

WARRENTON WHEELER GAINESVILLE 230 kV RELIABILITY PROJECT

COMMUNITY ADVISORY GROUP

MEETING SUMMARY

APRIL 3, 2013

On Wednesday, April 3, 2013, the first meeting of the Community Advisory Group (CAG) for the Warrenton Wheeler Gainesville 230 kV Reliability Project was held. The CAG is co-sponsored by Dominion Virginia Power (Dominion) and Northern Virginia Electric Cooperative (NOVEC) and facilitated by Natural Resource Group, LLC (NRG). The meeting was held from 10:00 a.m. to 1:30 p.m. at the John Barton Payne Community Room in Old Town Warrenton.

Participants

Dominion and NOVEC consulted with community leaders, environmental groups, business groups and others to identify participants who represent a cross section of public and private interests and who bring unique, diverse and technical perspectives to the process. The following organizations were represented at the first meeting:

- Buckland Preservation Society
- Citizens for Fauquier County
- City of Manassas
- Fauquier Chamber of Commerce
- Fauquier County Economic Development
- Fauquier County Planning Division
- Fauquier County Public Schools
- Fauquier Health
- Prince William Chamber of Commerce
- Prince William County Economic Development
- Prince William County Farm Bureau
- Prince William County Long Range Planning
- Prince William County Public Schools
- Southern Fauquier Historical Society, Inc.

The following organizations were interested in participating but unable to attend the first meeting:

- Town of Warrenton

In addition to the organizations identified above, several other organizations were invited to participate but declined.

Project Team

Dominion:

- Chris Behrens, Project Manager
- Liz Harper, Siting and Permitting Specialist
- Carla Picard, Electric Transmission Project Communications Manager
- Mark Gill, Engineer, Planning & Reliability
- Deborah Johnson, Manager, Regional State and Local Affairs (Prince William County)
- Tim Sargeant, Manager External Affairs (Fauquier County)
- Le-Ha Anderson, Media Relations

NOVEC:

- Bob Bisson, Vice President, Electric System Development
- Dave McElhiney, System Engineering and Planning Manager
- Angela Thomas, Manager, Administrative Services
- Mike Curtis, Public Relations

NRG:

- Patty Rusten, Facilitator
- Doug Lake, Routing Specialist
- Jon Berkin, Co-facilitator and Permitting

CAG Meeting Agenda

The following agenda was used at the CAG meeting:

Welcome

Group Introductions, Community Advisory Group Process

Project Background

Reliability Issues

Preliminary Work Conducted

Review of Two Identified Solutions

Summary/Evaluation/Next Steps

Adjourn

Post-meeting availability

Welcome

Carla Picard opened the meeting and thanked everyone for taking the time to attend and participate in the meeting. She stated that the CAG is part of a larger community engagement initiative that includes outreach to community leaders and other stakeholders and open houses for property owners and other members of the public. Dominion and NOVEC will also reach out to homeowners associations, community organizations and others interested in the project. All materials from the CAG process will be posted on the project website so that interested parties can follow the process online.

Dominion representatives Kevin Curtis, Director of Planning and Bob McGuire, Director of Transmission Projects, were present and thanked the participants for agreeing to attend the meetings and provide valuable community feedback about the project. They reiterated that this is a reliability project for the benefit of the local area including the customers served by NOVEC, Rappahannock Electric Cooperative and Dominion Virginia Power Distribution Company. Dominion has an obligation to serve that is measured at both the state and federal level. These measurements coupled with load and projected growth forecasts are the basis for this reliability project.

NOVEC representative Bob Bisson, Vice President of Electric System Development, joined Dominion in welcoming everyone to the meeting and further explained that even though this is a Dominion project, NOVEC is one of Dominion's largest customers and they depend on having a reliable provider of power for their 150,000 customers in Northern Virginia. NOVEC and Dominion engineers work collaboratively to continually assess the performance of the area transmission system, look for potential future limitations and then develop ways to address them. He stated that the group is here today because Dominion and NOVEC have identified issues that need to be addressed to ensure the continued reliable transmission and distribution service that customers have come to expect and deserve.

Community Advisory Group Process

Patty Rusten began this segment of the meeting by reviewing the agenda and then asked for introductions from each member of the group, representatives from Dominion and NOVEC, and members of the public attending and observing the meeting. She then reviewed the CAG process.

