**REPORT OF THE**
**STATE CORPORATION COMMISSION**

# Implications of a Requirement to Consider Undergrounding of Electric Transmission Lines

**TO THE GOVERNOR AND**
**THE GENERAL ASSEMBLY OF VIRGINIA**


# SENATE DOCUMENT NO. 29

**COMMONWEALTH OF VIRGINIA**
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COMMONWEALTH OF VIRGINIA

STATE CORPORATION COMMISSION

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December 16, 2005

TO: The Honorable Mark R. Warner, Governor of Virginia

and

Chairmen of the House and Senate Committees on
Commerce and Labor

The State Corporation Commission herewith transmits its report, regarding the implications of a requirement to consider undergrounding of electric transmission lines when requested by a qualifying locality, as required by Chapter 332 of the 2005 Acts of Assembly (Senate Bill 783).

Respectfully Submitted,

_____
Clinton Miller
Commission Chairman

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Mark C. Christie
Commissioner

_____
Theodore V. Morrison, Jr.
Commissioner

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## EXECUTIVE SUMMARY

Senate Bill 783[1] of the 2005 Regular Session of the Virginia General Assembly requested the State Corporation Commission ("Commission" or "SCC") "to analyze the implications of a requirement that it consider imposing a condition, when requested by certain localities, that proposed electrical transmission lines be installed underground." In the conduct of this study, participation of interested parties was solicited to respond to two information requests – one consisting of several key threshold questions relative to the procedural and evidentiary implications of the proposed legislation described in Senate Bill 783 ("SB 783") and another seeking information relative to the costs associated with a requirement to develop an underground transmission line proposal.

Responses to the first information request were divided on the threshold questions, including whether a locality should participate as a formal party to a proceeding in which it requests SCC consideration of an underground alternative and whether the responsibility to develop an underground alternative should rest primarily with the requesting locality or the applicant utility. Responses to the second information request provided information related primarily to the estimated costs associated with the development of an underground proposal, including (1) route development, (2) preliminary line design, and (3) development and defense of supporting evidence. Among the state's five investor owned utilities, the estimated total costs to develop an underground proposal ranged from $91,000 to $2,750,000.

The Commission believes the Code of Virginia and the Commission's Rules of Practice and Procedure can adequately accommodate the proposed legislation described in SB 783. Moreover, the proposed legislation would not necessarily require the Commission to change the procedures under which it presently considers alternative transmission line routing pursuant to Title 56 of the Code apart from codifying the usual Commission practice of addressing, in the final order, its rejection of any proposed transmission line alternative, including underground routes. Given that (1) the Commission's Rules of Practice and Procedure allow any party to a transmission line proceeding to propose an underground alternative, (2) the Code of Virginia requires the Commission to consider environmental impacts and the public interest when considering transmission line applications, and (3) as a matter of practice the Commission states its reasons for declining to impose underground transmission construction, the proposed legislation described in SB 783 would have negligible effects on current law and Commission practice.

In summary, as indicated above, there were several potential procedural and evidentiary issues identified by the Commission Staff and addressed by interested parties who participated in this study. However, there was no consensus among the interested parties as to whether certain changes to the procedures under which the Commission considers alternative transmission line routing pursuant to Title 56 of the Code would prove to be beneficial. The Commission will implement any changes to statutory policy deemed necessary by the General Assembly to improve the process.

[1] Chapter 332 of the 2005 Acts of Assembly.

## BACKGROUND AND INTRODUCTION

By legislation enacted in 2005 (see Senate Bill 783 ("SB 783") in Appendix A), the Virginia General Assembly directed the Virginia State Corporation Commission ("Commission" or "SCC") "to analyze the implications of a requirement that it consider imposing a condition, when requested by certain localities, that proposed electrical transmission lines be installed underground." Specifically, SB 783 required the Commission, by January 1, 2006, to conduct an analysis of the effects on all affected persons of an amendment to § 56-46.1 of the Code of Virginia ("Code") with implications for transmission line planning, application and approval processes, and to submit the results of its analysis to the Governor and to the chairmen of the Senate and House Committees on Commerce and Labor. In particular, the amendment to § 56-46.1 of the Code envisioned by SB 783 would:

> *1. Require the Commission, when it considers the effects of an electrical transmission line to be located in any city or county with a population of more than 225,000, based on the latest population estimates of the Weldon Cooper Center for Public Service of the University of Virginia, to consider the impact of such transmission line if it were to be located underground, if requested by the governing body of the city or county;*
>
> *2. Authorize the Commission, if it finds that underground location would minimize adverse environmental impact and is otherwise in the public interest, to condition its approval of the electrical transmission line upon the line being located underground; and*
>
> *3. Require the Commission, if it approves the construction of the electrical transmission line without imposing such a condition, to state, in its order approving the construction of the facility, its reason or reasons for declining to impose such a condition.*

The study design included identification of interested parties, development of two separate information requests, and identification of key issues for analysis. The first information request invited potential interested parties to respond to several key threshold questions relative to the procedural and evidentiary implications of the proposed legislation described in SB 783. The second information request addressed the mandate of SB 783 to "conduct an analysis of the effects on all affected persons" of the proposed amendment.

The first information request was submitted to approximately 80 potential interested parties. The cover letter requested that persons and entities having an interest in the study submit detailed responses to the questions comprising the first information request. The parties were given the option to remain on the mailing list even if they were not interested in responding to the questions. The second information request was

submitted to those 11 entities[2] who expressed an interest in participating in the study by responding to the first information request, as well as all persons who expressed a wish to remain on the mailing list.

