PART 5

Dominion Virginia Power
701 East Cary Street, Richmond, VA 23219
dom.com

Dominion

17061044

April 13, 2017

Ms. Rene Hypes
Virginia Department of Conservation and Recreation
Virginia Natural Heritage Program
600 East Main Street, 24th Floor
Richmond, Virginia 23219

Reference: **Rebuild of Possum Point-Smoketown 115 kV Lines #18 and #145**

Dear Ms. Hypes:

Dominion Virginia Power (Dominion) currently operates two 115 kilovolt (kV) transmission lines (Lines #18 and #145) that exclusively feed three NOVEC substations which serve more than 11,000 NOVEC customers in Prince William County. The project corridor is approximately 8.4 miles long and runs northwest from the Company's Possum Point Switching Station and terminates at NOVEC's Smoketown Substation west of I-95. These existing transmission lines were built in 1948 and 1954 and, although well maintained, are approaching the end of their designed service life.

Dominion is proposing to replace both transmission lines in order to continue to provide safe and reliable electric service to customers.

Although the transmission lines will continue to operate at 115kV, we believe that is prudent to propose building these lines at a 230kV design to add system flexibility in the event a higher voltage is needed in the future. As such, Dominion is preparing an application for a Certificate of Public Convenience and Necessity from the State Corporation Commission (SCC). The Department of Environmental Quality (DEQ), on behalf of the SCC, will coordinate agency comments and include you in the review of the proposed project. At this time, in advance of the SCC filing, Dominion respectfully requests that you submit any comments or additional information you feel would have bearing on the proposed project. If you would like to receive a GIS shapefile of the transmission line route to assist in your project review or if you have any questions, please do not hesitate to contact me at (804) 771-6145 or Amanda.M.Mayhew@dom.com.

Dominion appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Sincerely,

Amanda Mayhew
Permitting Specialist

17061014

Dominion Virginia Power
701 East Cary Street, Richmond, VA 23219
dom.com

Dominion

April 13, 2017

Ms. Robbie Rhur
Virginia Department of Conservation and Recreation
Planning Bureau
600 East Main Street, 24th Floor
Richmond, Virginia 23219

Reference: **Rebuild of Possum Point-Smoketown 115 kV Lines #18 and #145**

Dear Ms. Rhur:

Dominion Virginia Power (Dominion) currently operates two 115 kilovolt (kV) transmission lines (Lines #18 and #145) that exclusively feed three NOVEC substations which serve more than 11,000 NOVEC customers in Prince William County. The project corridor is approximately 8.4 miles long and runs northwest from the Company's Possum Point Switching Station and terminates at NOVEC's Smoketown Substation west of I-95. These existing transmission lines were built in 1948 and 1954 and, although well maintained, are approaching the end of their designed service life.

Dominion is proposing to replace both transmission lines in order to continue to provide safe and reliable electric service to customers.

Although the transmission lines will continue to operate at 115kV, we believe that is prudent to propose building these lines at a 230kV design to add system flexibility in the event a higher voltage is needed in the future. As such, Dominion is preparing an application for a Certificate of Public Convenience and Necessity from the State Corporation Commission (SCC). The Department of Environmental Quality (DEQ), on behalf of the SCC, will coordinate agency comments and include you in the review of the proposed project. At this time, in advance of the SCC filing, Dominion respectfully requests that you submit any comments or additional information you feel would have bearing on the proposed project. If you would like to receive a GIS shapefile of the transmission line route to assist in your project review or if you have any questions, please do not hesitate to contact me at (804) 771-6145 or Amanda.M.Mayhew@dom.com.

Dominion appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Sincerely,

Amanda Mayhew
Permitting Specialist

Dominion Virginia Power
701 East Cary Street, Richmond, VA 23219
dom.com

Dominion

4761614

April 13, 2017

Mr. Thomas A. Faha
Virginia Department of Environmental Quality
Northern Regional Office
4949-A Cox Road
Glen Allen, Virginia 23060

Reference: **Rebuild of Possum Point-Smoketown 115 kV Lines #18 and #145**

Dear Mr. Faha:

Dominion Virginia Power (Dominion) currently operates two 115 kilovolt (kV) transmission lines (Lines #18 and #145) that exclusively feed three NOVEC substations which serve more than 11,000 NOVEC customers in Prince William County. The project corridor is approximately 8.4 miles long and runs northwest from the Company's Possum Point Switching Station and terminates at NOVEC's Smoketown Substation west of I-95. These existing transmission lines were built in 1948 and 1954 and, although well maintained, are approaching the end of their designed service life.

Dominion is proposing to replace both transmission lines in order to continue to provide safe and reliable electric service to customers.

Although the transmission lines will continue to operate at 115kV, we believe that is prudent to propose building these lines at a 230kV design to add system flexibility in the event a higher voltage is needed in the future. As such, Dominion is preparing an application for a Certificate of Public Convenience and Necessity from the State Corporation Commission (SCC). The Department of Environmental Quality (DEQ), on behalf of the SCC, will coordinate agency comments and include you in the review of the proposed project. At this time, in advance of the SCC filing, Dominion respectfully requests that you submit any comments or additional information you feel would have bearing on the proposed project. If you would like to receive a GIS shapefile of the transmission line route to assist in your project review or if you have any questions, please do not hesitate to contact me at (804) 771-6145 or Amanda.M.Mayhew@dom.com.

Dominion appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Sincerely,

Amanda Mayhew
Permitting Specialist

Dominion Virginia Power
701 East Cary Street, Richmond, VA 23219
dom.com

Dominion

April 13, 2017

Mr. Scott Denny
Virginia Department of Aviation
Airport Services Division, Planning and Environmental Section
5702 Gulfstream Road
Richmond, Virginia 23250

Reference: **Rebuild of Possum Point-Smoketown 115 kV Lines #18 and #145**

Dear Mr. Denny:

Dominion Virginia Power (Dominion) currently operates two 115 kilovolt (kV) transmission lines (Lines #18 and #145) that exclusively feed three NOVEC substations which serve more than 11,000 NOVEC customers in Prince William County. The project corridor is approximately 8.4 miles long and runs northwest from the Company's Possum Point Switching Station and terminates at NOVEC's Smoketown Substation west of I-95. These existing transmission lines were built in 1948 and 1954 and, although well maintained, are approaching the end of their designed service life.

Dominion is proposing to replace both transmission lines in order to continue to provide safe and reliable electric service to customers.

Although the transmission lines will continue to operate at 115kV, we believe that is prudent to propose building these lines at a 230kV design to add system flexibility in the event a higher voltage is needed in the future. As such, Dominion is preparing an application for a Certificate of Public Convenience and Necessity from the State Corporation Commission (SCC). The Department of Environmental Quality (DEQ), on behalf of the SCC, will coordinate agency comments and include you in the review of the proposed project. At this time, in advance of the SCC filing, Dominion respectfully requests that you submit any comments or additional information you feel would have bearing on the proposed project. If you would like to receive a GIS shapefile of the transmission line route to assist in your project review or if you have any questions, please do not hesitate to contact me at (804) 771-6145 or Amanda.M.Mayhew@dom.com.

Dominion appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Sincerely,

Amanda Mayhew
Permitting Specialist

Dominion Virginia Power
701 East Cary Street, Richmond, VA 23219
dom.com

Dominion

April 13, 2017

Ms. Martha Little
Virginia Outdoors Foundation
600 East Main Street, Suite 402
Richmond, Virginia 23219

Reference: **Rebuild of Possum Point-Smoketown 115 kV Lines #18 and #145**

Dear Ms. Little:

Dominion Virginia Power (Dominion) currently operates two 115 kilovolt (kV) transmission lines (Lines #18 and #145) that exclusively feed three NOVEC substations which serve more than 11,000 NOVEC customers in Prince William County. The project corridor is approximately 8.4 miles long and runs northwest from the Company's Possum Point Switching Station and terminates at NOVEC's Smoketown Substation west of I-95. These existing transmission lines were built in 1948 and 1954 and, although well maintained, are approaching the end of their designed service life.

Dominion is proposing to replace both transmission lines in order to continue to provide safe and reliable electric service to customers.

Although the transmission lines will continue to operate at 115kV, we believe that is prudent to propose building these lines at a 230kV design to add system flexibility in the event a higher voltage is needed in the future. As such, Dominion is preparing an application for a Certificate of Public Convenience and Necessity from the State Corporation Commission (SCC). The Department of Environmental Quality (DEQ), on behalf of the SCC, will coordinate agency comments and include you in the review of the proposed project. At this time, in advance of the SCC filing, Dominion respectfully requests that you submit any comments or additional information you feel would have bearing on the proposed project. If you would like to receive a GIS shapefile of the transmission line route to assist in your project review or if you have any questions, please do not hesitate to contact me at (804) 771-6145 or Amanda.M.Mayhew@dom.com.

Dominion appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Sincerely,

Amanda Mayhew
Permitting Specialist

Dominion Virginia Power
701 East Cary Street, Richmond, VA 23219
dom.com

Dominion

2769144

April 13, 2017

Ms. Helen L. Cuervo
Virginia Department of Transportation
Northern Virginia Office
4975 Alliance Drive
Fairfax, Virginia 22030

Reference: **Rebuild of Possum Point-Smoketown 115 kV Lines #18 and #145**

Dear Ms. Cuervo:

Dominion Virginia Power (Dominion) currently operates two 115 kilovolt (kV) transmission lines (Lines #18 and #145) that exclusively feed three NOVEC substations which serve more than 11,000 NOVEC customers in Prince William County. The project corridor is approximately 8.4 miles long and runs northwest from the Company's Possum Point Switching Station and terminates at NOVEC's Smoketown Substation west of I-95. These existing transmission lines were built in 1948 and 1954 and, although well maintained, are approaching the end of their designed service life.

Dominion is proposing to replace both transmission lines in order to continue to provide safe and reliable electric service to customers.

Although the transmission lines will continue to operate at 115kV, we believe that is prudent to propose building these lines at a 230kV design to add system flexibility in the event a higher voltage is needed in the future. As such, Dominion is preparing an application for a Certificate of Public Convenience and Necessity from the State Corporation Commission (SCC). The Department of Environmental Quality (DEQ), on behalf of the SCC, will coordinate agency comments and include you in the review of the proposed project. At this time, in advance of the SCC filing, Dominion respectfully requests that you submit any comments or additional information you feel would have bearing on the proposed project. If you would like to receive a GIS shapefile of the transmission line route to assist in your project review or if you have any questions, please do not hesitate to contact me at (804) 771-6145 or Amanda.M.Mayhew@dom.com.

Dominion appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Sincerely,

Amanda Mayhew
Permitting Specialist

Dominion Virginia Power
701 East Cary Street, Richmond, VA 23219

dom.com

Dominion

1706101144

April 13, 2017

Ms. Rebecca Horner
Prince William County
Department of Planning & Zoning - Director's Office
5 County Complex Court, Suite 210
Prince William, Virginia 22192

Reference: **Rebuild of Possum Point-Smoketown 115 kV Lines #18 and #145**

Dear Ms. Horner:

Dominion Virginia Power (Dominion) currently operates two 115 kilovolt (kV) transmission lines (Lines #18 and #145) that exclusively feed three NOVEC substations which serve more than 11,000 NOVEC customers in Prince William County. The project corridor is approximately 8.4 miles long and runs northwest from the Company's Possum Point Switching Station and terminates at NOVEC's Smoketown Substation west of I-95. These existing transmission lines were built in 1948 and 1954 and, although well maintained, are approaching the end of their designed service life.

Dominion is proposing to replace both transmission lines in order to continue to provide safe and reliable electric service to customers.

Although the transmission lines will continue to operate at 115kV, we believe that is prudent to propose building these lines at a 230kV design to add system flexibility in the event a higher voltage is needed in the future. As such, Dominion is preparing an application for a Certificate of Public Convenience and Necessity from the State Corporation Commission (SCC). In accordance with Virginia State Code 15.2-2202, Dominion respectfully requests that you submit any comments or additional information you feel would have bearing on the proposed project. If you would like to receive a GIS shapefile of the transmission line route to assist in your project review or if you have questions, please do not hesitate to contact me at (804) 771-6145 or Amanda.M.Mayhew@dom.com or Deborah Johnson at (571) 203-5002 or Deborah.T.Johnson@dom.com.

Dominion appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Sincerely,

Amanda Mayhew
Permitting Specialist

Dominion Virginia Power
701 East Cary Street, Richmond, VA 23219
dom.com

Dominion

17091144

April 13, 2017

Ms. Bettina Sullivan
Virginia Department of Environmental Quality
Office of Environmental Impact Review
629 East Main Street
Richmond, Virginia 23219

Reference: **Rebuild of Possum Point-Smoketown 115 kV Lines #18 and #145**

Dear Ms. Sullivan:

Dominion Virginia Power (Dominion) currently operates two 115 kilovolt (kV) transmission lines (Lines #18 and #145) that exclusively feed three NOVEC substations which serve more than 11,000 NOVEC customers in Prince William County. The project corridor is approximately 8.4 miles long and runs northwest from the Company's Possum Point Switching Station and terminates at NOVEC's Smoketown Substation west of I-95. These existing transmission lines were built in 1948 and 1954 and, although well maintained, are approaching the end of their designed service life.

Dominion is proposing to replace both transmission lines in order to continue to provide safe and reliable electric service to customers.

