	314004	6ASHBURN	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST162	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT52	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST163	314072	6PL VIEW	314004	6ASHBURN	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-S1722	204544	27LINCOLN	204538	27STRABAN	1	115	227	Summer Gen Deliv	Included
2022W3-N1-LLT123	314041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Light Load N-1	Included
2022W3-GD-S2003	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-N1-LLT123	314041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Light Load N-1	Included
2022W3-N1-LLT122	314041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Light Load N-1	Included
2022W3-N1-ST34	314925	8PL VIEW	314072	6PL VIEW	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST36	313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT48	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT163	314068	6OX	314039	6GALLOWS A	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST38	314084	6SULLY	314035	6DISCOVR	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT49	313393	8MARS	313399	6MARS	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-S1738	313399	6MARS	313746	6SOJOURNER	1	230	345	Summer Gen Deliv	Included
2022W3-GD-S222	313393	8MARS	313399	6MARS	1	500/230	345	Summer Gen Deliv	Included
2022W3-N1-ST169	313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST49	314035	6DISCOVR	313774	6LINC PRK	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST170	313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST178	314039	6GALLOWS A	314052	6IDYLVOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST172	313393	8MARS	313399	6MARS	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST173	313743	6INTERCONNEC	313733	6NIMBUS	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST174	314039	6GALLOWS A	314052	6IDYLVOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-S1737	314004	6ASHBURN	314010	6BEAMEAD	1	230	345	Summer Gen Deliv	Included
2022W3-GD-W159	313393	8MARS	313399	6MARS	1	500/230	345	Winter Gen Deliv	Included
2022W3-N1-ST43	313393	8MARS	313399	6MARS	1	500/230	345/345	Summer N-1 Thermal	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2022W3-N1-ST164	313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-W147	313399	6MARS	313746	6SOJOURNER	1	230	345	Winter Gen Deliv	Included
2022W3-N1-ST44	313393	8MARS	313399	6MARS	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT55	313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST45	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT57	314010	6BEAMEAD	313743	6INTERCONNEC	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT179	314004	6ASHBURN	314010	6BEAMEAD	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST48	314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST60	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT71	313393	8MARS	313399	6MARS	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST61	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT74	314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST54	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST175	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST55	313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST176	314072	6PL VIEW	314004	6ASHBURN	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-W168	314004	6ASHBURN	314010	6BEAMEAD	1	230	345	Winter Gen Deliv	Included
2022W3-N1-WT67	313393	8MARS	313399	6MARS	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT68	313393	8MARS	313399	6MARS	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT70	313393	8MARS	313399	6MARS	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-LLT31	314820	6BALLSTN	314120	6CLRNDNC	1	230/230	345/345	Light Load N-1	Included
2022W3-N1-LLT33	314820	6BALLSTN	314120	6CLRNDNC	1	230/230	345/345	Light Load N-1	Included
2022W3-N1-LLT32	314820	6BALLSTN	314120	6CLRNDNC	1	230/230	345/345	Light Load N-1	Included
2022W3-N1-ST66	314009	6BRADOCK	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST67	313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST68	314072	6PL VIEW	314004	6ASHBURN	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT92	314072	6PL VIEW	314004	6ASHBURN	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT94	313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Winter N-1 Thermal	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2022W3-GD-W192	313805	6SHELLHORN1	314098	6GREENWAY1	1	230	345	Winter Gen Deliv	Included
2022W3-GD-W880	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-N1-WT96	313393	8MARS	313399	6MARS	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST77	313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-W75	313399	6MARS	313805	6SHELLHORN1	1	230	345	Winter Gen Deliv	Included
2022W3-N1-ST78	313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-W875	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-N1-WT89	313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-W76	313904	6GOOSECRK	314006	6ASHBURA	1	230	345	Winter Gen Deliv	Included
2022W3-GD-W879	313393	8MARS	313399	6MARS	1	500/230	345	Winter Gen Deliv	Included
2022W3-N1-WT10	313393	8MARS	313399	6MARS	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT97	313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT100	313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-W894	313393	8MARS	313399	6MARS	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-W895	313393	8MARS	313399	6MARS	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-W94	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-GD-W92	314006	6ASHBURA	314010	6BEAMEAD	1	230	345	Winter Gen Deliv	Included
2022W3-N1-WT109	313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT110	313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-S236	313393	8MARS	313399	6MARS	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S237	313393	8MARS	313399	6MARS	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-W103	314072	6PL VIEW	314004	6ASHBURN	1	230	345	Winter Gen Deliv	Included
2022W3-N1-WT127	314006	6ASHBURA	314010	6BEAMEAD	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST185	313399	6MARS	313746	6SOJOURNER	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST186	313399	6MARS	313746	6SOJOURNER	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST187	314039	6GALLOWS A	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-GD-W98	314939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Winter Gen Deliv	Included
2022W3-N1-ST179	314039	6GALLOWS A	314052	6IDYLWOD	1	230/230	345/345	Summer N-1 Thermal	Included