The interested parties responding to the first information request were divided in their responses to several key threshold questions relative to the procedural and evidentiary implications of the proposed legislation described in SB 783. In particular, the interested respondents disagreed about whether the responsibility to develop an underground alternative should rest primarily with the requesting locality or the applicant utility. There was similar disagreement on other key issues.

This introduction is followed by an explanation of the SCC's current transmission line application/certification process. Following that explanation, detailed descriptions of the first and second information requests and responses to those requests are provided. This is followed by a summary, analysis and conclusions.

## TRANSMISSION LINE APPLICATION AND CERTIFICATION PROCESS

Introduction

The Virginia General Assembly, through the legislative process, imparts certain responsibilities upon the Commission relative to the regulation of electric utility companies, including the certification of electric transmission lines. The Commission's authority and responsibility with regard to the construction of new transmission lines is established primarily by Title 56 of the Code of Virginia ("Code"). Specifically, § 56-265.2 of the Code requires public utilities to obtain a certificate from the Commission in order to construct facilities for use in public utility service. This requirement is applicable to transmission lines that are not considered ordinary extensions or improvements in the usual course of business, including all transmission lines capable of carrying 150 kilovolts. Additionally, the Commission is authorized to issue its own rules and regulations to facilitate the implementation of its statutory responsibilities.

A utility's application for a certificate to construct and operate a transmission line typically includes supporting written testimony for the certificate and a map and sketch of the applicant's preferred route, as well as other alternative routes that have been considered, except in situations where overhead lines are not feasible or the customer pays for an underground option. The applications also include other information in accordance with the Staff's Guidelines of Minimum Requirements ("Guidelines"). The Guidelines request that the applicant address four major categories: (1) the necessity for the proposed project including estimated cost; (2) a description of the proposed project

[2] Entities responding to the first information request included Appalachian Power Company ("APCO"), Delmarva Power & Light ("DPL" or "Delmarva Power"), Dominion Virginia Power ("DVP" or "Virginia Power"), Kincaid Forest Homeowners Association ("KFHA" or "Kincaid Forest"), Loudoun County ("LC"), the Municipal Electric Power Association of Virginia ("MEPAV"), Old Dominion Power Company ("ODPC"), Prince William County ("PWC"), Scenic Loudoun Legal Defense, Inc. ("SLLD" or "Scenic Loudoun"), the Virginia, Maryland, Delaware Association of Electric Cooperatives ("VMD"), and the Virginia Municipal League ("VML").

and alternatives considered; (3) the impact of the line on scenic, environmental, and historic features; and (4) the health aspects associated with the electric and magnetic fields that will be generated by the proposed line.

An illustrative description of a typical transmission line certification process is provided in the following narrative. For the purposes of this discussion, the process is divided into five phases: pre-filing phase, post-filing/pre-noticing phase, noticing phase, post-noticing/hearing phase, and post-hearing phase. A step-by-step "flow chart" of the process is provided in Figure 1.

Pre-filing Phase

Ideally, once an applicant anticipates a need for additional transmission capacity, the applicant voluntarily initiates discussions and meets with representatives of the Staff, local governments, and state and federal environmental agencies; however, there are no rules or regulations that require such activities. Frequently, the applicant also voluntarily holds public meetings. Such meetings provide, in part, a forum for local residents and officials to express preferences and concerns regarding alternative routes, including underground options.

As a result of the pre-filing discussions and meetings, the Staff and local governments usually know in advance approximately when an applicant will file an application and have information on the need for the line and the proposed route. Whether a hearing will be required is also typically discussed with the Staff. In situations involving the use of existing right-of-way or underground construction, the Commission might conclude that notice and an opportunity to request a hearing are sufficient. In many cases though, it is obvious that a case will go to hearing, typically because of local opposition to overhead transmission lines.

Post-filing/Pre-noticing Phase

After an application is filed, the Staff reviews the application for general content. The route descriptions and sketch maps are of particular importance since they are necessary for the published notice. As provided by § 62.1-44.15:5 D 2 of the Code, the Commission and the State Water Control Board must consult on wetland impacts. As required by Section 3 of the Department of Environmental Quality-State Corporation Commission Memorandum of Agreement ("MOA") Regarding Consultation on Wetland Impacts (July 2003) entered into pursuant to § 62.1-44.15:5 D 2, the Staff must advise the Department of Environmental Quality ("DEQ") within five business days that an application has been filed. A request for a coordinated review is sent to another component of DEQ at about the same time. DEQ has 10 business days to advise the Staff whether the application has all of the wetlands information. Since the MOA took effect, the Commission has not entered an order for notice without DEQ clearance.