Although the transmission lines will continue to operate at 115kV, we believe that is prudent to propose building these lines at a 230kV design to add system flexibility in the event a higher voltage is needed in the future. As such, Dominion is preparing an application for a Certificate of Public Convenience and Necessity from the State Corporation Commission (SCC). The Department of Environmental Quality (DEQ), on behalf of the SCC, will coordinate agency comments and include you in the review of the proposed project. At this time, in advance of the SCC filing, Dominion respectfully requests that you submit any comments or additional information you feel would have bearing on the proposed project. If you would like to receive a GIS shapefile of the transmission line route to assist in your project review or if you have any questions, please do not hesitate to contact me at (804) 771-6145 or Amanda.M.Mayhew@dom.com.

Dominion appreciates your assistance with this project review and looks forward to any additional information you may have to offer.

Sincerely,

Amanda Mayhew
Permitting Specialist

Dominion Virginia Power
Electric Transmission
701 East Cary Street, Richmond, VA 23219
dom.com

April 17, 2017

RE: **Project Announcement**: Electric Transmission Improvement Project, Prince William County

Dear Neighbor,

At Dominion Virginia Power, we are committed to continually reviewing and analyzing our energy infrastructure to provide the most safe and reliable electric service to our neighbors in Northern Virginia and elsewhere. With this in mind, we have an existing electric transmission corridor near your property with two transmission lines that were built in the 1940s and 1950s. At the present time, these transmission lines exclusively feed three existing NOVEC substations that provide power to more than 11,000 NOVEC customers.

These lines are nearly 70 years old and need to be replaced. As such, we have begun the planning process to address this aging infrastructure. Please refer to the attached Possum Point–Smoketown Electric Transmission Improvement Project fact sheet for more information.

In advance of filing an application before the Virginia State Corporation, we would like to take this opportunity to share more information about this project.

We invite the community to join us at our informational open houses for an opportunity to speak with our electric transmission experts about the project. There will not be formal presentations at these events. Please feel free to attend as your time allows; the format is open with various informational stations.

We hope you can join us.

Tuesday, May 2, 2017, 6-8 p.m.
Fitzgerald Elementary School
15500 Benita Fitzgerald Drive
Woodbridge, VA 22193

Thursday, May 4, 2017, 6-8 p.m.
River Oaks Elementary School
16950 McGuffeys Trail
Woodbridge, VA 22191

As a property owner and a contact for your community, please pass along this information to others. If you would like us to meet with your community organization to discuss this project, please respond via the contact information below.

For project updates, please visit our website at www.dom.com/smoketown. You may also contact us by sending an email to powerline@dom.com or calling 888-291-0190, Monday-Friday, 7 a.m.-5 p.m.

Sincerely,

Dominion Electric Transmission Communications

Enclosure

Possum Point – Smoketown
Electric Transmission Improvement Project

Prince William County

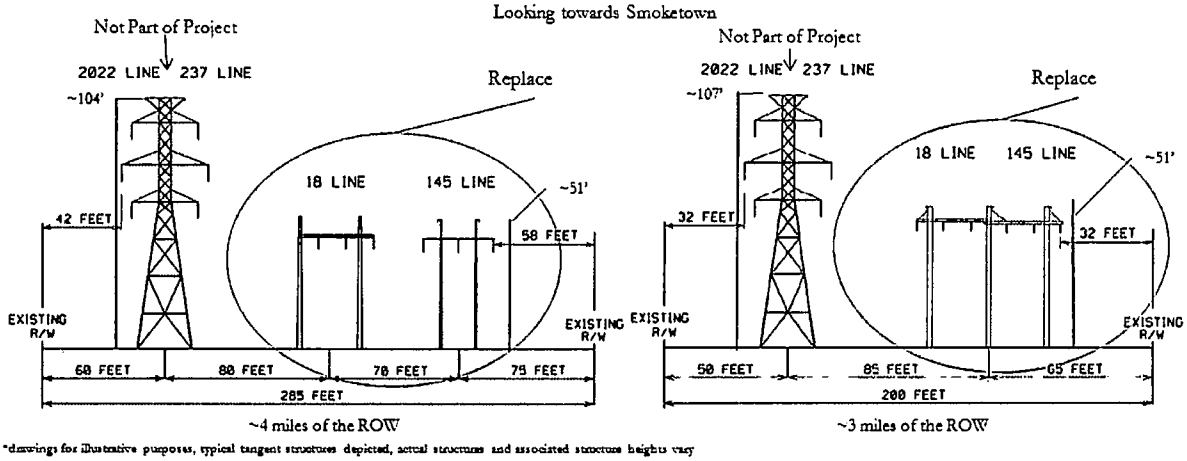
Project Overview:
Dominion Virginia Power has an existing electric transmission corridor that runs from its Possum Point facility in Prince William County up through Dumfries and north into the Dale City area west of I-95. In this corridor, there are two 115 kilovolt (kV) electric transmission lines that exclusively serve three NOVEC substations which provide power to more than 11,000 NOVEC customers. The key purpose of this project is to replace old infrastructure. The 115kV lines were originally built in 1948 and 1954 on wooden poles. Although well maintained, it has come time to completely replace these old transmission lines before they become a reliability concern.

Planning considerations - rebuild this old infrastructure in a way that:
- Requires no new right of way.
- Replaces the lines consistent with current electrical and safety standards.
- Creates flexibility in the network to address potential future needs.
- New structures are generally comparable in height and location to the existing 230kV lattice structures.

Existing Transmission Corridor Conditions:
- Project area is ~8.4 miles long
- Four transmission circuits on primarily three structures
- Right of way width varies from 200' – 285' wide
- Average wooden H-frame 115kV (Lines 18 & 145) structure height (to be replaced) = ~51' tall
- Average galvanized lattice 230kV (Lines 2022 & 237) structure height (will remain) = ~100' – 107' tall

Existing Configurations

Looking towards Smoketown

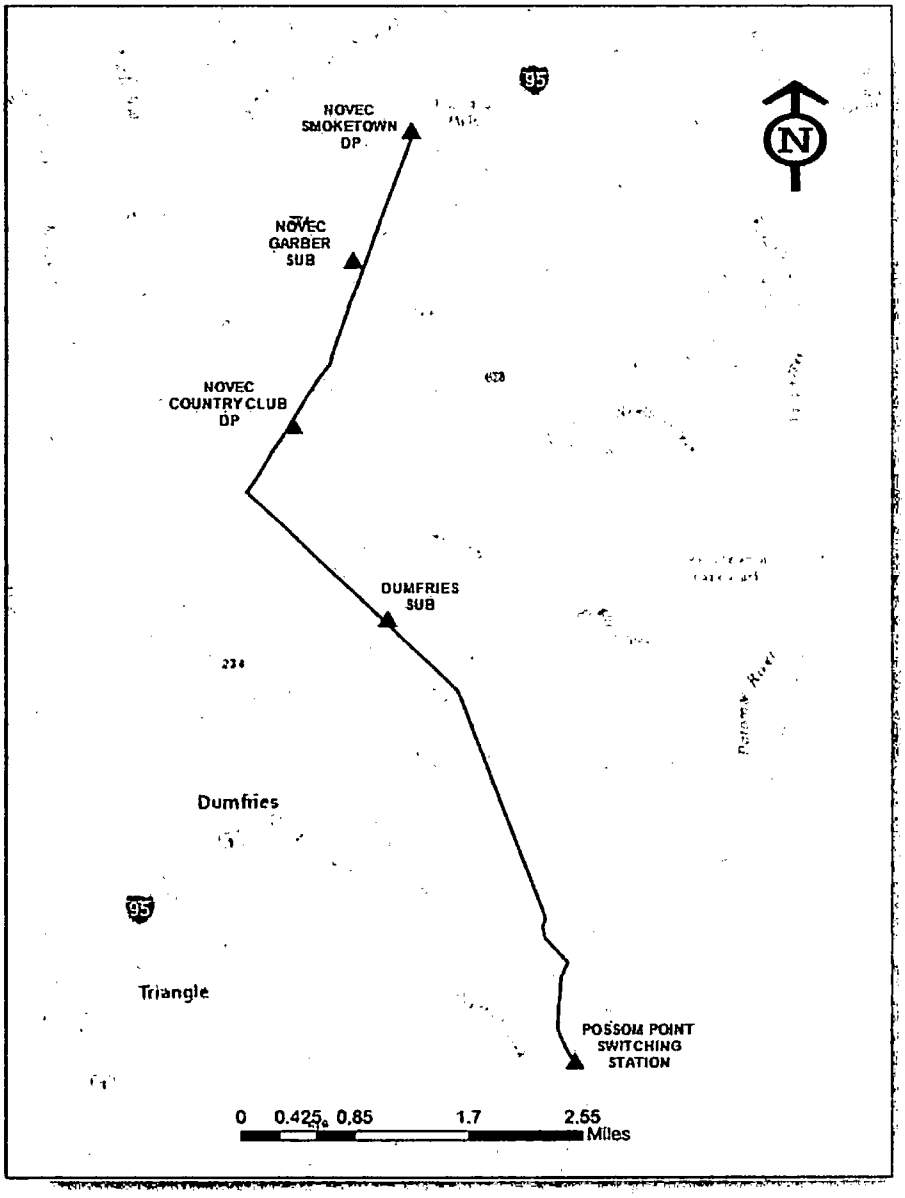


*drawings for illustrative purposes, typical tangent structures depicted, actual structures and associated structure heights vary

Schedule

Open Houses:	May 2 & 4, 2017
Submit Virginia State Corporation Commission Application:	Q2 2017
Anticipated Construction Start:	Spring 2018 (pending necessary approvals)
Anticipated Project Completion:	End of 2019

Possum Point – Smoketown
Electric Transmission Improvement Project



For project updates, please visit our website at www.dom.com/smoketown. You may also contact us by sending an email to powerline@dom.com or calling 888-291-0190, Monday-Friday, 7 a.m.-5 p.m.

Dominion Virginia Power
Electric Transmission
701 East Cary Street, Richmond, VA 23219
dom.com

Dominion

May 9, 2017

RE: **Project Announcement**: Electric Transmission Improvement Project

Dear Neighbor,

At Dominion Virginia Power, we are committed to continually reviewing and analyzing our energy infrastructure to provide the most safe and reliable electric service to our neighbors in Northern Virginia and elsewhere. With this in mind, we have an existing electric transmission corridor near your property with two transmission lines that were built in the 1940s and 1950s. At the present time, these transmission lines exclusively feed three existing Northern Virginia Electric Cooperative (NOVEC) substations that provide power to more than 11,000 NOVEC customers.

These lines are nearly 70 years old and need to be replaced. As such, we have begun the planning process to address this aging infrastructure. Please refer to the attached Possum Point – Smoketown Electric Transmission Improvement Project fact sheet for more information.

In advance of filing an application before the Virginia State Corporation, we would like to take this opportunity to share more information about this project.

We invite the community to join us at our informational open house for an opportunity to speak with our electric transmission experts about the project. There will not be a formal presentation at this event. Please feel free to attend as your time allows; the format is open with various informational stations.

We hope you can join us.

Tuesday, May 23, 2017, 6-8 p.m.
Fitzgerald Elementary School
15500 Benita Fitzgerald Drive
Woodbridge, Virginia 22193

This event is in addition to two previously held open houses and is being hosted to reach more community members. As a property owner and a contact for your neighborhood, please pass along this information to others. If you would like us to meet with your community organization to discuss this project, please respond via the contact information below.

For project updates, please visit our website at www.dom.com/smoketown. You may also contact us by sending an email to powerline@dom.com or calling 888-291-0190, Monday-Friday, 7 a.m.-5 p.m.

Sincerely,

Dominion Electric Transmission Communications

Enclosure

Possum Point – Smoketown
Electric Transmission Improvement Project

Prince William County

Project Overview:
Dominion Virginia Power has an existing electric transmission corridor that runs from its Possum Point facility in Prince William County up through Dumfries and north into the Dale City area west of I-95. In this corridor, there are two 115 kilovolt (kV) electric transmission lines that exclusively serve three NOVEC substations which provide power to more than 11,000 NOVEC customers. The key purpose of this project is to replace old infrastructure. The 115kV lines were originally built in 1948 and 1954 on wooden poles. Although well maintained, it has come time to completely replace these old transmission lines before they become a reliability concern.

Planning considerations - rebuild this old infrastructure in a way that:
- Requires no new right of way.
- Replaces the lines consistent with current electrical and safety standards.
- Creates flexibility in the network to address potential future needs.
- New structures are generally comparable in height and location to the existing 230kV lattice structures.