FG #	Fr Bus No.	From Bus Name	To Bus No.	To Bus Name	CKT	Voltage	TO Zone	Analysis type	Status
2022W3-N1-ST180	314919	8OX	314068	6OX	1	500/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT133	14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-S1763	314068	6OX	314039	6GALLOWS A	1	230	345	Summer Gen Deliv	Included
2022W3-N1-WT173	14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-S1680	14925	8PL VIEW	314072	6PL VIEW	1	500/230	345	Summer Gen Deliv	Included
2022W3-N1-WT183	14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-S1683	13399	6MARS	313805	6SHELLHORN1	1	230	345	Summer Gen Deliv	Included
2022W3-N1-WT193	14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST193	14009	6BRADOCK	314052	6IDYLOWD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-WT243	14041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-S1765	13805	6SHELLHORN1	314098	6GREENWAY1	1	230	345	Summer Gen Deliv	Included
2022W3-N1-WT253	14041	6GLEBE	314185	6RADNOR	1	230/230	345/345	Winter N-1 Thermal	Included
2022W3-GD-S1418	14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S1767	14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S1768	14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-GD-S1468	14939	8GOOSE CREEK	313904	6GOOSECRK	1	500/230	345	Summer Gen Deliv	Included
2022W3-N1-WT213	13393	8MARS	313399	6MARS	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-WT223	13393	8MARS	313399	6MARS	1	500/230	345/345	Winter N-1 Thermal	Included
2022W3-N1-ST85	313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST86	313399	6MARS	313805	6SHELLHORN1	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST207	14004	6ASHBURN	314010	6BEAMEAD	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST87	313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST88	313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST81	314068	6OX	314039	6GALLOWS A	1	230/230	345/345	Summer N-1 Thermal	Included
2022W3-N1-ST83	313904	6GOOSECRK	314006	6ASHBURA	1	230/230	345/345	Summer N-1 Thermal	Included

## New Flowgates

Company confidential and proprietary information

## Financial Information

Capital spend start date	12/2023
Construction start date	04/2025
Project Duration (In Months)	48

## Cost Containment Commitment

Cost cap (in current year)	Company confidential and proprietary information
Cost cap (in-service year)	Company confidential and proprietary information

## Components covered by cost containment

1. Stork 500kV Greenfield Substation - Transource
2. Stork - Flys 500 kV Underground Line - Transource
3. Flys 500/230kV Substation - Transource

## Cost elements covered by cost containment

Engineering & design	Yes
Permitting / routing / siting	No
ROW / land acquisition	No
Materials & equipment	Yes
Construction & commissioning	Yes
Construction management	Yes
Overheads & miscellaneous costs	No
Taxes	No
AFUDC	No

Escalation

No

Additional Information

Company confidential and proprietary information

Is the proposer offering a binding cap on ROE?

Yes

Would this ROE cap apply to the determination of AFUDC?

Yes

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?

Company confidential and proprietary information

## **Additional Comments**

None