**Figure 1. Typical Transmission Line Application Process***
**(when hearing is anticipated)**

1. Applicant anticipates need for transmission capacity.
2. Applicant meets with representatives of local government, SCC, and state and federal environmental agencies, and holds public meetings. (The meetings provide a forum, in part, for representatives to express preferences and concerns regarding alternative routes and underground options.)
3. Applicant files application and supporting testimony for Certificate, map/sketch of route, and other information in accordance with staff guidelines. (Applications typically include the applicant's preferred overhead route, as well as other alternative overhead routes that have been considered, except in situations where overhead lines are not feasible or the customer pays for an underground option.)
4. Staff reviews application.
5. Staff commences consultation with DEQ on wetlands and coordinated environmental review.
6. DEQ submits its schedule for wetland impacts analysis and coordinated environmental review.
7. SCC issues Order of Notice and Hearing.
8. As directed by SCC Order, Applicant serves copy of SCC Order on local officials.
9. As directed by SCC Order, Applicant mails notice and route maps to property owners on the rights-of-way of the proposed and alternative routes.
10. As directed by SCC Order, Applicant publishes notice and route maps in local newspapers.
11. Respondents file notice of participation.
12. Respondents and Staff initiate discovery.
13. Respondents file written testimony. (Testimony may include proposals for alternative overhead routes or underground options.)
14. Staff files written testimony. (Testimony may include proposals for alternative overhead routes or underground options.)
15. Interested individuals and organizations submit written comments on the application.
16. Hearing Examiner conducts local hearing for public witnesses.
17. Applicant files written rebuttal testimony.
18. Hearing Examiner conducts evidentiary hearing in Richmond with examination of expert witnesses.
19. Applicant, Respondents, and Staff file post-hearing written legal briefs and/or make oral arguments.
20. Hearing Examiner issues report summarizing evidentiary record and making recommendations.
21. Applicant, Respondents, and Staff file comments on Hearing Examiner's Report.
22. Commission issues Final Order.
23. Commission issues Certificate.
24. Applicant and/or Respondents may file Petition for Reconsideration.
25. Applicant and/or Respondents may appeal Commission's decision to Virginia Supreme Court.

* For overhead lines greater than 150kV and all underground lines. This flow chart excludes filing of motions by various parties that cannot be known in advance.

Noticing Phase

The Commission enters an order for "notice" or for "notice and hearing" after the Staff receives notifications from DEQ on wetlands and the coordinated environmental review. As required by § 56-46.1 of the Code, the notice and route maps must be published in local newspapers and mailed to local officials and to landowners along the route. In situations where a transmission line is likely to be noncontroversial, the Commission will simply issue an order for notice without scheduling a hearing; however, such an order provides not only notice but also an opportunity for interested persons to file comments or to request a hearing. If requests are made, the matter is set for hearing before an examiner.

In situations where a proposed transmission line is likely to be controversial and a hearing is a forgone conclusion, the Commission would issue an order of notice and hearing. This order includes a schedule for filing notices of participation as a respondent and for filing testimony and exhibits. If the proposed line is outside of the greater Richmond area, local hearings for public witnesses are normally scheduled in the area where the line is proposed. A hearing examiner is typically assigned to hear transmission line cases.

Post-noticing/Hearing Phase

After the Commission issues the order for notice or notice and hearing, respondents who have filed notices of participation and the Staff may initiate discovery and file written testimony/reports, which may include proposals for alternative overhead routes or underground options. Other interested individuals and organizations may also submit written comments on the application, and the applicant may file rebuttal testimony. Finally, the matter proceeds to hearing as scheduled, including local hearings for public witnesses and an evidentiary hearing in Richmond with examination of expert witnesses offered by the applicant, respondents, and the Staff. An alternative route or modifications of the proposed route may be considered during the hearing phase. There is precedent for additional publication of notice and expansion of the case to consider an alternative to permit public participation by persons in an area affected by the alternative under consideration.

If no hearing is scheduled, the Staff files its report and the applicant files comments on the report. The Commission then makes a decision based on the application, Staff report, and applicant comments. In either type of case, the Staff report includes the report of the DEQ coordinated review and any related correspondence. This procedure has been followed for many years to satisfy the statutory requirement that the Commission consider any environmental reports.

Post-hearing Phase

After a hearing, the applicant, respondents, and the Staff are given an opportunity to file post-hearing written legal briefs and/or make oral arguments. The hearing

examiner enters a report summarizing the evidentiary record and making recommendations. The applicant, respondents, and the Staff may file comments on the hearing examiner's report. Then the Commission makes a decision and issues a final order and a certificate for the proposed line and route. The applicant and/or respondents may file a petition for reconsideration and may appeal the Commission's decision to the Virginia Supreme Court.

Summary

The purpose of this section was to introduce the framework for an electric utility's application for a new transmission line and the responsibilities of the Commission relative to the certification of such lines. The application/certification process was described in the context of five phases. A step-by-step "flow chart" of the application/certification process is presented in Figure 1. An understanding of the current process is necessary in order to consider the implications of SB 783, which would allow qualifying localities to request alternative transmission line routing. The purpose of the next section is to document the interested parties' input as to how the Commission should change the procedures, if at all, under which it presently considers alternative transmission line routing should the Virginia General Assembly enact the concept proposal described in SB 783.

## FIRST INFORMATION REQUEST (THRESHOLD QUESTIONS)

Early in the study process, a decision was made to solicit input from potential interested parties regarding the following critical issue in this study: If the Virginia General Assembly enacted the concept proposal described in SB 783, how would the Commission change the procedures, if at all, under which it presently considers alternative transmission line routing pursuant to Title 56 of the Code? The first information request (see Appendix B) was distributed to approximately 80 potential interested parties on June 22, 2005. The potential interested parties were invited to respond to several key threshold questions relative to the procedural and evidentiary implications of the proposed legislation described in SB 783.