Existing Transmission Corridor Conditions:
- Project area is ~8.4 miles long
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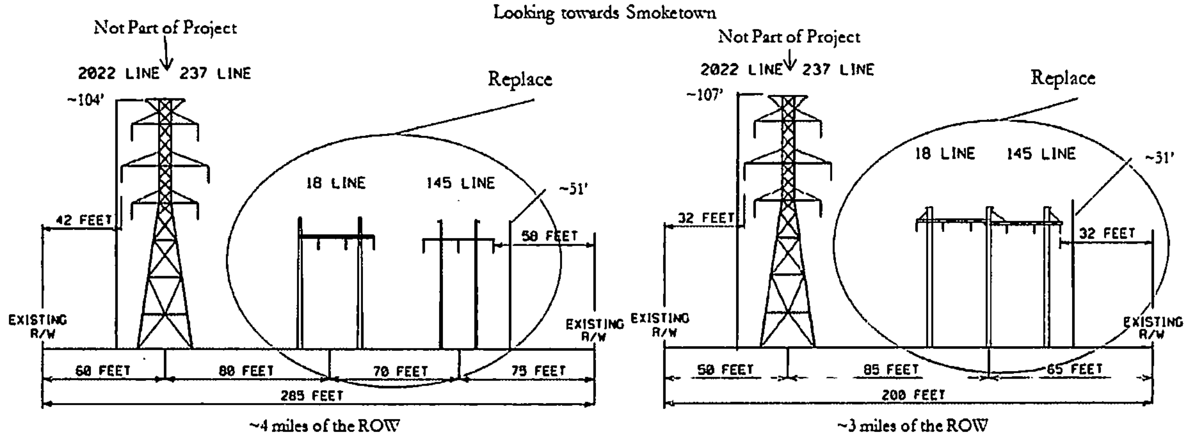
- Average wooden H-frame 115kV (Lines 18 & 145) structure height (to be replaced) = ~51' tall
- Average galvanized lattice 230kV (Lines 2022 & 237) structure height (will remain) = ~100' – 107' tall

Existing Configurations

Looking towards Smoketown



*drawings for illustrative purposes, typical tangent structures depicted, actual structures and associated structure heights vary

Schedule

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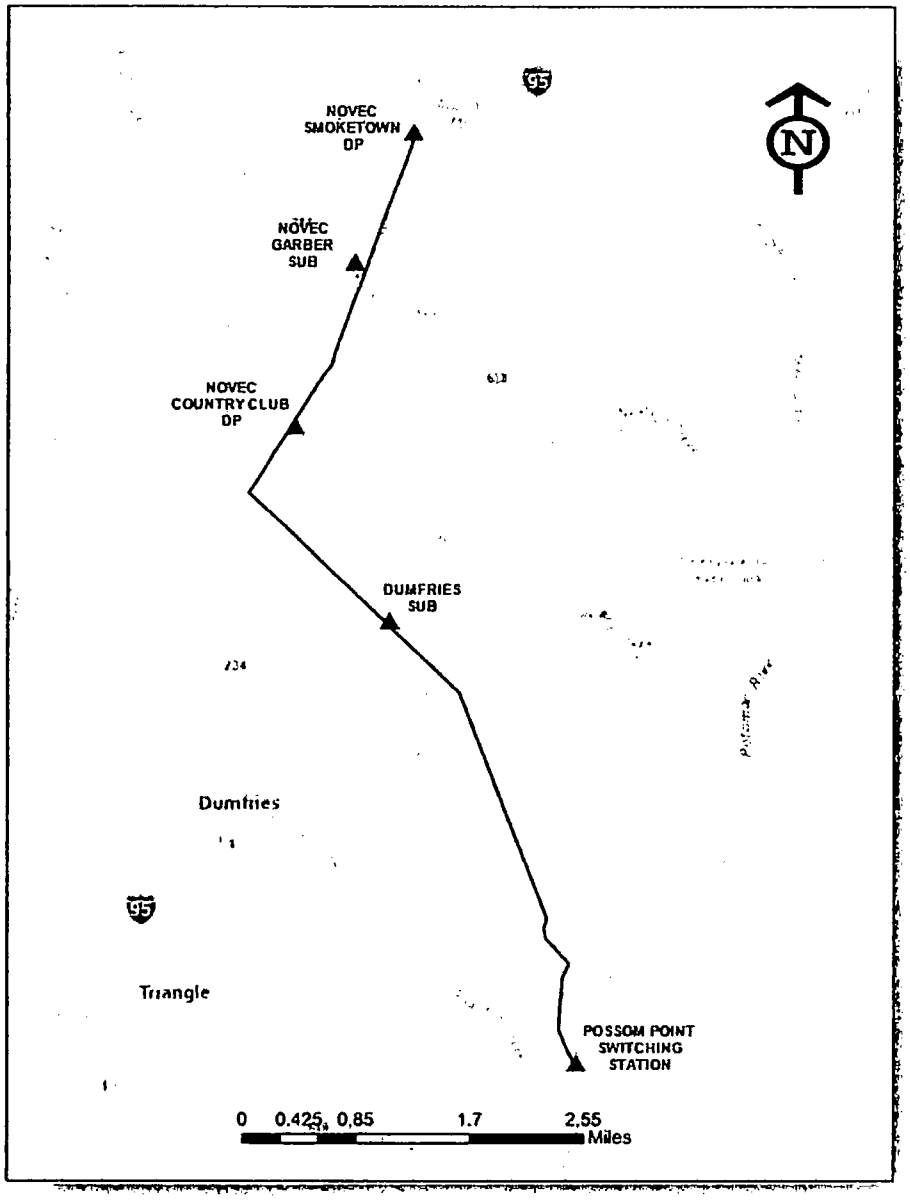
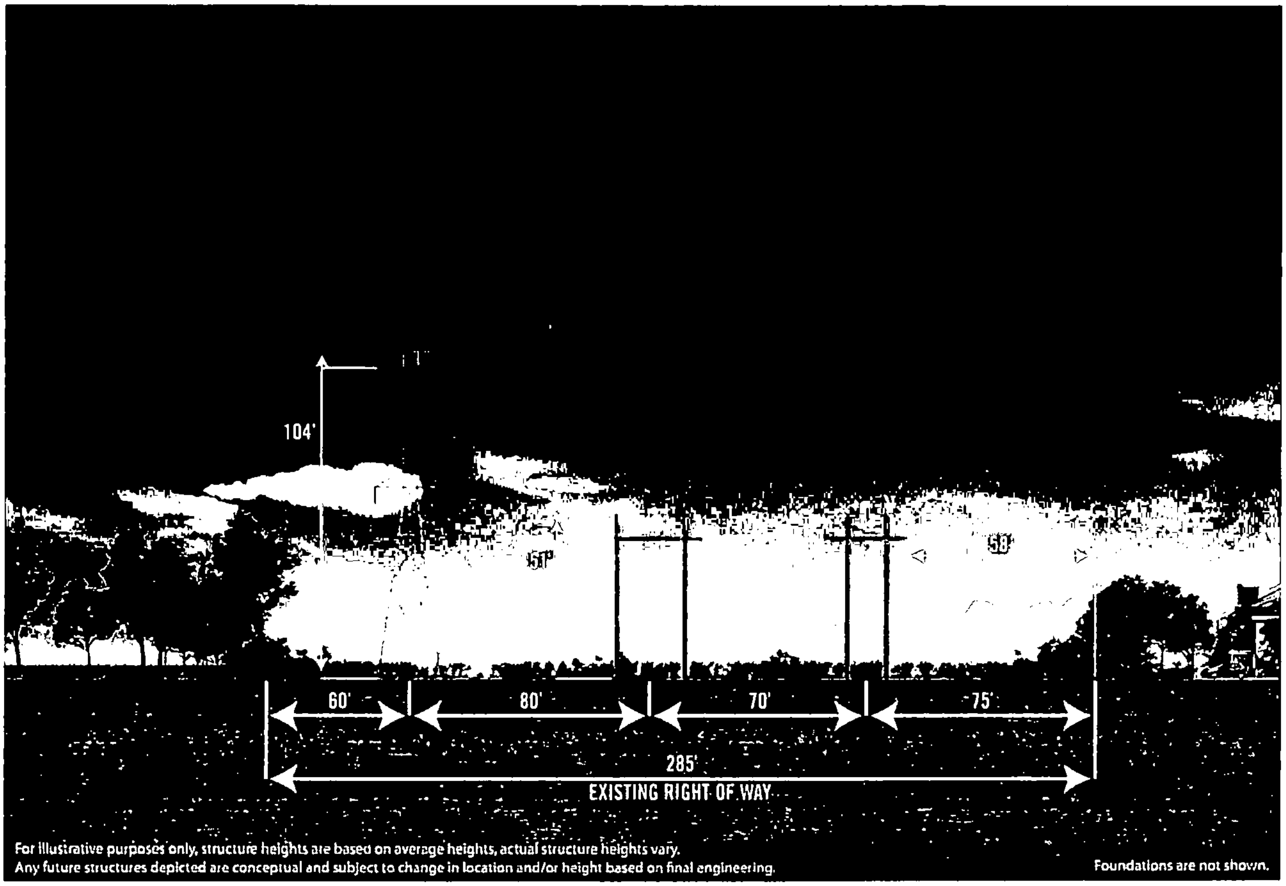
Possum Point – Smoketown
Electric Transmission Improvement Project



For project updates, please visit our website at www.dom.com/smoketown. You may also contact us by sending an email to powerline@dom.com or calling 888-291-0190, Monday-Friday, 7 a.m.-5 p.m.