- **The purpose** of the Community Advisory Group is to provide community perspectives and input on opportunities, constraints and local issues related to the Warrenton Wheeler Gainesville 230 kV Reliability Project to support the broader community engagement initiative.
- **The process** includes:
 - Six community advisory group meetings
 - Two in April, one each in May, June, July and September 2013
 - Two open houses
 - One in June and one in September 2013
- **Members** of the Community Advisory Group were identified during consultation meetings Dominion and NOVEC held with elected officials, community leaders, environmental groups, business and others to ensure unique, diverse and technical perspectives were included in the process.
- **Roles and Responsibilities:** Participants are expected to attend and actively participate in meetings and are also expected to consult with their organizations before and after each meeting. Observers are welcome to attend and watch the process.

Project background

- Carla Picard began this segment with a review of the electric system and discussed the process from:
 - Generation – how and where power is generated/created.
 - Transmission lines –high voltage, high capacity lines that transport power efficiently over long distances.
 - Substations - transform power from higher voltages to lower voltages so distribution lines can deliver energy to homes and businesses.
 - Distribution - includes both overhead and underground low-voltage lines.
- There is a growing demand for energy. Since the 1970s, the average home size has increased by more than 50 percent. Population is increasing and customers are using more electronics in homes and businesses. As the infrastructure ages, there is greater demand placed on the

transmission system. This creates a challenge for utilities that are required and obligated to meet the needs of its customers.

- Chris Behrens, Project Manager, noted that Dominion has a planning group that is constantly updating programs and initiating studies to ensure that power is available when and where it is needed. This group identified problems locally that are projected to arise in 2017. These problems include the load on the Dominion Warrenton line, the load on the NOVEC Wheeler line and the risk of service and reliability issues at the Dominion Gainesville Substation.

Reliability Issues

Dominion is responsible for maintaining the reliability of the transmission system and is required to comply with requirements set forth by NERC (North American Electric Reliability Corporation). NERC maintains mandatory reliability standards for the bulk electric system. Those standards are the basis for the issues presented to the CAG.

- Warrenton (Dominion) – The customer demand, or load on the existing Warrenton line is forecasted to exceed 100 megawatts by 2017.
 - Historical data on the existing Warrenton demand along with anticipated growth projections from large customers are the basis for the forecast.
 - The line currently serves the Warrenton Substation and several distribution delivery points for Rappahannock Electric Cooperative.
 - Electric demand has grown by approximately 45 percent over the last 10 years.
 - The historical and existing load projections show the system reaching the 100 megawatt level by 2024. The anticipated growth projections for large customers move that forecast up to 2016-2017.
- Wheeler (NOVEC) – the load *already* exceeds the 100 megawatt level.
 - This line currently serves about 16,000 customers in Fauquier and Prince William Counties.
 - Electric demand has grown by approximately 60 percent over the last 10 years.
 - NOVEC is not subject to the same federal criteria, but faces the same operational risks and has exceeded the 100 megawatt level in the past two summers.
- Gainesville Substation (Dominion) - Current data indicates the load is just below 300 megawatts and anticipated growth projections indicate load growth will move above 400 megawatts sometime in 2013.

- An outage, or a single catastrophic event resulting in the loss of more than 300 MW (equivalent to roughly 75,000 homes) is a violation of Dominion, PJM* and NERC standards.
 - PJM is a regional transmission organization that coordinates the movement of wholesale electricity in all or parts of 13 states and Washington D.C. Dominion is a member transmission owner.

Discussion items:

- What is the carrying capacity of the 230 kV radial line that runs from Remington to Warrenton? Further, the carrying capacity as compared to the reliability standard? The exact number will be reported at the next meeting but there is excess capacity available. The concern for the Warrenton line is not a capacity issue, rather, it is a reliability issue.
- What are the growth assumptions (historical, population, home size, etc.) behind the load forecast for Warrenton? The growth assumptions are based on historical growth patterns and include “block load additions” (significant planned increases in customer usage) in Fauquier County. Further clarification of the growth assumptions will be provided at the next meeting.
- Rappahannock Electric Cooperative receives power from Dominion at the Warrenton substation. What are the other connection points for Rappahannock Electric Cooperative? This will be addressed at the next meeting.
- Where are the service areas for Dominion, NOVEC and Rappahannock Electric Cooperative? A map will be created and distributed at the next meeting.
- How are the county comprehensive plans, zoning plans and maps used to develop assumptions? Planning assumptions will be further clarified at the next meeting.
- The Gainesville substation seems more complex and the group asked Dominion to develop a diagram to show the details in a simple, understandable manner. The new diagram will be available at the next meeting.
- It will be important to discuss and display all of the constraints that could influence Option A and Option B. The second meeting will contain a detailed discussion of constraints and opportunities and maps will be used to supplement the discussion.