As mentioned previously, 11 interested parties responded to the first information request, including four utility companies, VMD, MEPAV, Loudoun County, Prince William County, VML, Kincaid Forest, and Scenic Loudoun. There was little consensus among the respondents. More specifically, the interested parties were divided as to whether a locality should participate as a formal party to a proceeding in which it requests SCC consideration of an underground alternative and whether the responsibility to develop an underground alternative should rest primarily with the requesting locality or the applicant utility. The aggregated responses to each question are provided in Appendix C. A tabulated summary of the responses is provided in Table 1.

**TABLE 1. TABULATED RESPONSES TO STAFF'S "THRESHOLD" QUESTIONS (FIRST INFORMATION REQUEST)**

| Question / Respondent | (1) LOCALITY REQUIRED TO BE FORMAL PARTY? | (2) LOCALITY'S BURDEN OF PROOF? | (3) PROCEDURAL MILESTONE FOR LOCALITY TO FILE UG PROPOSAL? | (4) UTILITY'S OBLIGATION TO DEVELOP UG ALTERNATIVE? |
|---|---|---|---|---|
| KFHA | Locality's request should come at step 2 – can't be a formal party at that time | No, lack sufficient funds | Step 15 if locality objects to applicant's UG proposal | Yes |
| VML | No, not required by SB 783 | No | In timely manner (if a locality wishes to be a formal party) | May be, or developed jointly in the proper case |
| PWC | No, may only wish to participate as a public witness | No, cost prohibitive | No, deadlines would need to be extended | Yes |
| SLLD | Yes, to avoid ex parte and extrajudicial communication | No | No, w/qualification. Locality should be subject to same rules as any other party. | Yes, if required by statute |
| LC | Yes | Locality should submit a reasonably specific request identifying proposed location | Procedural milestone in Order would need to be extended to accommodate locality | May be, or jointly |
| ODP | Yes, since requesting specific SCC action | No, but should be required to provide factual and legal basis for its request. | Yes, at notice of participation (for the request, not the proposal) | Yes |
| APCO | No, not required but permitted | Yes | Yes, respondents' direct testimony deadline | No |
| DPL | Yes, to ensure fairness with respect to rights and obligations | Yes | Yes, respondents' direct testimony deadline | Only if locality pays planning costs |
| DVP | Yes, to ensure fairness, timeliness, and a complete record | Yes, applicant should not have to support a non-preferred alt. | Yes, respondents' direct testimony deadline | No |
| MEPAV | Yes | Yes | Yes | No |
| VMDAEC | Yes, to ensure fairness, responsibility, and accountability | Yes | Yes, during public comment period | No, unless required by SCC after analysis |

Generally, the utility-related entities[3] agreed that a requesting locality should be subject to the same rules of discovery and examination as an applicant utility. According to the utilities, a requesting locality, like an applicant utility, should be a formal party to the proceeding (1) as a matter of fairness, (2) to ensure the locality presents its rationale in a timely manner, and (3) to enable the Commission to establish a complete record for its consideration. Otherwise, according to the utilities, the localities would have an opportunity to intervene, creating additional costs and delays, without any responsibility or accountability. Loudoun County and SLLD also agreed that a locality should be a formal party to the proceeding. According to SLLD, if a locality wishes to participate in any case before any court of record, including the Commission, it should be required to publicly participate as any other party; to not require such participation would create an atmosphere of ex parte and extrajudicial communication.

Regarding the responsibility for development of an underground proposal, Loudoun and Prince William counties, VML, and KFHA asserted that an applicant utility should be primarily responsible for developing and submitting a proposal detailing that alternative and providing evidentiary support for that proposal. Reasons cited were that the localities lack the necessary expertise and that such an obligation would be too costly for a requesting locality. ODP was the sole utility supporting this position, arguing that because the applicant utility has expertise in designing electric transmission lines, the alternative proposal should be developed by the applicant utility. Loudoun County and VML commented that some level of joint responsibility might be appropriate.

SLLD suggested that an applicant utility should develop the underground proposal only if the General Assembly requires it as part of legislation. VMD suggested that an applicant utility should be required to develop an underground proposal only after thorough analysis by and instruction from the Commission. DPL commented that utilities should not be obligated to develop underground transmission line alternatives unless the incremental cost to develop such a plan and cost to construct and maintain the facilities is agreed to be paid entirely by the locality that requested the undergrounding. DVP reasoned that requiring an applicant to develop a proposal in opposition to its best professional judgment runs counter to the basic premise of the administrative process in which an applicant presents and defends a position that it truly advocates.

In summary, the interested respondents were divided as to whether a locality should participate as a formal party to a proceeding in which it requests SCC consideration of an underground alternative and whether the responsibility to develop an underground alternative should rest primarily with the requesting locality or the applicant utility. There was also a disparity among the respondents relative to whether or not a locality requesting the SCC's consideration of an underground alternative should be obligated to propose such an alternative not later than a date corresponding to a specific procedural milestone established in the docket's scheduling order. The next section presents the results of Staff's second information request.

[3] DPL, DVP, ODPC, MEPAV, and VMD. APCO suggested that requesting localities should be permitted to be formal parties, but not required.