Dominion



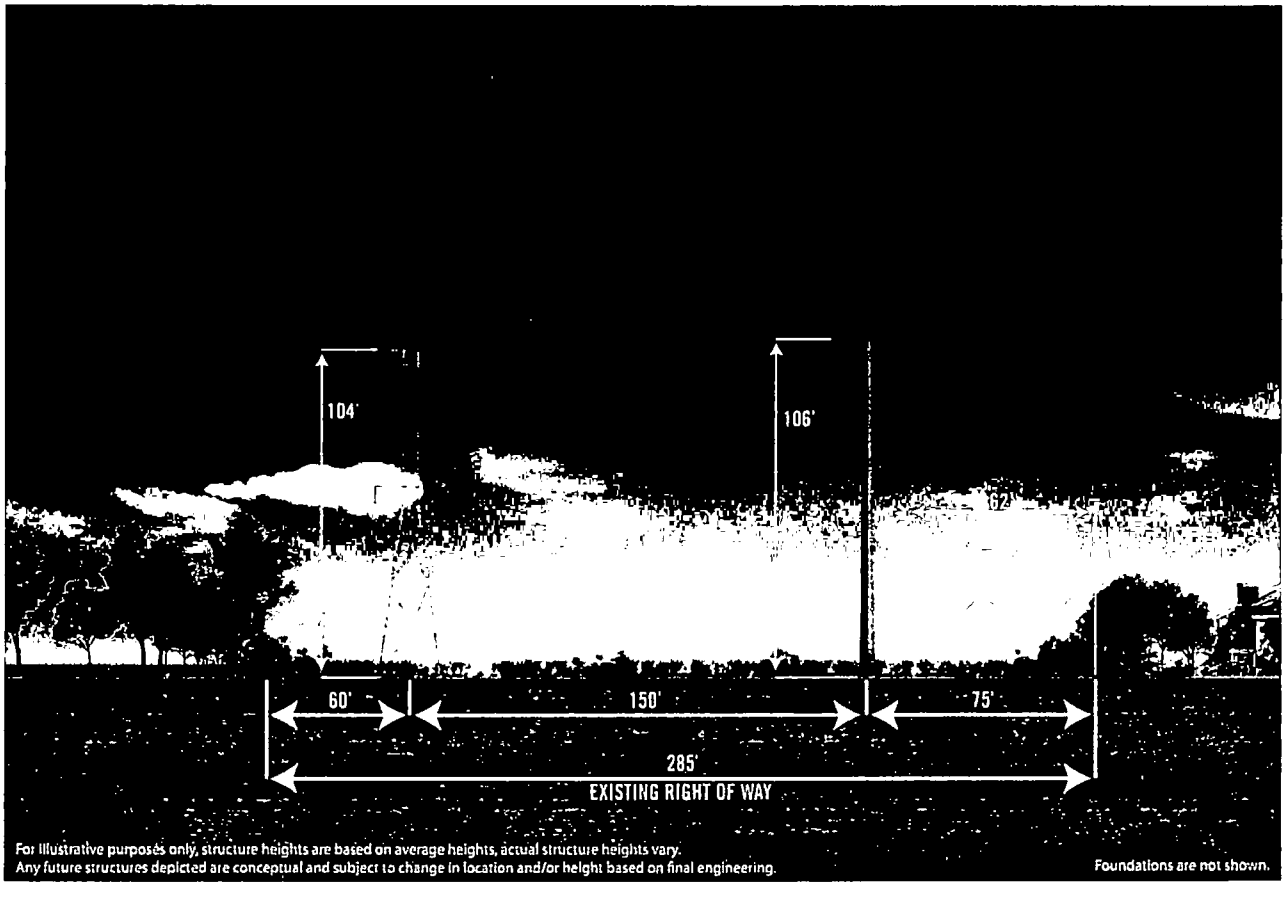
MARCH 2017

Dominion

POSSUM POINT - SMOKETOWN
ELECTRIC TRANSMISSION IMPROVEMENT PROJECT

EXISTING CONFIGURATION
285' RIGHT OF WAY

Renderings By: POWER ENGINEERS



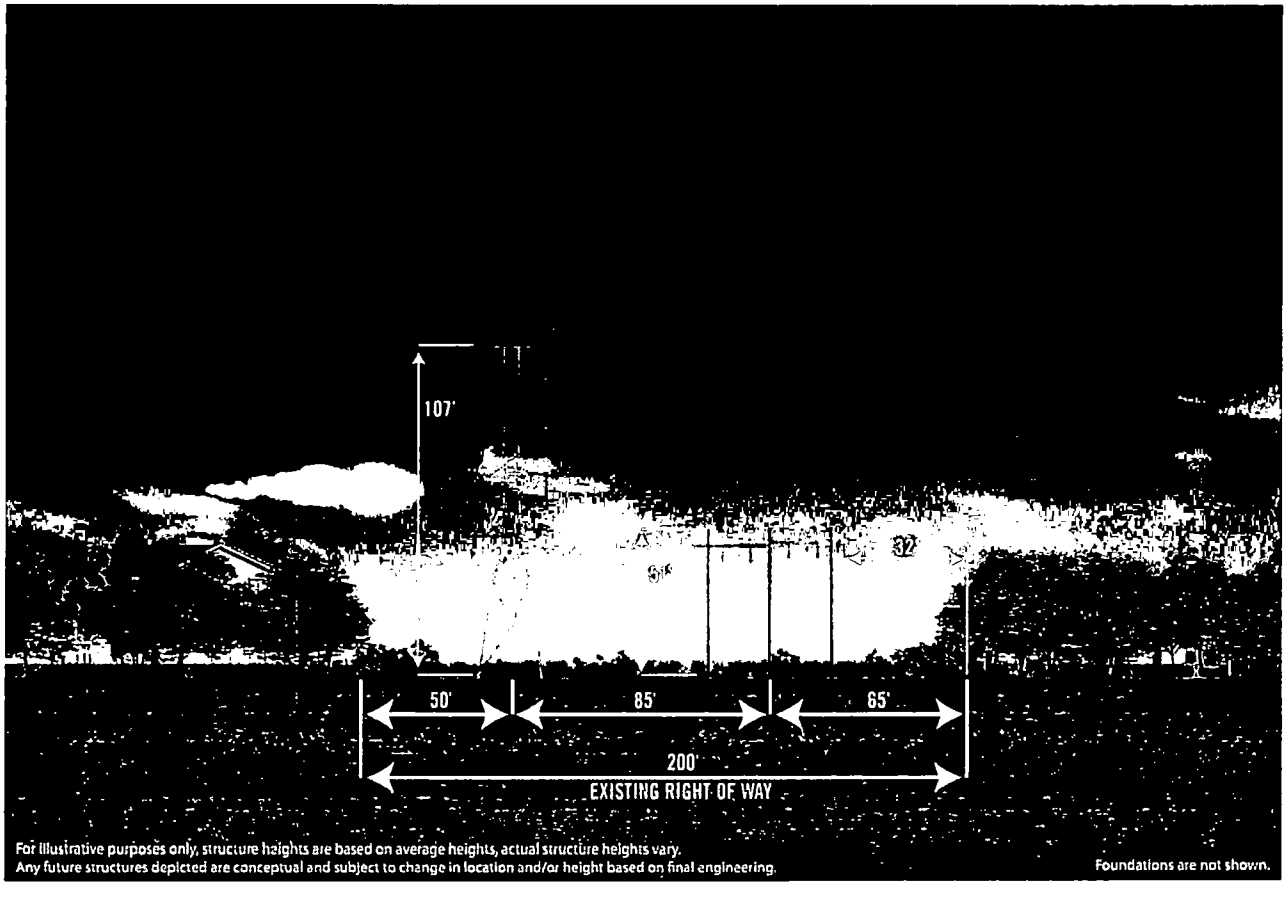
MARCH 2017

Dominion

POSSUM POINT - SMOKETOWN
ELECTRIC TRANSMISSION IMPROVEMENT PROJECT

PREFERRED CONFIGURATION
285' RIGHT OF WAY

Renderings By:
POWER ENGINEERS



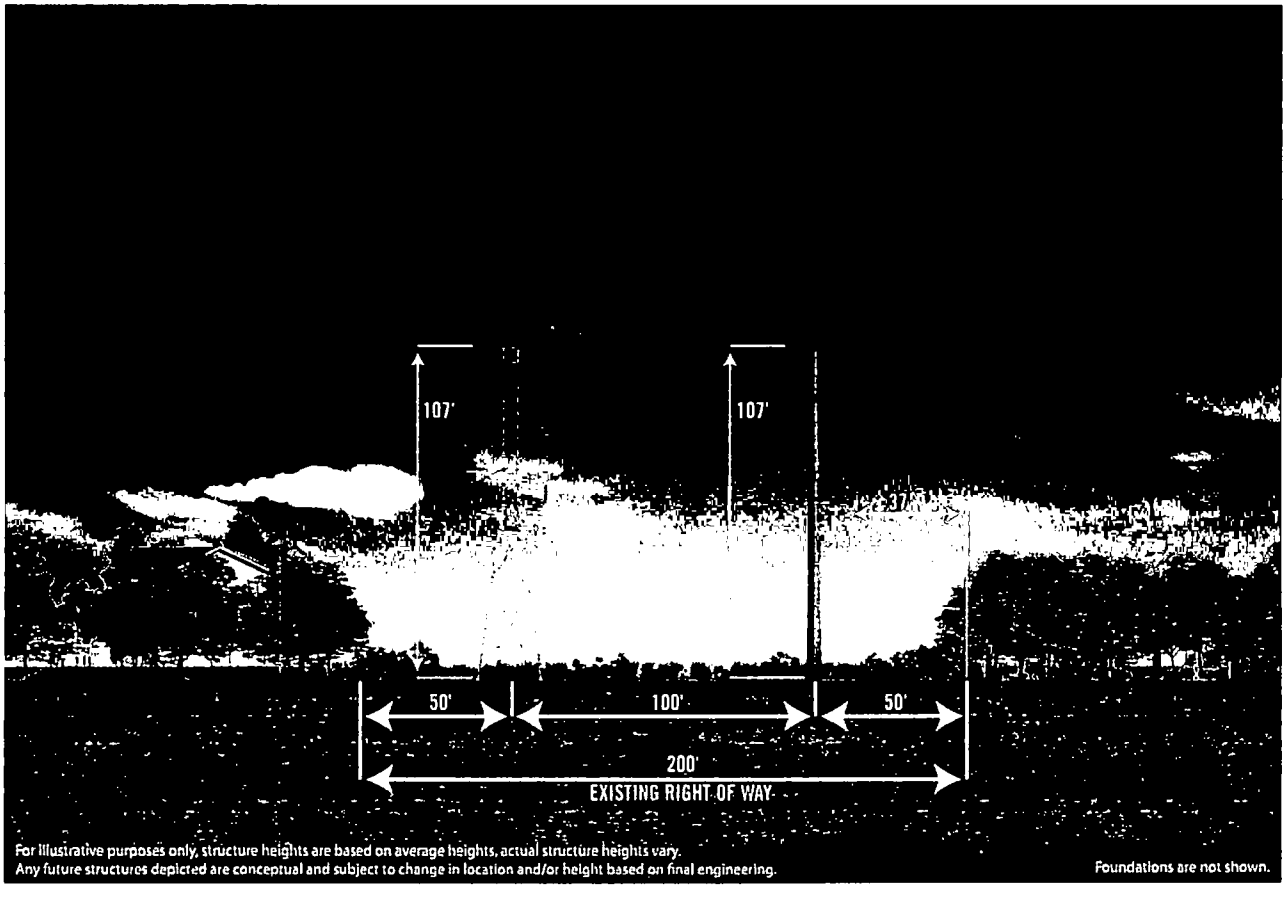
Dominion

POSSUM POINT - SMOKETOWN
ELECTRIC TRANSMISSION IMPROVEMENT PROJECT

EXISTING CONFIGURATION
200' RIGHT OF WAY

MARCH 2017

Renderings By: POWER ENGINEERS



MARCH 2017

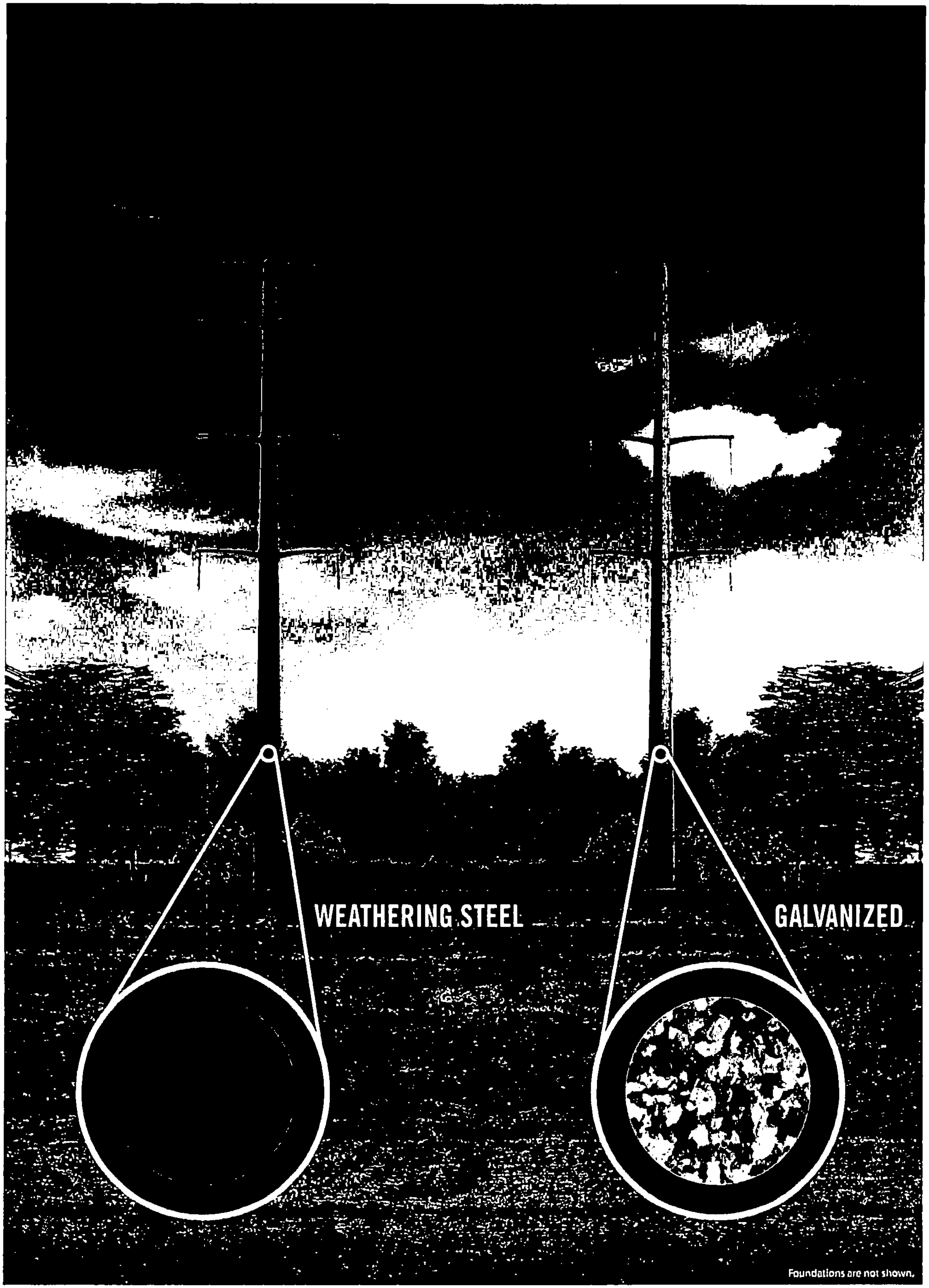
Dominion

POSSUM POINT - SMOKETOWN
ELECTRIC TRANSMISSION IMPROVEMENT PROJECT

PREFERRED CONFIGURATION
200' RIGHT OF WAY

Renderings By: POWER ENGINEERS

17061044



MARCH 2017

Dominion

POSSUM POINT - SMOKETOWN
ELECTRIC TRANSMISSION IMPROVEMENT PROJECT

STRUCTURE MATERIAL COMPARISON
WEATHERING STEEL VS GALVANIZED

Renderings By: POWER ENGINEERS

Pets

ANIMAL DOCTOR

Relocating a litter box

FOX FROM 21

R.A., Newark, N.J.

DF: This is a challenge for an older cat! Your best hope is to buy a large wire dog crate, 4-by-5 feet or larger, and put the cat inside in the new "room," along with a bed, food, water and a litter box.

Clean up the bathroom with Nature's Miracle enzyme cleaner. Let the cat out, supervised, as often as possible for play and grooming, but never allow him back into the bathroom. The cat should adapt quickly to using the litter box in the confines of the cage, which can eventually be left open so the cat can come and go freely, or it can be kept most of the time in the closed room, with as much human company as possible, and let out and closely monitored at other times.

Correction

In an earlier column concerning a dog's fear of being in a car, I suggested a veterinary prescription of Xanax (alprazolam). However, I included an incorrect dosage: Rather than giving the dog 0.5 grams, I recommend giving 0.5 milligrams. I also want to add that you should never treat a pet with your own medications.

Michael W. Fox, author of a newsletter and books on animal care, welfare and rights, is a veterinarian with doctoral degrees in medicine and animal behavior. Send letters to Dr. Michael Fox in care of Andrews McMeel Syndication, 1130 Walnut St., Kansas City, MO 64106.

Dominion Energy

INFORMATIONAL OPEN HOUSE

Possum Point – Smoketown Electric Transmission Improvement Project

Dominion Energy, formerly Dominion Virginia Power, is committed to continually reviewing and analyzing its energy infrastructure to provide the most safe and reliable electric service to our neighbors. It has become necessary for Dominion Energy to address two existing transmission lines that have been in operation for nearly 70 years.

Dominion Energy has been working to identify its options to improve this infrastructure. Before we begin construction, Dominion Energy must file an application with the Virginia State Corporation Commission for approval.

OPEN HOUSE
Tuesday May 23, 2017
6 p.m. – 8 p.m.

Fitzgerald Elementary School
15500 Benita Fitzgerald Drive
Woodbridge, VA 22193

OVERVIEW: Two existing 115 kilovolt (kV) electric transmission lines that exclusively serve three NOVEC substations that provide power to more than 11,000 NOVEC customers. These lines were originally built in 1948 and 1954 on wooden poles.