Preliminary Work Conducted

Dominion and NOVEC analyzed a number of alternatives prior to forming the Community Advisory Group. These alternatives were reviewed and a map of each one was displayed at the meeting. The

maps are included in the presentations that are posted on the project website. The alternatives are listed below:

1. Warrenton to Nokesville
2. Warrenton to New Road
3. Remington CT to Warrenton
4. Wheeler to Vint Hill
5. Wheeler to Gainesville
6. Loudoun to Wheeler

Various alternatives were combined and analyzed. They include:

1. Alternatives 1 + 4 (Warrenton to Nokesville, Wheeler to Vint Hill)
2. Alternatives 2 + 4 (Warrenton to New Road, Wheeler to Vint Hill)
3. Alternatives 3 + 4 (Warrenton to Remington CT, Wheeler to Vint Hill)

A summary of the alternatives and combinations were portrayed in a table. The criteria used in this preliminary evaluation process included estimated cost and the ability of the alternative to solve all three of the identified issues.

Discussion items:

- Why wasn't alternative #6 pursued? Alternative #6 does resolve the Gainesville issue but it also moves the problem by causing a similar issue at the Loudoun substation
- Do the costs include the new Vint Hill substation? No.
- Has the county approved the facility? The Vint Hill substation, which will be constructed by NOVEC to serve their distribution customers, has completed the permitting phase but is currently on hold and is estimated to be built in the 2015-2016 timeframe. Changing the station [for transmission] has not been explored due to cost and size
- Dominion and REC should look at an alternative that follows Highway 211/29 from Sperryville. Dominion has reviewed this area and determined it does not resolve the Warrenton issue and it would require a new transmission line, more than 25 miles long.

Two Identified Solutions

At this time, Dominion and NOVEC have identified two feasible options and an overview presentation was provided to the CAG. The options will be further evaluated in future meetings. As noted by

Dominion and NOVEC, the objective is to find a scenario that will solve all three of the problems identified at this meeting.

- Option A – New Right-of-way Solution
 - New-build transmission line from Warrenton Substation to Wheeler Substation
 - Straight line distance of about 7.2 miles (expected route length 8 – 12 miles)
 - Right-of-way width needed will be 120 feet
 - Convert existing 115 kV to 230 kV lines from Wheeler Substation to Gainesville Substation; using existing structures.
 - A preliminary study area has been identified to help the group identify routing constraints and routing opportunities.
 - Collocation opportunities include existing distribution lines, pipelines and road corridors as well as industrial and commercial areas.
 - Routing Constraint Examples
 - Sensitive Resources
 - Battlefields
 - Conservation Easements
 - Agricultural and Forestal Districts
 - Rural Crescent
 - Land Use – Service Districts, developments
 - Regulatory Considerations
- Option B - Rebuild/Upgrade Solution
 - Rebuild and upgrade two existing lines
 - Remington to Warrenton, Wheeler to Gainesville
 - Convert existing 115 kV line (Loudoun Gainesville) to 230 kV
 - Options for rebuild
 - Clear 20' of temporary right-of-way adjacent to existing (right-of-way width is 100 feet)
 - Erect and energize new, temporary 230 kV powerline adjacent to existing line; Dominion and NOVEC's intention is to keep the new line within the existing corridor whenever possible
 - Tear down existing line, remove single circuit towers and replace with new double circuit structures

- Build new double circuit 230 kV line and energize
- Remove temporary line and restore temporary ROW
- Issues and Concerns
 - Residences near Remington to Warrenton section (Catlett Road and Route 28 area)
 - Residences near Wheeler to Gainesville section (Linton Hall Road area).
 - Need for 20 feet of temporary workspace through Fauquier County and VOF Conservation Easements (Remington to Warrenton Route only)
 - Crossing county land.
 - Concern regarding battlefields, other resources not identified on the maps.
- Next Steps
 - Review constraints and opportunities available through public records
 - Identify other constraints and opportunities
 - CAG will prioritize constraints and community issues
 - Identify possible route.
 - Receive important feedback, input and community perspectives from the CAG members

Discussion items:

- Structure options for Option A (diagram available online) – single pole, H frames and other options are possible and the height will differ depending on the option choice but could range from approximately 60 to 100 feet tall on average.
- Underground construction and Stafford County example – placed on the parking lot for further discussion at a future meeting.
- Explain why the Gainesville substation can't connect to the 500 kV line – placed on parking lot for discussion at a future meeting.