## SECOND INFORMATION REQUEST (EFFECTS QUESTIONS)

The second information request (see Appendix D) was submitted August 16, 2005, to those 11 persons or entities who expressed an interest in participating in the study by responding to the first information request, and anyone who expressed a wish to remain on the mailing list. The second information request attempted to address the primary mandate of SB 783 to "conduct an analysis of the effects on all affected persons" of a potential amendment to § 56-46.1 of the Code of Virginia. Of primary interest were the costs and time associated with conducting the following activities: (1) route development of an underground alternative and coordination with pertinent state and federal agencies ("route development"), (2) preliminary line design and development of estimated engineering and construction costs ("preliminary line design"), and (3) development, presentation, and defense of supporting evidence in a formal proceeding pursuant to § 56-265.2 of the Code of Virginia ("development and defense of supporting evidence"). Although the legislation proposed by SB 783 would not necessarily create any new, unique effects (since any respondent to a Commission order of notice can exercise the right to propose an underground alternative under current rules of practice and procedure), the development of an alternative underground transmission line proposal would cost time and money, regardless of who develops it.

Responses to the second information request were received from eight interested parties, including five investor-owned utilities ("IOUs"), VMD, the Virginia Department of Transportation ("VDOT"), and KFHA. The five IOUs offered estimates on the financial costs and time requirements associated with (1) route development, (2) preliminary line design, and (3) development and defense of supporting evidence. [4] Kincaid Forest provided an estimate of the financial cost to participate in such a proceeding as a non-locality, non-utility participant. VMD and VDOT offered some general comments. The aggregated responses to each question are provided in Appendix E. A tabulated summary of the responses is provided in Table 2.

The IOUs provided the following ranges of financial cost estimates for the various activities: (1) route development ($70,500 - $1,000,000); (2) preliminary line design ($20,500 - $1,500,000); (3) development and defense of supporting evidence ("minor" - $329,000). The responses provided relative to the time needed to develop a proposal and supporting testimony ranged from 2 to 18 months. Kincaid Forest estimated a cost of $150,000 to participate in such a proceeding.

[4] These responses reflect the estimated costs to the IOUs under a hypothetical scenario in which an IOU, after having submitted an overhead proposal with its initial application, would later be required to develop an underground proposal as a result of a qualifying locality's request. Such a scenario would likely require additional legislation since, at the present time, a respondent locality would normally be expected to develop any underground alternative to an IOU's overhead proposal under current rules of practice and procedure.

**TABLE 2. TABULATED RESPONSES TO STAFF'S "EFFECTS" QUESTIONS (SECOND INFORMATION REQUEST)**

| Question Topic / Respondent | ROUTE DEVELOPMENT/ COORDINATION WITH AGENCIES | PRELIMINARY LINE DESIGN/ COST ESTIMATION | DEVELOPMENT & DEFENSE OF SUPPORTING EVIDENCE | TIME TO DEVELOP PROPOSAL AND SUPPORTING DIRECT TESTIMONY |
|---|---|---|---|---|
| APCO | $1,000,000 | $1,500,000 | $100,000 - $250,000 | 12 months or more |
| DPL | $150,000 - $300,000 | $75,000 – $125,000 | $100,000 - $200,000 | 6 – 9 months |
| DVP | $124,000 - $243,000 | $156,000 – 365,000 | $69,000 – $329,000 | 9 – 18 months |
| ODPC | $70,500 | $20,500 | minor | 2 months |
| POTOMAC EDISON | $75,000 – $150,000 | $100,000 - $200,000 | $25,000 – $50,000 | 12 – 18 months |

Table Notes:

KFHA provided an estimate of $150,000 to participate in a Commission proceeding.

VDOT noted that it would need to be consulted if any proposals impact roadways under VDOT's jurisdiction.

VMDAEC could not estimate costs without historical cost data for 230 kV lines.

The breadth in the above ranges of the cost estimates for route development and preliminary line design deserve some explanation. Variations in the cost estimates for route development can be attributed in part to variations in assumptions about terrain and easement and environmental issues, as well as assumptions about the extent to which development of an underground route might be facilitated by having already designed an overhead route. Variations in the cost estimates for the preliminary line design result primarily from different philosophies about the level of detail to place in a preliminary line design. Some utilities include more detailed engineering in the preliminary line design (amount of exploratory drilling, for example) in order to improve the accuracy of their estimated construction costs. Other utilities, on the other hand, might wait until the construction phase to conduct more detailed engineering. Another variable that influences the cost estimates for route development and preliminary line design is the anticipated reliance on outside consultants that is factored into the estimates.

The VMD opined that Old Dominion Electric Cooperative ("ODEC") and its members would be impacted by the legislation proposed by SB 783 because DVP, which provides transmission service to ODEC, "would probably recover any costs resulting from mandatory review of underground transmission alternatives through its [FERC-approve] rates."

VDOT did not provide formal comments, but it did note that it would need to be consulted if any proposals by the localities, non-localities, or utilities impacted roadways under VDOT's jurisdiction. VDOT offered that it would comment on whether or not a proposed facility would be compatible with roadway usage and the types of permits needed from VDOT.

## SUMMARY, ANALYSIS AND CONCLUSIONS

Summary

SB 783 directed the SCC to analyze the implications of a requirement that it consider imposing a condition, when requested by certain localities, that proposed electrical transmission lines be installed underground. Specifically, SB 783 required the Commission, by January 1, 2006, to conduct an analysis of the effects on all affected persons of an amendment to § 56-46.1 of the Code with implications for transmission line planning, application and approval processes, and to submit the results of its analysis to the Governor and to the chairmen of the Senate and House Committees on Commerce and Labor.