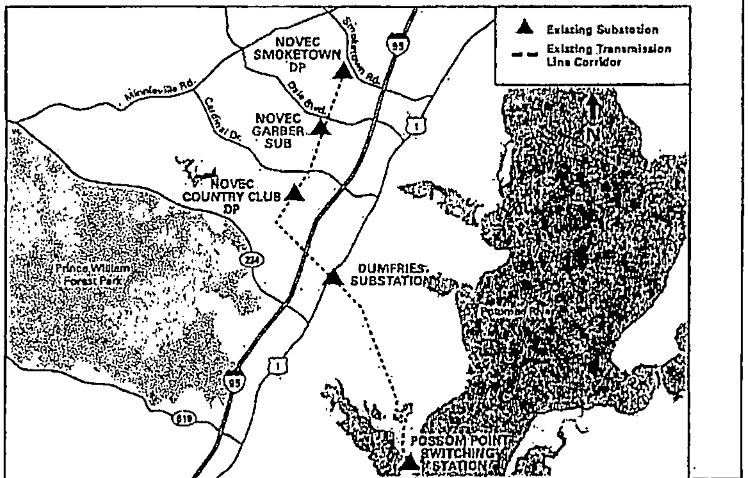
PROJECT: The key purpose of this project is to replace old infrastructure.

PLANNING CONSIDERATIONS — rebuild this old infrastructure in a way that:

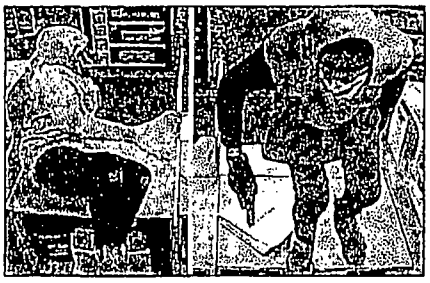
- Requires no new right of way
- Replaces the lines consistent with current electrical and safety standards
- Creates flexibility in the network to address potential future needs
- New structures are generally comparable in height and location to the existing 230kV lattice structures

COMMUNITY ENGAGEMENT: We want to share our plans and hear your views prior to submitting our application. Stop by anytime during our open house event to learn more about what this project will mean for you and your community. We welcome your feedback.

For more information regarding this project, please visit www.dominionenergy.com/smoketown, or call 888-291-0190 Monday – Friday, 7 a.m. – 5 p.m. For routine business or reporting an outage, please call 1-866-DOM-HELP (1-866-366-4357).



ARMED ROBBERS JUMP CVS COUNTER FOR DRUGS



Investigators are looking for two people in an armed robbery of a Woodbridge pharmacy May 10.

Around 8:58 p.m., the two masked robbers entered the CVS at 16712 Jefferson Davis Highway, Prince William police spokesperson Officer Nathan Probus said.

They approached the pharmacy counter as one of them pulled out a gun. Both suspects jumped over the counter, took prescription drugs and fled on foot.

One person's race and gender were not known, but police describe the person as being 6 feet tall with a thin build, wearing a tan jacket, dark blue jeans and Timberland boots.

The second one was a white male, between 20 and 30 years old, 6 feet tall, with a thin build. He was wearing a grey sleeveless hoodie, a long-sleeved dark shirt, blue jeans and tan shoes.

MANASSAS WOMAN DEAD, WOODBRIDGE MAN INJURED IN I-95 SHOOTING

Investigators of a weekend shooting on Interstate 95 in Richmond that killed two women have identified the third person shot in the incident as a Woodbridge resident.

The 24-year-old male passenger, whose name has not been released, is still being treated at VCU Medical Center for life-threatening injuries from a gunshot wound, Virginia State Police spokesperson Sgt. Stephan Vick said May 15.

Shot to death were Tanna D. Gardner, 23, of Richmond, and Shaeyne Danielle Nichole Holland, 26, of the 9300 block of Stoney Run Place in Manassas.

Around 3:40 a.m. May 14, the victims and four other individuals were heading north on I-95 near exit 75 in a 2017 Nissan. A white four-door sedan pulled along the driver's side and multiple shots were fired at the Nissan.

The victims' vehicle ran off the left side of the Exit 75 ramp and came to a stop. Gardner, the driver, was pronounced dead at the scene. Holland was transported to an area hospital, where she died.

Anyone who may have witnessed the shooting or has information about the shooting is asked to contact the Virginia State Police at 804-553-3445 or e-mail questions@vsp.virginia.gov.

ARMED ROBBER DEMANDS CASH AT MANASSAS-AREA 7-ELEVEN

Investigators are hoping the public can help identify a suspect in an armed robbery early May 13, in the Sudley Road area, Prince William police spokesperson Officer Nathan Probus said.

At 4:58 a.m., a man wearing a mask and carrying a gun entered the 7-Eleven at 10740 Coverstone Road and demanded money.

He fled with an undisclosed amount of cash.

A police dog searched the area for the robber, but nobody was found, Probus said.

The robber is a black male, 6-foot-3 and 240 pounds. He had a heavy build and was wearing a green coat, khaki pants and black boots.

DRIVER STRIKES WOMAN'S CAR TWICE, BLOCKS ROAD IN WOODBRIDGE

Initial reports of two cars driving recklessly in the Woodbridge area led to one of the drivers being accused of maliciously hitting the other vehicle, Prince William police spokesperson Nathan Probus said Monday, May 15.

Jose Miquel Blount, 41, of the 9400 block of Dashia Drive in Fort Washington, Maryland, was charged with attempted malicious wounding, hit-and-run and reckless driving.

At 2:50 p.m. May 10, police responded to reports that two people were driving recklessly as one car chased another in the area of Jefferson Davis Highway and Dale Boulevard.

A short time later, one of the drivers, a 32-year-old Woodbridge woman, filed a report at the Gar-Field police station that she was being chased by Blount, an acquaintance. The victim was reportedly driving near her home when she spotted Blount's vehicle. She attempted to drive away, but he followed her, Probus said.

Blount allegedly hit the victim's car twice and pulled in front of her vehicle to block the roadway.

On May 12, Blount was arrested in Washington, D.C., where he is being held pending extradition to Virginia. A court date was pending.

MOMS CHARGED AFTER KIDS LEFT ALONE IN VEHICLES

Two mothers were charged with felony child neglect last week after their children were found unattended inside vehicles, Prince William police spokesperson Officer Nathan Probus said.

Neither child was injured and both were released to family members.

Around 5:29 p.m. May 10, officers responded to the Dillingham Square parking lot for a report of child neglect. They found a 4-year-old boy inside a vehicle.

The mother, 32-year-old Melissa Kathleen Mardeusz, of the 37000 block of Beaver Ford Road, Woodbridge, was found inside a nearby business. Officers determined the boy had been left unattended in the car for more than 30 minutes, Probus said.

Mardeusz was held in lieu of a $25,000 secured bond. A court date was pending.

Two days earlier, officers responded to a parking lot at Stonebridge at Potomac Town Center, in the 2400 block of Rock Bridge Court.

They found an 11-month-old boy unattended in a vehicle. The mother, 41-year-old Olena Cochran, of the 1400 block of Occoquan Heights Court in Occoquan, returned to the vehicle a short time later after visiting a nearby business.

Officers learned the child had been left unattended for approximately 30 minutes, Probus said.

Cochran was released on her own recognizance. Court date information was not available.

III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

C. Detail the nature, location, and ownership of all buildings which would have to be demolished or relocated if the project is built as proposed.

Response: During the Company's initial review of the transmission corridor, it became aware of two unauthorized encroachments in the existing transmission corridor, including a gazebo and a dumpster enclosure with fence, which will need to be addressed as the Company continues to investigate the right-of-way. Property owners have been contacted in connection with the Company's investigation of the right-of-way.

The Company is not aware of any permanent residences or other buildings encroaching within the right-of-way and does not expect to have any permanent residences or other buildings demolished or relocated in connection with the Rebuild Project.

III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

D. What existing physical facilities will the line parallel, if any, such as existing transmission lines, railroad tracks, highways, pipelines, etc.? Describe the current use and physical appearance and characteristics of the existing right-of-way that would be paralleled. How long has the right-of-way been in use?

Response: The wooden pole section of Line #18 was originally constructed in 1954, while the wooden pole section of Line #145 was originally constructed in 1948. Lines #2022 and #237, existing 230 kV lines originally constructed in 1961, are also located within the transmission corridor on shared steel lattice structures for all but 0.8 mile of the Proposed Route of the Rebuild Project. Existing 230 kV Lines #2001 and #215 also parallel all of the above listed lines for 0.12 mile while on the Company's Possum Point Power Station property. The existing right-of-way, which varies from 200-feet- to 285-feet-wide, has been in use since 1961. See Section II.A.4 for a description and Attachment I.E.1 for a general map of adjacent, parallel transmission lines that are present within the existing maintained transmission line corridor.

In addition, the existing corridor crosses over three major roads: Interstate 95, Dale Boulevard, and U.S. Route 1. A CSX rail line is crossed by the existing corridor near the Possum Point Power Station.

III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

E. Has the Company investigated land use plans in the areas of the proposed route? How would the building of the proposed line effect future land use of the areas affected?

1. Has the Company determined from the governing bodies of each county, city and town in which the proposed facilities will be located whether those bodies have designated the important farmlands within their jurisdictions, as required by Virginia Code Section 3.2-205B?

2. If so, and if any portion of the proposed facilities will be located on any such important farmland, please:

a. Include maps and other evidence showing the nature and extent of the impact on such farmlands.

b. Describe what alternatives exist to locating the proposed facilities on the affected farmlands, and why those alternatives are not suitable.

c. Describe the applicant's proposals to minimize the impact of the facilities on the affected farmland.

Response: The Comprehensive Plan for Prince William County was reviewed to evaluate the potential effect the Rebuild Project could have on future development. The placement and construction of electric transmission lines is not addressed explicitly within the Comprehensive Plan for Prince William County; however, they have emphasized in Econ-Policy #3 that the county "encourage[s] the provision and maintenance of water, sewer, electricity, transportation, and communication infrastructure to support targeted industries and existing County-based companies at appropriate locations in the development area." As this Rebuild Project addresses maintenance within the meaning of the County's policy, it conforms therewith.

Also addressed in the Comprehensive Plan is the Potomac Communities Revitalization Plan. This plan was developed independently from the Comprehensive Plan, but is included by reference. The Potomac Communities are described as the areas within the county east of Interstate 95. A tenet of the plan, DES-3, is to work with the utility companies – to minimize the number of poles, to underground the lines, or to co-locate them – until such time undergrounding becomes financially feasible. As such, the Company is compliant with the desires of the County with regard to the revitalization of the Potomac communities since the Rebuild Project will be co-locating Line #18 and Line #145 and reducing the number of poles within

the corridor. See Section I.C regarding why undergrounding was rejected for the Rebuild Project.

In addition to the Comprehensive Plan, the Prince William County BOCS approved on May 17, 2016, a Zoning Text Amendment to create the Overlay District for the purpose of promoting the development of data centers within the County, as discussed in Section I.B. See Attachment I.B.1. The transmission corridor containing Lines #18 and #145 traverses an existing industrial area, terminating just south of an Overlay District. The Overlay District was established over properties where supporting infrastructure is readily available or easily provided with minimal impact to residential properties.[13] Constructing the Rebuild Project capable for 230 kV operation in the future helps ensure that data centers located in the Overlay District can be integrated into the transmission system with minimal impact. A map of the Overlay District is included as Attachment III.E.1.