Summary, Evaluation and Next Steps

- **Meeting Summary** – the group confirmed that the next CAG meeting will be held on April 25 at 1:30 p.m. at either the John Barton Payne Community room or at a location to be determined. Initially the second meeting was set to be a site tour but it is proposed to move that further into the process and have the meeting sequence as follows:
 - Meeting #1 – Informational workshop – project overview, options

- Meeting #2 – Project review, routing considerations, constraint and opportunity analysis and prioritization
- Meeting #3 – Route refinement
- Meeting #4 – Site tour

Discussion items:

- Ensure that historical sites, including the entire area for the Auburn and Buckland battlefields are included in maps and discussion.
- Some visually sensitive areas are already designated by the county. Dominion plans to include visual simulations as part of the evaluation process. This topic will be included in a future meeting agenda.

The group reviewed the list of items on the parking lot and they are noted below:

“Parking Lot” Tasks are due at CAG Meeting #2

Task	Responsibility
What is the carrying capacity of the 230 kV Warrenton line?	Dominion
What are the growth assumptions behind the forecast for Warrenton?	Dominion and NOVEC
Are there other ways to serve REC?	Dominion, NOVEC and REC
Is additional block load anticipated in public or private sector?	Dominion and NOVEC
Produce a map showing service territories for Dominion, NOVEC and REC; the map should include transmission lines and substations	Dominion GIS
Provide a one line diagram of the Gainesville substation and more information about possibly connecting to the 500 kV line.	Dominion
What are the statistics/causes of concern for substations going down and what type of incident would cause this to happen?	Dominion and NOVEC
Ensure Dominion has the Fauquier County Comprehensive Plan	Dominion

as a resource and show how that plan and the zoning plan have been used to help determine growth projections.	
Ensure Dominion has shape files from Fauquier and Prince William Counties.	Dominion
Include the solution timeframes for Option A and Option B.	Dominion and NOVEC
Underground construction – be prepared to present information about the Stafford County study.	Dominion
Define “visually sensitive” areas for this project.	Dominion

Meeting Evaluation

At the conclusion of the CAG meeting, participants were asked to complete a meeting evaluation form in which they were asked the following questions: (Responses in italics)

- What do you feel worked well for this meeting?
 - *“Fairly well but it is just the first gathering. It should get more detailed and more questions will follow.”*
 - *“Gaining an understanding of the situation.”*
 - *“Facilitation”*
 - *“Good give and take. Our suggestions were readily considered.”*
 - *“The list of questions for next meeting.”*
- What would you do differently?
 - *“You are on the right track; it’s going to feel better once you get feedback from members.”*
 - *“Better maps and transparency around all sensitive issues.”*
 - *“Fix the map to show all areas to consider—i.e., schools and historic battlefields, conservation easements and agricultural districts.”*
 - *“Approach committee as being more acute to details and not be so general in presentation. Too often speakers had to stop to give basic details that should have been provided.”*
- Do you have any suggestions or discussion items for the next meeting

- *“Discuss your underground costs. Need more detailed proof and justification of need.”*
- *“Give better context around sensitive issues and timeframes around all options.”*
- *“Underground lines”*
- *“Projected growth for areas to be served as well as actual growth to date.”*
- *“Consideration of electricity generated by Fauquier county dump (the new program.)”*
- *“What is the large growth project that is promoting this upgrade?”*
- *“A formal assessment of battlefield landscape integrity, NRHD integrity, national heritage areas and other eligible historic sites. These areas will require a more sophisticated level of assessment than described by your environmental person. Please submit plans and proposals to experts at the ABPP/NPS for their comments.”*

Participants were also asked if they were able to attend the meeting tentatively scheduled for April 25, 2013. *Of the five evaluation forms received by April 5, four of the five said that they were able to attend the next meeting.*

Next Steps

- Map books for Option B were handed out to participants and observers in preparation for the upcoming site tour.
- A meeting summary will be sent to all CAG participants.
- An email confirming the date, time and location of the second meeting will be sent to CAG participants and stakeholders who are on the “observe and attend” list.