Approximately 80 potential interested parties and/or affected persons were identified, and two information requests were developed and submitted – one consisting of several key threshold questions relative to the procedural and evidentiary implications of the proposed legislation described in SB 783 and another seeking information relative to the costs associated with a requirement to develop an underground transmission line proposal.

Eleven interested parties submitted responses to the first information request; however, there was little consensus among the respondents. More specifically, the interested parties were divided as to whether they thought a locality must participate as a formal party to a proceeding in which it requests SCC consideration of an underground alternative and whether the responsibility to develop an underground alternative should rest primarily with the requesting locality or the applicant utility.

Responses to the second information request were received from eight potentially "affected persons." As with the responses to the first information request, there was also little consensus among the respondents to the second information request. Among the five IOUs responding, the estimated total costs to develop and defend an underground proposal for the hypothetical transmission line ranged from $91,000 to $2,750,000. The time required to develop the proposal and supporting direct testimony ranged from 2 to 18 months. Although no responses were received from the localities, the costs and time would probably be of similar magnitude; however, the localities would likely have to rely almost exclusively on outside consultants to develop the proposal.

Analysis of Proposed Three-Part Amendment to § 56-46.1

An analysis regarding the implications and effects of the three-part amendment to the Code is provided in the discussion below.

*1. Require the Commission, when it considers the effects of an electrical transmission line to be located in any city or county with a population of more than 225,000, based on the latest population estimates of the Weldon Cooper Center for Public Service of the University of Virginia, to consider the impact of such transmission line if it were to be located underground, if requested by the governing body of the city or county.*

The proposed amendment would not require the Commission to change the procedures under which it presently considers alternative transmission line routing pursuant to Title 56 of the Code. Furthermore, the proposed amendment would not afford those localities having a population of more than 225,000 any special consideration. Under the Commission's Rules of Practice and Procedure (5 VAC 5-20-80B) any locality of any population can request the Commission to consider the impact of an underground alternative by filing a notice of participation as a respondent. Such notice of participation must be filed within the time prescribed by the Commission and must contain: (i) a precise statement of the interest of the respondent; (ii) a statement of the specific action sought to the extent then known; and (iii) the factual and legal basis for the action. Any person or entity filing a notice of participation as a respondent becomes a party to that proceeding. After the Commission issues an order for notice or notice and hearing, respondents who have filed notices of participation can initiate discovery and file written testimony, which may include proposals for alternative overhead routes or underground options. Finally, the matter proceeds to hearing as scheduled, including an evidentiary hearing in Richmond with examination of expert witnesses. An alternative route or modifications of the proposed route may be considered

during the hearing phase. There is precedent for additional publication of notice and expansion of the case to consider an alternative.

*2. Authorize the Commission, if it finds that underground location would minimize adverse environmental impact and is otherwise in the public interest, to condition its approval of the electrical transmission line upon the line being located underground.*

The Commission's authority and responsibility relative to the construction of new transmission lines is established primarily by §§ 56-46.1 and 56-265.2 of the Code. The Commission believes it already has the authorization referred to in the proposed amendment and that the proposed amendment would not necessarily require the Commission to change the procedures under which it presently considers alternative transmission line routing pursuant to Title 56 of the Code. Section 56-46.1 A of the Code directs the Commission to consider several factors whenever the Commission is required to approve the construction of any electrical utility facility, including (1) the effect of the proposed facility on the environment, (2) the effect of the proposed facility on economic development, and (3) any improvements in service reliability that may result from the construction of such facility. In addition, § 56-46.1 B states that the Commission shall determine that the line is needed and that the corridor or route the line is to follow will reasonably minimize adverse impact on the scenic assets, historic districts, and environment of the area concerned. Another section of the Code that the Commission considers when comparing transmission alternatives is § 56-235.1, which requires the Commission to assure that utilities make the maximum effective use of capital resources in rendering utility service.

*3. Require the Commission, if it approves the construction of the electrical transmission line without imposing such a condition, to state, in its order approving the construction of the facility, its reason or reasons for declining to impose such a condition.*

The proposed amendment would effectively codify the Commission's usual practices under which it presently considers alternative transmission line routing pursuant to Title 56 of the Code. In adjudicating transmission line applications, the Commission considers and weighs the evidence submitted in the record by the applicant, respondents, Staff, and public witnesses; considers and weighs the factors set forth in the Code; reviews and considers the benefits and adverse impacts of all alternative proposals; and makes a final decision, including reasons for declining to impose an underground alternative. For example, in its October 8, 2004, Final Order in Case No. PUE-2002-00702,[5] the Commission stated the following: "Our explanation for rejecting an underground proposal in a previous proceeding is applicable here as well: 'There is no evidence that benefits will accrue to the Company or its ratepayers which outweigh the increased costs and risk of reliability problems associated with the underground installation of the proposed transmission line.'" In response to the Commission's Final Order, a party to the proceeding appealed the Commission's decision to the Supreme Court of Virginia,[6] stating in part that the Commission erred in rejecting the recommendation that a portion of the transmission line be placed underground. In its

[5] Application of Virginia Electric and Power Company, For a certificate of public convenience and necessity for facilities in Loudoun County: Brambleton-Greenway 230 kV Transmission Line.
[6] Dulles Gateway Associates, LLC, *et a*l. v. SCC, *et al*., Record No. 050273, March 14, 2005.