1. There are no such designated farmlands crossed by the Proposed Route.

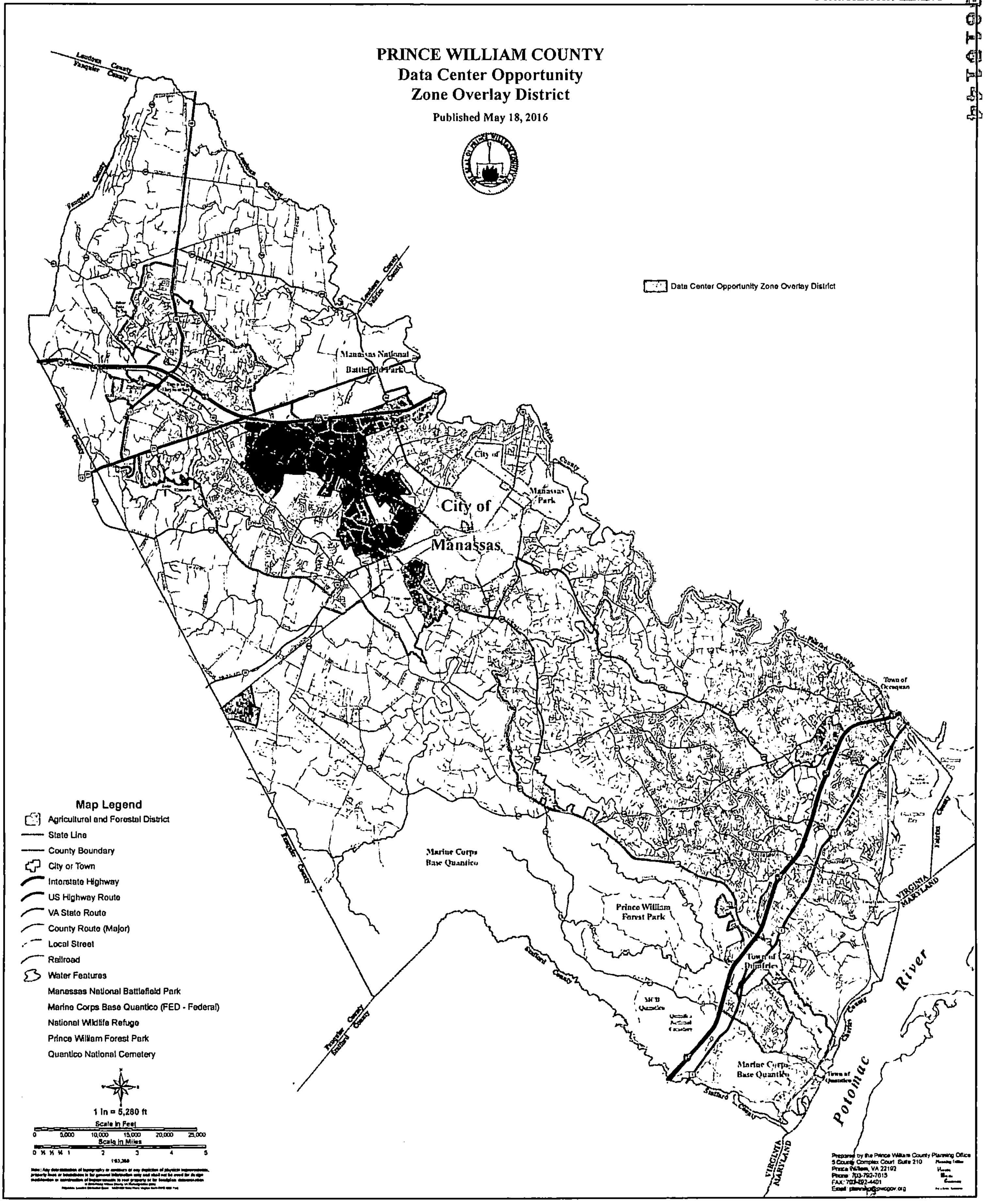
   The Comprehensive Plan addresses organized development, including existing and future plans, and the preservation of important features such as farmland and environmentally-sensitive areas. A total of 52% of the County is considered rural, with approximately one-third of that area used for farmland. An update to Comprehensive Plan is currently underway but the County has been advised to preserve 60% of the identified rural area as open space. No other reference to prime farmlands, or unique or locally important farmlands as described in Va. Code § 3.2-205.B are made within the update. The Rebuild Project does not take place in the portion of the County deemed by the Comprehensive Plan as the "Rural Area."

   Agricultural and Forestal Districts ("AFDs") are rural zones reserved for the production of agricultural products, timber, and the maintenance of open space land as designated by the locality. The districts are voluntary agreements between landowners and localities which preserve the land in its current use for a period of no less than four years and which must be valuated no less frequently than every 10 years. Prince William County has over 2,200 acres included in one of three AFDs. The nearest AFD to the Rebuild Project is approximately 11 miles away. Should an AFD be established adjacent to the project area, the Rebuild Project will be considered consistent with the intended use of AFDs as the proposed project is the rebuild of an existing transmission line and will not result in more intensive use than has been present since the construction of the existing transmission line.

[13] *See* http://www.pwcgov.org/news/pages/prince-william-county-solidifies-data-center-opportunities.aspx.

Prime farmland, as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. Land that does not meet the criteria for prime farmland can be considered to be "farmland of statewide importance." The criteria for defining and delineating farmland of statewide importance are determined by the Virginia Department of Agriculture and Consumer Services. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Other areas that are not identified as having national or statewide importance can be considered to be "farmland of local importance." This farmland is identified by the appropriate local agencies. Farmland of local importance may include tracts of land that have been designated for agriculture by local ordinance. A total of 35.1 acres of prime farmland and 81.9 acres of farmland of statewide importance are located within the Rebuild Project right-of-way. Within the right-of-way, few areas of prime farmland and farmland of statewide importance are currently in agricultural use. The surrounding land is heavily developed and is no longer used for the production of crops. The presence of the transmission line and the proposed improvements included in the Rebuild Project would not be expected to impact prime farmlands or farmland of statewide importance.

2. Not applicable.


PRINCE WILLIAM COUNTY
Data Center Opportunity
Zone Overlay District
Published May 18, 2016
Data Center Opportunity Zone Overlay District
Manassas National Battlefield Park
City of Manassas
City of Manassas Park
Town of Occoquan
Marine Corps Base Quantico
Prince William Forest Park
Town of Dumfries
Marine Corps Base Quantico
Potomac River
VIRGINIA MARYLAND
Loudoun County
Fauquier County
Fairfax County
Stafford County
Map Legend
Agricultural and Forestal District
State Line
County Boundary
City or Town
Interstate Highway
US Highway Route
VA State Route
County Route (Major)
Local Street
Railroad
Water Features
Manassas National Battlefield Park
Marine Corps Base Quantico (FED - Federal)
National Wildlife Refuge
Prince William Forest Park
Quantico National Cemetery
1 In = 5,280 ft
Scale in Feet
Scale in Miles
Prepared by the Prince William County Planning Office
5 County Complex Court Suite 210
Prince William, VA 22192
Phone: 703-792-7615
FAX: 703-792-4401

III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

F. Identify the following that lie within or adjacent to the proposed right-of-way:

1. Any district, site, building, structure, or other object included in the National Register of Historic Places maintained by the U.S. Secretary of the Interior;

2. Any historic landmark, site, building, structure, district or object included in the Virginia Landmarks Register maintained by the Virginia Board of Historic Resources;

3. Any historic district designated by the governing body of any city or county;

4. Any state archaeological site or zone designated by the Director of the Virginia Department of Historic Resources, or his predecessor, and any site designated by a local archaeological commission, or similar body;

5. Any underwater historic property designated by the Virginia Department of Historic Resources, or predecessor agency or board;

6. Any National Natural Landmark designated by the U.S. Secretary of the Interior;

7. Any area or feature included in the Virginia Registry of Natural Areas maintained by the Virginia Department of Conservation and Recreation;

8. Any area accepted by the Director of the Virginia Department of Conservation and Recreation for the Virginia Natural Area Preserves System;

9. Any conservation easement qualifying under Sections 10.1-1009 to -1016 of the Code of Virginia, or prior provision of law;

10. Any state scenic river;

11. Any federal state, or local park, forest, game or wildlife preserve, recreational area, or similar facility; Features, sites, and the like listed in 1 through 10 above need not be identified again.

Response: 1. None.

2. None.

3. None.

4. Twelve previously-identified archaeological resources are either within or immediately adjacent to the Rebuild Project corridor, including site numbers 44PW0766, 44PW0782, 44PW0793, 44PW0794, 44PW0795, 44PW0804, 44PW0807, 44PW0814, 44PW0843, 44PW0844, 44PW1023, and 44PW1030. All but 44PW1023 are unevaluated. Site 44PW1023 has been determined not eligible for listing on the NRHP.

5. None.

6. None.

7. None.

8. None.

9. None.

10. None.

11. Prince William County's Turley Fields Park is located adjacent to the existing 230 kV Lines #2022/#237 side of the transmission corridor containing the Rebuild Project. No adverse impacts to the park are expected as the Rebuild Project uses an existing transmission corridor, the 230 kV lines closest to the park are not part of the Rebuild Project and the two land uses have operated side-by-side for decades without issue.

    Several trails also either exist or are planned to cross or run adjacent to the Rebuild Project. These trails connect residential areas with county, state, and national parks, forests, and wildlife management areas, as well as with places of cultural and historical interest, schools, retail areas, and transportation nodes. Existing trails crossed by the right-of-way are located on Cardinal Drive and Route 1. The proposed trails planned adjacent to the corridor are the River Heritage Boulevard Trail and the Van Buren Road Trail. The right-of-way will cross the proposed trail for Dale Boulevard and the connecting trail from Van Buren Road to Dale Boulevard. The Rebuild Project will not impact the current or proposed trail system as the location of the transmission corridor is fixed and has been in

place for several decades allowing the County to plan land uses for the adjacent areas to coincide with the right-of-way.

The right-of-way also crosses two heritage trail corridors: the Potomac Heritage and Washington-Rochambeau corridors. Heritage trail corridors are linear swaths of land that connect or contain resources of cultural significance. The Potomac Heritage corridor allows the exploration of Northern Virginia's history, including the early tobacco economy, growth of the nation, and Civil War. The Washington-Rochambeau Route traces the route taken by the Continental and French armies for the 1781 campaign during the Revolutionary War. The routes and planned trails associated with these corridors generally follow existing road network, including Route 1.

The Rebuild Project is not expected to impact future development plans in the County, including further development of the heritage corridors, because it is a rebuild of an existing transmission line.

III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

G. List any airports where the proposed route would place a structure or conductor within the glide path of the airport. Advise of contacts and results of contacts made with appropriate officials regarding the effect on the airport's operations.

Response: The Federal Aviation Administration ("FAA") is responsible for overseeing air transportation in the United States. The FAA manages air traffic in the United States and evaluates physical objects that may affect the safety of aeronautical operations through an obstruction evaluation. The prime objective of the FAA in conducting an obstruction evaluation is to ensure the safety of air navigation and the efficient utilization of navigable airspace by aircraft.

The Quantico Naval Air Station Airport is located approximately 2.3 miles south of the nearest structure. The Company will be required to notify the FAA of the southernmost structure locations due to proximity to the airport. Proposed structures do not exceed restricted heights and do not require any FAA lighting.

III. IMPACT OF LINE ON SCENIC, ENVIRONMENTAL AND HISTORIC FEATURES

H. Advise of any scenic byways that are in close proximity to or will be crossed by the proposed transmission line and describe what steps will be taken to mitigate any visual impacts on such byways. Describe typical mitigation techniques for other highway's crossings.

Response: The Commonwealth Transportation Board is authorized to designate any highway as a scenic byway or as a Virginia byway. This designation is made in cooperation with the Director of the DCR. A "Virginia Byway" is defined as a road, designated as such by the Commonwealth Transportation Board, having relatively high aesthetic or cultural value, leading to or within areas of historical, natural, or recreational significance. A "scenic highway" is defined as a road designated as such by the Commonwealth Transportation Board, within a protected scenic corridor located, designed and constructed so as to preserve and enhance the natural beauty and cultural value of the country side.

According to the Virginia Department of Transportation ("VDOT") website, and in consultation with DCR, the Proposed Route is not proximate to and do not cross any Virginia Byways.

Along road crossings, existing vegetation that will not conflict with the safe electrical clearances of the conductors will be retained.

IV. HEALTH ASPECTS OF EMF

A. State the calculated maximum electric and magnetic field (EMF) levels that are expected to occur at the edge of the right-of-way. If the new transmission line is to be constructed on an existing electric transmission line right-of-way, provide the present EMF levels as well as the maximum levels calculated at the edge of right-of-way after the new line is operational.

Response: Public exposure to magnetic fields is best estimated by field levels from the power lines calculated at annual average loading. For any day of the year, the EMF levels associated with average conditions provide the best estimate of potential exposure. Maximum (peak) values are less relevant as they may occur for only a few minutes or hours each year.

This section describes the levels of EMF associated with the existing transmission lines #18, #145, #215, #237, #2001, and #2022 compared with the proposed rebuild of the lines #18 and #145, along with the other lines remaining in the corridor. EMF levels are provided for both historical (2016) and future (2020) annual average and maximum (peak) loading conditions.

Existing lines – Average historical loading in 2016

EMF levels were calculated for the existing lines at the ***historical average*** load conditions shown in the table below:

LINE #	VOLTAGE (5% OVERVOLTAGE)	ATTACHMENTS	AVERAGE (Amps)
18	121 kV	II.A.3.a, c, d, e, & g	93
18	121 kV	II.A.3.i	55
145	121 kV	II.A.3.a, c, d, e, g, & i	75
215	242 kV	II.A.3.c	442
237	242 kV	II.A.3.c, d, e, g, & i	392
2001	242 kV	II.A.3.c	262
2022	242 kV	II.A.3.c, d, e, & g	459
2022	242 kV	II.A.3.i	358

The field levels were calculated at mid-span where the conductor is the temperature and above the minimum NERC ground clearance. The EMF levels at each side of the right-of-way or tree clearing edge on Company-owned property for the existing lines at historical average loading are listed below:

Attachment	Western Edge		Eastern Edge	
	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.3.a	0.269	3.128	0.267	2.248
II.A.3.c	0.179	9.973	0.161	10.632
II.A.3.d	0.08	4.824	0.159	9.317
II.A.3.e	0.201	18.212	0.17	2.451
II.A.3.g	0.247	15.336	0.224	2.562
II.A.3.i	0.5	23.495	0.46	3.866

Existing lines – Peak historical loading in 2016

EMF levels were calculated for the existing lines at the ***historical peak*** load conditions shown in the table below:

LINE #	VOLTAGE (5% OVERVOLTAGE)	ATTACHMENTS	PEAK (Amps)
18	121 kV	II.A.3.a, c, d, e, & g	230
18	121 kV	II.A.3.i	136
145	121 kV	II.A.3.a, c, d, e, g, & i	154
215	242 kV	II.A.3.c	1052
237	242 kV	II.A.3.c, d, e, g, & i	831
2001	242 kV	II.A.3.c	1030
2022	242 kV	II.A.3.c, d, e, & g	995
2022	242 kV	II.A.3.i	777

The field levels were calculated at mid-span where the conductor is the closest to the ground and the conductors were at historical peak load operating temperature and above the minimum NERC ground clearance. The EMF levels at each side of the right-of-way or tree clearing edge on Company-owned property for the existing lines at historical peak loading are listed below:

Attachment	Western Edge		Eastern Edge	
	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.3.a	0.268	8.018	0.267	4.294
II.A.3.c	0.179	21.224	0.170	20.178
II.A.3.d	0.081	10.707	0.175	20.532
II.A.3.e	0.183	40.674	0.17	5.081
II.A.3.g	0.238	34.625	0.224	5.41
II.A.3.i	0.507	52.249	0.459	7.465

Proposed Rebuild Project – Average historical loading in 2016

EMF levels were calculated for the proposed and remaining existing lines at a ***historical average*** load condition shown in the table below:

LINE #	VOLTAGE (5% OVERVOLTAGE)	ATTACHMENTS	AVERAGE (Amps)
18	121 kV	II.A.3.b	93
18	242 kV	II.A.3.c, d, f, & h	93
18	242 kV	II.A.3.j	55
145	121 kV	II.A.3.b	75
145	242 kV	II.A.3.c, d, f, h, & j	75
215	242 kV	II.A.3.c	442
237	242 kV	II.A.3.c, d, f, h, & j	392
2001	242 kV	II.A.3.c	262
2022	242 kV	II.A.3.c, d, f, & h	459
2022	242 kV	II.A.3.j	358

The field levels were calculated at mid-span where the conductor is the closest to the ground and the conductors were at historical average load operating temperature and above the minimum NERC ground clearance. The EMF levels at each side of the right-of-way or tree clearing edge on Company-owned property for the proposed and remaining existing lines at historical average loading are listed below:

Attachment	Western Edge		Eastern Edge	
	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.3.b	0.319	3.625	0.317	2.616
II.A.3.c	0.143	8.673	0.191	10.579
II.A.3.d	0.188	5.937	0.265	9.675
II.A.3.f	0.395	22.212	0.135	2.099
II.A.3.h	0.235	31.444	0.155	3.869
II.A.3.j	0.307	33.556	0.639	6.872

Proposed Rebuild Project – Peak historical loading in 2016

EMF levels were calculated for the proposed and remaining existing lines at a ***historical peak*** load condition shown in the table below:

LINE #	VOLTAGE (5% OVERVOLTAGE)	ATTACHMENTS	PEAK (Amps)
18	121 kV	II.A.3.b	230
18	242 kV	II.A.3.c, d, f, & h	230
18	242 kV	II.A.3.j	136
145	121 kV	II.A.3.b	154
145	242 kV	II.A.3.c, d, f, h, & j	154
215	242 kV	II.A.3.c	1052
237	242 kV	II.A.3.c, d, f, h, & j	831
2001	242 kV	II.A.3.c	1030
2022	242 kV	II.A.3.c, d, f, & h	995
2022	242 kV	II.A.3.j	777

The field levels were calculated at mid-span where the conductor is the closest to the ground and the conductors were at historical peak load operating temperature and above the minimum NERC ground clearance. The EMF levels at each side of the right-of-way or tree clearing edge on Company-owned property for the proposed and remaining existing lines at historical peak loading are listed below:

Attachment	Western Edge		Eastern Edge	
	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.3.b	0.318	9.282	0.317	5.010
II.A.3.c	0.143	18.170	0.200	20.019
II.A.3.d	0.189	13.277	0.28	21.392
II.A.3.f	0.416	49.343	0.135	4.804
II.A.3.h	0.270	69.372	0.155	8.391
II.A.3.j	0.302	73.780	0.639	14.751

Proposed Rebuild Project – Projected average loading in 2020

EMF levels were calculated for the proposed and remaining existing lines at a ***projected average*** load condition shown in the table below:

LINE #	VOLTAGE (5% OVERVOLTAGE)	ATTACHMENTS	AVERAGE (Amps)
18	121 kV	II.A.3.b	43
18	242 kV	II.A.3.c, d, f, h, & j	43
145	121 kV	II.A.3.b	121
145	242 kV	II.A.3.c, d, f, & h	121
145	242 kV	II.A.3.j	63
215	242 kV	II.A.3.c	415
237	242 kV	II.A.3.c, d, f, h, & j	313
2001	242 kV	II.A.3.c	254
2022	242 kV	II.A.3.c, d, f, & h	388
2022	242 kV	II.A.3.j	282

The field levels were calculated at mid-span where the conductor is the closest to the ground and the conductors were at historical average load operating temperature and above the minimum NERC ground clearance. The EMF levels at each side of the right-of-way or tree clearing edge on Company-owned property for the proposed and remaining existing lines at projected average loading are listed below:

Attachment	Western Edge		Eastern Edge	
	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.3.b	0.318	0.957	0.317	5.271
II.A.3.c	0.143	7.633	0.191	9.327
II.A.3.d	0.969	4.894	0.104	8.208
II.A.3.f	0.370	18.002	0.135	1.926
II.A.3.h	0.233	26.084	0.155	3.660
II.A.3.j	0.309	26.445	0.639	5.500

Proposed Rebuild Project – Projected peak loading in 2020

EMF levels were calculated for the proposed and remaining existing lines at a ***projected peak*** load condition shown in the table below:

LINE #	VOLTAGE (5% OVERVOLTAGE)	ATTACHMENTS	PEAK (Amps)
18	121 kV	II.A.3.b	85
18	242 kV	II.A.3.c, d, f, h, & j	85
145	121 kV	II.A.3.b	242
145	242 kV	II.A.3.c, d, f, & h	242
145	242 kV	II.A.3.j	126
215	242 kV	II.A.3.c	831
237	242 kV	II.A.3.c, d, f, h, & j	625
2001	242 kV	II.A.3.c	508
2022	242 kV	II.A.3.c, d, f, & h	776
2022	242 kV	II.A.3.j	563

The field levels were calculated at mid-span where the conductor is the closest to the ground and the conductors were at historical average load operating temperature and above the minimum NERC ground clearance. The EMF levels at each side of the right-of-way or tree clearing edge on Company-owned property for the proposed and remaining existing lines at projected peak loading are listed below:

Attachment	Western Edge		Eastern Edge	
	Electric Field (kV/m)	Magnetic Field (mG)	Electric Field (kV/m)	Magnetic Field (mG)
II.A.3.b	0.319	1.877	0.316	10.554
II.A.3.c	0.143	15.272	0.195	18.737
II.A.3.d	0.968	9.817	0.111	16.605
II.A.3.f	0.405	37.635	0.135	3.865
II.A.3.h	0.175	52.41	0.126	3.855
II.A.3.j	0.304	53.682	0.639	10.99

IV. HEALTH ASPECTS OF EMF

B. If Company is of the opinion that no significant health effects will result from the construction and operation of the line, describe in detail the reasons for that opinion and provide references or citations to supporting documentation.

Response: The foundation of the Company's opinion is the conclusions of expert panels formed by national and international scientific agencies; each of these panels has evaluated the scientific research related to health and power-frequency EMF and provided conclusions that form the basis of guidance to governments and industries. The Company regularly monitors the recommendations of these expert panels to guide their approach to EMF.

Major reviews on this topic, in order of their most recent publication, include those published by the European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN),[14] the International Commission on Non-Ionizing Radiation Protection (ICNIRP), the Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR), the World Health Organization (WHO), and the International Committee on Electromagnetic Safety (ICES) (EFHRAN, 2010; ICNIRP, 2003, 2010; SCENIHR 2007, 2009; WHO, 2007; ICES, 2002).

Research on this topic varies widely in its approach. Some studies evaluate the effects of high EMF exposures not typically found in day-to-day life, while others evaluate the effects of common EMF exposures. The studies evaluate long-term effects (e.g., cancer, neurodegenerative diseases, and reproductive effects) and short-term biological responses. This research includes hundreds of epidemiology studies of people in their natural environment and laboratory studies of animals (*in vivo*) and isolated cells and tissues (*in vitro*). Standard scientific procedures are used by the expert panels to identify, review, and summarize this large and diverse research area.

The general scientific consensus of the health agencies reviewing this research is that at levels associated with the operation of the proposed transmission lines, or other common sources of EMF in the environment, the research does not support the conclusion that EMF causes any long-term, adverse health effects.

Thus, based on the conclusions of scientific reviews and the levels of EMF associated with the Rebuild Project, the Company has determined that no adverse health effects will result from the operation of the proposed transmission lines.

[14] EFHRAN is funded by the European Commission's Executive Agency for Health and Consumers.

IV. HEALTH ASPECTS OF EMF

C. Describe any research studies the Company is aware of that meet the following criteria:

1. **Became available for consideration since the completion of the Virginia Department of Health's most recent review of studies on EMF and its subsequent report to the Virginia General Assembly in compliance with 1985 Senate Joint Resolution No. 126;**

2. **Include findings regarding EMF that have not previously been reported and/or provide substantial additional insight into previous findings; and**

3. **Have been subjected to peer review.**

Response: The Virginia Department of Health's most recent review of studies on EMF was completed in 2000; many peer-reviewed research studies have become available since that time and were reviewed by the scientific organizations discussed above. The WHO most recently conducted one of the most comprehensive and detailed reviews, which summarized peer-reviewed research published through early 2006 (WHO, 2007).

Research published in the peer-reviewed literature subsequent to the WHO report has been reviewed by several scientific organizations, all of which support the conclusions of the WHO (2007) report, including:

- The Health Council of the Netherlands (HCN) reviewed new research in 2007;
- SCENIHR, a committee of the European Commission, published their most recent assessment in 2009;
- The Swedish Radiation Protection Authority (SSI) updates their review annually; their most recent review evaluated research through 2007 (SSI, 2008); and
- EFHRAN published the most recent review in February 2010.

These reviews can be consulted for commentary on recent studies. In addition, other recent peer-reviewed studies (e.g., Chung et al., 2010; Coble et al., 2009; Kheifets et al., 2010a, 2010b; Kroll et al., 2010; McNamee et al., 2010) provide evidence that clarifies previous findings.

- Chung et al. (2010) found no difference in lymphoma rates between cancer-prone mice exposed long-term to strong magnetic fields and an unexposed control group. Mice were exposed 21 hours per day for 40 weeks to magnetic fields up to 5,000 mG, which is hundreds to thousands of times greater than routine residential exposures. This study is consistent with previous *in vivo* studies that found no

evidence that magnetic fields promote the development of lymphoma or leukemia in laboratory animals.

- Coble et al. (2009) conducted a case-control study of brain tumors (gliomas and meningiomas) in workers in the United States. This study was advanced because several different measures were used to assess individual exposure, and exposure duration was incorporated into lifetime magnetic-field exposure. No association was reported between any of the exposure metrics and brain tumors. This study's strengths are its large size and advanced exposure assessment.

- Kheifets et al. (2010a) conducted a pooled analysis of epidemiologic studies of childhood brain tumors and magnetic fields to explore the association in the larger pooled population. Ten case-control studies of childhood brain tumors were identified that met the inclusion criteria. No statistically significant associations with brain tumors were found in any of the three exposure levels, compared to average exposure less than 1 mG. A sub-group of five studies with information on calculated or measured magnetic fields greater than 3-4 mG reported a combined odds ratio that was elevated but not statistically significant.

- Kheifets et al. (2010b) pooled data from studies of childhood leukemia and magnetic fields to update the previous meta-analyses on this topic published in 2000. The authors identified seven subsequent case-control studies of childhood leukemia that included measured or calculated magnetic field levels. Results showed an overall weak association with leukemia for the highest estimated long-term average exposure level (4 mG or higher) that was slightly elevated, but could not be distinguished from chance. This study confirms a positive association between average magnetic field levels greater than 3 mG and childhood leukemia, but the association could not be distinguished from chance due to small numbers.

- Kroll et al. (2010) re-evaluated a previous study in the United Kingdom that had reported childhood leukemia was associated with distance of a child's home at birth from a power line (Draper et al, 2005). Distance is considered a poor estimate of magnetic field exposure; therefore, Kroll et al. repeated the study using calculated magnetic field levels from nearby power lines. The results showed a weak, non-significant association between leukemia and the calculated magnetic fields from high-voltage power lines. As a result of small numbers and incomplete information, no strong conclusions can be drawn from this study.

- Recent research by McNamee et al. (2010a) examined how acute exposure of human subjects to 60-Hz magnetic fields affected human

heart rate, heart rate variability and skin blood perfusion; no effects of exposure to an 18,000 mG magnetic field on these measures were reported. A similar study by these investigators also reported no effects of these parameters at a lower magnetic field intensity of 2,000 mG (McNamee et al., 2010b).

References

Chung M-K, Yu W-J, Kim Y-B, Myung S-H. Lack of a co-promotion effect of 60 Hz circularly polarized magnetic fields on spontaneous development of lymphoma in AKR mice. Bioelectromagnetics 31:130-139, 2010.

Coble JB, Dosemeci M, Stewart PA, Blair A, Bowman J, Fine HA, Shapiro WR, Selker RG, Loeffler JS, Black PM, Linet MS, Inskip PD. Occupational exposure to magnetic fields and the risk of brain tumors. Neuro Oncol, 2009. Epub in advance of publication DOI:10.1215/15228517-2009-002

European Health Risk Assessment Network on Electromagnetic Fields Exposure (EFHRAN). Risk Analysis of Human Exposure to Electromagnetic Fields. Executive Agency for Health and Consumers, February 2010.

http://efhran.polimi.it/dissemination.html

International Commission on Non-Ionizing Radiation Protection (ICNIRP). Exposure to Static and Low Frequency Electromagnetic Fields, Biological Effects and Health Consequences (0-100 kHz) – Review of the Scientific Evidence on Dosimetry, Biological Effects, Epidemiological Observations, and Health Consequences Concerning Exposure to Static and Low Frequency Electromagnetic Fields (0-100 kHz). Matthes R, McKinlay AF, Bernhardt JH, Vecchia P, Beyret B (eds.). International Commission on Non-Ionizing Radiation Protection, 2003.

http://www.icnirp.net/documents/RFReview.pdf

Kheifets L, Ahlbom A, Crespi CM, Feychting M, Johanson C, Monroe J, Murphy MFG, Oksuzyan S, Preston-Martin S, Roman E, Saito T, Savitz D, Schuz J, Simpson J, Swanson J, Tynes T, Verkasalo P, Mezei G. A pooled analysis of extremely low-frequency magnetic fields and childhood brain tumors. American Journal of Epidemiology 172:752-761, 2010a.