Order of November 4, 2005, the Supreme Court ruled that there was "no reversible error" in the Final Order of the State Corporation Commission. In affirming the Commission's Final Order, the Court held that the Commission considered and applied the governing statutory criteria to all of the evidence, and that the Commission's findings were fully supported by the evidence.

Analysis of Additional Issues

There were several potential procedural and evidentiary issues not addressed in SB 783 that were identified by the Staff and addressed by interested parties who participated in this study; however, there was no consensus that any changes to the Commission's procedures would result in overall improvements to the transmission line application process. Three key issues are presented in question format and analyzed as follows.

*1. Should the Commission's Rules of Practice and Procedure be relaxed to allow certain qualifying localities discriminatory procedural and evidentiary liberties (for example, exemption from deadlines or requirements to participate as a formal party) when requesting the Commission to consider the impacts of a transmission line if it were placed underground?*

Under Rule 80 A of the Commission's Rules of Practice and Procedure (5 VAC 5-20-80), a utility seeking to construct a transmission line is required to file an application requesting authority to do so. According to Rule 80 B, a notice of participation as a respondent is the proper initial response to an application. Under Rule 80 C, any person or entity not participating in a matter pursuant to 5 VAC 5-20-80 A or 5 VAC 5-20-80 B may make known their position in any regulatory proceeding by filing written comments in advance of the hearing if provided for by Commission order or by attending the hearing, noting an appearance in the manner prescribed by the commission, and giving oral testimony. Public witnesses may not otherwise participate in the proceeding, be included in the service list, or be considered a party to the proceeding.

Therefore, under current rules, a qualifying locality could make known its request of the Commission to consider an underground transmission line alternative through participation as a respondent under Rule 80 B or, under Rule 80 C, as a public witness. However, a locality participating as a public witness could not otherwise participate in the transmission line hearing or be considered a party to the proceeding. As such, the locality could not provide testimony and exhibits, could not engage in cross-examination of the testimony and exhibits of Commission staff and other parties, could not issue subpoenas or serve written interrogatories or requests for production of documents upon a party, and could not request to examine the work papers supporting the testimony or exhibits of a witness who prefiled written testimony. Participation as a respondent is required to engage in these activities.

As mentioned previously, the utility-related entities generally agreed that a requesting locality should be subject to the same rules of discovery and examination as an

applicant utility. According to the utilities, a requesting locality, like an applicant utility, should be a formal party to the proceeding (1) as a matter of fairness, (2) to ensure the locality presents its rationale in a timely manner, and (3) to enable the Commission to establish a complete record for its consideration. Otherwise, according to the utilities, the localities would have an opportunity to intervene, creating additional costs and delays, without any responsibility or accountability. Loudoun County and Scenic Loudoun also agreed that a locality should be a formal party to the proceeding. According to SLLD, if a locality wishes to participate in any case before any court of record, including the Commission, it should be required to publicly participate as any other party; to not require such participation would create an atmosphere of ex parte and extrajudicial communication.

*2. Should the Commission assign the responsibility to finance and develop an underground proposal to a party (i.e., the utility) other than the locality that requests it?*

SB 783 does not specify who would be responsible for financing and developing an underground line alternative in the event a qualifying locality asks the SCC to consider such an alternative. The development of such a proposal would also include responsibility for coordinating with state and federal agencies for environmental impact. The locality related entities who participated in the study were in general agreement that an applicant utility should be primarily responsible for developing and submitting a proposal detailing that alternative, because the localities lack the necessary expertise and financial resources. The utilities suggested that the costs should be paid entirely by the localities. Other parties suggested that the development of the underground proposal might be shared by the utility and the locality. Scenic Loudoun insisted that an applicant utility should be required to develop an underground proposal only if the General Assembly requires it as part of legislation. Under the Commission's existing procedures, the cost and time to develop an underground proposal would normally fall on the entity advocating the proposal. If the Commission were to shift that responsibility to the utilities, the utilities have estimated that their costs could range from $91,000 to $2,750,000.

*3. Should the Commission assign the burden to develop, present, and defend supporting evidence for an underground proposal in a formal proceeding to a party (i.e., the utility) other than the locality that requests consideration of the underground alternative?*

SB 783 does not specify who should be responsible for developing, presenting, and defending supporting evidence for an underground line alternative in the event a qualifying locality asks the SCC to consider such an alternative. The localities were in general agreement that an applicant utility should be primarily responsible for providing evidentiary support for the proposal. The Commission could require the applicant utility to present the underground alternative; however, such action could place the utility in the unwieldy position of submitting an alternative that it does not consider to be the most favorable electrical solution under the conditions at hand. Furthermore, requiring an applicant to develop a proposal in conflict with its best professional judgment contradicts

the basic premise of the administrative process in which an applicant presents and defends a position that it truly advocates.

Conclusions

The Code of Virginia and the Commission's Rules of Practice and Procedure can adequately accommodate the proposed legislation described in SB 783. Moreover, the proposed legislation would not necessarily require the Commission to change the procedures under which it presently considers alternative transmission line routing pursuant to Title 56 of the Code apart from codifying the usual Commission practice of discussing, in the final order, its rejection of any proposed underground line alternative. Given that (1) the Commission's Rules of Practice and Procedure allow any party to a transmission line proceeding to request an underground proposal, (2) the Code of Virginia requires the Commission to consider environmental impacts and the public interest when considering transmission line applications, and (3) as a matter of practice the Commission has stated its reasons for declining to impose underground transmission construction, the proposed legislation described in SB 783 would have only minor effects on current law and Commission practice.