Kheifets L, Ahlbom A, Crespi CM, Draper G, Hagihara J, Lowenthal RM, Mezei G, Oksuzyan S, Schuz J, Swanson J, Titarelli A, Vinceti M, Wunsch Filho V. Pooled analysis of recent studies on magnetic fields and childhood leukemia. Br J Cancer 103:1128-1135, 2010b.

Kroll ME, Swanson J, Vincent TJ, Draper GJ. Childhood cancer and magnetic fields from high-voltage power lines in England and Wales: a case-control study. Br J Cancer 103:1122-1127, 2010.

McNamee DA, Corbacio M, Weller JK, Brown S, Prato FS, Thomas AW, Legros AG. The cardiovascular response to an acute 1800-μT, 60-Hz magnetic field exposure in humans. Int Arch Occup Environ Health 83:441-454, 2010a.

McNamee DA, Corbacio M, Weller JK, Brown S, Stodilka RZ, Prato FS, Bureau Y, Thomas AW, Legros AG. The response of the human circulatory system to an acute 200-μT, 60-Hz magnetic field exposure. Int Arch Occup Environ Health. DOI 10.1007/s00420-010-0543-1. 4 May 2010b.

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR). Possible Effects of Electromagnetic Fields (EMF) on Human Health. European Commission. Directorate C – Public Health and Risk Assessment, 2007.

http://ec.europa.eu/health/ph_risk/committees/04_scenihr/docs/scenihr_o_007.pdf

Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) for the Directorate-General for Health & Consumers of the European Commission. Health Effects of Exposure to EMF. January 2009.

http://ec.europa.eu/health/archive/ph_risk/committees/04_scenihr/docs/scenihr_o_022.pdf

Swedish Radiation Protection Authority (SSI). Fifth annual report from SSI's Independent Expert Group on Electromagnetic Fields, 2007: Recent Research on EMF and Health Risks. SSI Rapport 2008:12.

http://www.who.int/peh-emf/publications/reports/SWEDENssi_rapp_2007.pdf

World Health Organization (WHO). Environmental Health Criteria 238: Extremely Low Frequency (ELF) Fields. WHO, Geneva, Switzerland, ISBN 978-92-4-157238-5, 2007.

http://www.who.int/peh-emf/publications/elf_ehc/en/index.html

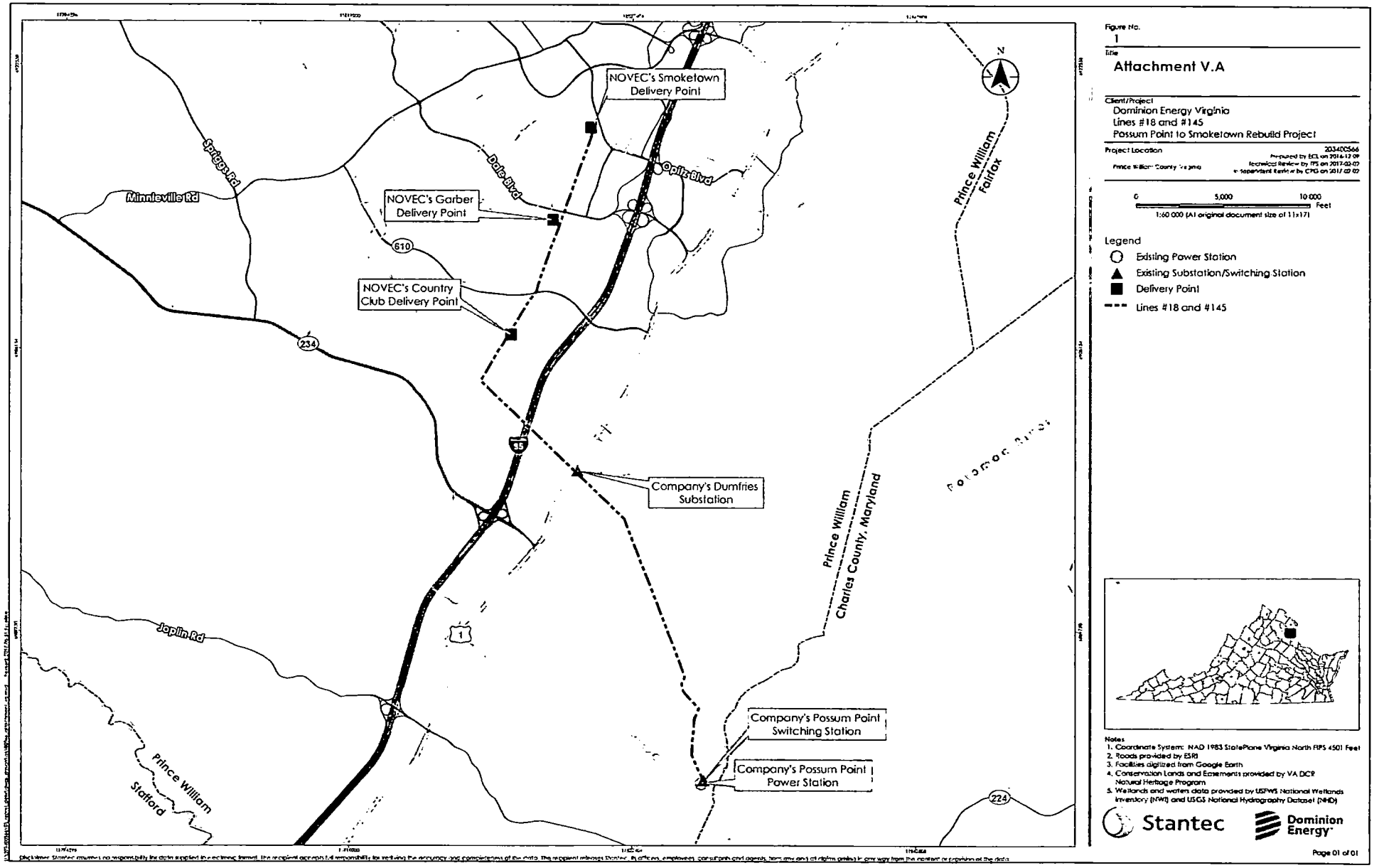
V. NOTICE

A. Furnish a proposed route description to be used for public notice purposes. Provide a map of suitable scale showing the route of the proposed project.

Response: A map showing the existing route to be used for the Rebuild Project is provided as Attachment V.A. A written description of the route is as follows:

The proposed route for the Rebuild Project is approximately 8.5 miles of existing transmission line corridor currently occupied by the existing 115 kV transmission Lines #18 and #145 within the existing right-of-way, including 0.1 mile of existing right-of-way for individual lines tapping three NOVEC DPs, and Company-owned power station property. The route is entirely within Prince William County and originates at the Possum Point Station located on the Company's Possum Point Power Station site at the terminus of Possum Point Road. From the Possum Point Station, the route heads north from the station property and continues north on Company-owned property for 1.5 miles, then continues in a northwesterly direction for approximately 3.8 miles within existing right-of-way, before turning northeasterly for approximately 3.1 miles, terminating approximately 400 feet north of the Smoketown DP, just south of Smoketown Road.

The existing right of way the Lines #18 and #145 cross the following roads in Prince William County: River Heritage Boulevard, Potomac River Boulevard, River Ridge Boulevard, Jefferson Davis Highway (U.S. Route 1), Hour Glass Drive, Interstate 95, Four Seasons Drive, Beau Ridge Drive, Lagarde Court, Bushey Drive, Benita Fitzgerald Drive, Brickwood Drive, Dale Boulevard (S. R. 784), Arkendale Street, Adams Street, and Bixby Road.


NOVEC's Smoketown Delivery Point
NOVEC's Garber Delivery Point
NOVEC's Country Club Delivery Point
Company's Dumfries Substation
Company's Possum Point Switching Station
Company's Possum Point Power Station
Spriggs Rd
Minnieville Rd
Dale Blvd
Opitz Blvd
Joplin Rd
Prince William
Stafford
Prince William
Fairfax
Prince William
Charles County, Maryland
Potomac River
610
234
95
1
224
N
Figure No.
1
Title
Attachment V.A
Client/Project
Dominion Energy Virginia
Lines #18 and #145
Possum Point to Smoketown Rebuild Project
Project Location
Prince William County, Virginia
0
5,000
10,000
Feet
1:60,000 (At original document size of 11x17)
Legend
Existing Power Station
Existing Substation/Switching Station
Delivery Point
Lines #18 and #145
Notes
1. Coordinate System: NAD 1983 StatePlane Virginia North FIPS 4501 Feet
2. Roads provided by ESRI
3. Facilities digitized from Google Earth
4. Conservation Lands and Easements provided by VA DCR Natural Heritage Program
5. Wetlands and waters data provided by USFWS National Wetlands Inventory (NWI) and USGS National Hydrography Dataset (NHD)
Stantec
Dominion Energy
Page 01 of 01

V. NOTICE

B. List Company offices at which members of the public may inspect the application.

Response: The application is available at the following locations:

Virginia Electric and Power Company
OJRP 12th Floor
701 E. Cary Street
Richmond, Virginia 23219
Attn: Ms. Amanda Mayhew

Prince William County
Development Services Building
5 County Complex Ct # 280
Woodbridge, Virginia 22192
Attn: Ms. Rebecca Horner

Neabsco District Office
361 Ridgewood Center
Woodbridge, Virginia 22192
Attn: Mr. John Jenkins

Potomac District Office
15941 Donald Curtis Drive
Woodbridge, Virginia 22191
Attn: Ms. Maureen Caddigan

Woodbridge District Office
15941 Donald Curtis Drive
Woodbridge, Virginia 22191
Attn: Mr. Frank Principi

Lincoln Park Office
3072 Centerville Rd
Herndon, Virginia 20171
Attn: Ms. Deborah Johnson

V. NOTICE

C. List all federal, state, and local agencies and/or officials who may reasonably be expected to have an interest in the proposed construction and to whom the Company has furnished or will furnish a copy of the application.

Response: Ms. Bettina Sullivan, Manager, Environmental Impact Review and Long Range Priorities Program
c/o Ms. Valerie Fulcher, Executive Secretary Senior *[2 electronic copies]*
Office of Environmental Impact Review
Department of Environmental Quality
629 East Main Street
Richmond, Virginia 23219

Ms. Rene Hypes *[1 electronic copy]*
Virginia Department of Conservation and Recreation
Virginia Natural Heritage Program
600 East Main Street, 24th Floor
Richmond, Virginia 23219

Mr. Roger Kirchen *[1 electronic copy]*
Virginia Department of Historic Resources
Review and Compliance Division
2801 Kensington Avenue
Richmond, Virginia 23221

Ms. Amy Ewing *[1 electronic copy]*
Virginia Department of Game and Inland Fisheries
7870 Villa Park Drive, Suite 400
Henrico, Virginia 23228

Mr. Keith Tignor
Virginia Department of Agriculture and
Consumer Services Commissioner's Office
102 Governor Street
Richmond, Virginia 23219

Mr. Greg Evans *[1 electronic copy]*
Virginia Department of Forestry
Assistant Director for Forestland Conservation Office
900 Natural Resources Drive, Suite 800
Charlottesville, Virginia 22903

Mr. Tony Watkinson
Virginia Marine Resources Commission
Habitat Management Division
2600 Washington Ave, 3rd Floor
Newport News, Virginia 23607

Mr. Troy Anderson
US Fish and Wildlife Service Ecological Services
Virginia Field Offices
6669 Short Lane
Gloucester, Virginia 23061

Ms. Theresita Crockett-Augustine
US Army Corps of Engineers
Northern Virginia Field Office
18139 Triangle Plaza, Suite 213
Dumfries, Virginia 22026

Ms. Robbie Rhur *[1 electronic copy]*
Virginia Department of Conservation and Recreation Planning Bureau
600 East Main Street, 24th Floor
Richmond, Virginia 23219

Mr. Thomas A. Faha
Virginia Department of Environmental Quality Northern Regional Office
4949-A Cox Road
Glen Allen, Virginia 23060

Mr. Scott Denny
Virginia Department of Aviation Airport Services Division,
Planning and Environmental Section
5702 Gulfstream Road
Richmond, Virginia 23250

Ms. Martha Little
Virginia Outdoors Foundation
600 East Main Street, Suite 402
Richmond, Virginia 23219

Ms. Rebecca Horner
Prince William County Department of Planning & Zoning
Director's Office
5 County Complex Court, Suite 210
Prince William, Virginia 22192-9201

Mr. Christopher E. Martino
Prince William County
County Executive Office
1 County Complex Court
Prince William, Virginia 22192

Ms. Helen L. Cuervo
Virginia Department of Transportation
Northern Virginia Office
4975 Alliance Drive
Fairfax, Virginia 22030