There were several potential procedural and evidentiary issues identified by the Staff and addressed by interested parties who participated in this study. However, there was no consensus among the interested parties as to whether certain changes to the procedures under which the Commission considers alternative transmission line routing pursuant to Title 56 of the Code would prove to be beneficial. The Commission will implement any changes to statutory policy deemed necessary by the General Assembly to improve the process.

## APPENDIX A: SENATE BILL 783
## (CHAPTER 332 OF THE 2005 ACTS OF ASSEMBLY)

## CHAPTER 332

*An Act to direct the State Corporation Commission to analyze the implications of a requirement that it consider imposing a condition, when requested by certain localities, that proposed electrical transmission lines be installed underground.*

[S 783]

Approved March 21, 2005

Be it enacted by the General Assembly of Virginia:

**1.** *§ 1. That the State Corporation Commission shall analyze the implications of a requirement that it consider imposing a condition, when requested by certain localities, that proposed electrical transmission lines be installed underground, as follows:*

*A. By January 1, 2006, the State Corporation Commission shall conduct an analysis of the effects on all affected persons of an amendment to § 56-46.1 of the Code of Virginia that would:*

*1. Require the Commission, when it considers the effects of an electrical transmission line to be located in any city or county with a population of more than 225,000, based on the latest population estimates of the Weldon Cooper Center for Public Service of the University of Virginia, to consider the impact of such transmission line if it were to be located underground, if requested by the governing body of the city or county;*

*2. Authorize the Commission, if it finds that underground location would minimize adverse environmental impact and is otherwise in the public interest, to condition its approval of the electrical transmission line upon the line being located underground; and*

*3. Require the Commission, if it approves the construction of the electrical transmission line without imposing such a condition, to state, in its order approving the construction of the facility, its reason or reasons for declining to impose such a condition.*

*B. The State Corporation Commission shall submit the results of its analysis to the Governor and to the chairmen of the Senate Committee on Commerce and Labor and the House Committee on Commerce and Labor.*

## APPENDIX B: FIRST INFORMATION REQUEST

June 22, 2005

Dear «Salutation»:

By legislation enacted in 2005 (SB 783, attached), the General Assembly directed the Virginia State Corporation Commission ("Commission" or "SCC") "to analyze the implications of a requirement that it consider imposing a condition, when requested by certain localities, that proposed electrical transmission lines be installed underground."

Specifically, the legislation requires the Commission, by January 1, 2006, to conduct an analysis of the effects on all affected persons of an amendment to § 56-46.1 of the Code of Virginia ("Code") with implications for transmission line planning, application and approval processes, and to submit the results of its analysis to the Governor and to the chairmen of the Senate and House Committees on Commerce and Labor.

SB 783 asks the Commission to address a fundamental question: If Virginia's localities could trigger the SCC's consideration of transmission line undergrounding by requesting such consideration, how would it work, i.e., how would localities "request" such consideration, and how would the SCC "consider" it? More specifically: Who would come up with the details of the route, the design, and the cost estimate of the underground alternative?

By way of background, the Commission's review of a utility's transmission line application is a formal proceeding; it is a docketed case, conducted under the authority of the Code of Virginia, and the Commission's Rules of Practice and Procedure. The Commission makes its final decision based upon an evidentiary record. That record is made up of the utility's application and the alternatives presented therein; any alternatives presented by respondents or the Staff; the testimony of witnesses—including public witnesses—supporting and opposing the application and alternatives; and the testimony of the SCC Staff expressing its view as to whether the application is in the public interest. A document summarizing the Commission's review process in these cases is attached.

The Commission has the authority *under current law* to consider alternatives to the transmission line routing that is proposed by a utility. That authority is set forth in Subsection E of § 56-46.1 of the Code. Historically, the Commission has exercised that authority by considering alternative line routing when these alternatives (i) take the form of a fully developed proposal, and (ii) are proposed by persons participating as parties to the Commission's proceeding in which the line application is being considered.[7] Significantly, Subsection E of § 56-46.1 is not proposed to be modified as part of SB 783. As a result, SB 783, as presently configured, neither adds to nor subtracts from the Commission's present authority to consider underground alternatives to the transmission line routing proposed by a utility in a proceeding before the Commission.

The critical question in this study, then, is the following: If the Virginia General Assembly enacted the concept proposal described in SB 783, how would the Commission change the procedures, if at all, under which it presently considers alternative transmission line routing pursuant to Subsection E of § 56-46.1?

With this background in mind, the Staff believes that SB 783 prompts several key threshold questions. These questions address the procedural and evidentiary "nuts and bolts" of how localities would "request" consideration of an underground routing, who would develop the details of the underground alternative, who would be the proponent of this underground alternative in the proceeding, and how the SCC, in turn, would "consider" it. They are as follows:

[7] If the Commission determines that an alternative route merits full consideration, it can direct publication of the proposed route and notification to affected jurisdictions and landowners as provided in Subsection B of § 56-46.1 of the Code .

1. Should a locality requesting the SCC's consideration of an underground transmission line alternative be required to participate as a formal party to the proceeding in which it proposes such an alternative, i.e., should it be required to be a Respondent pursuant to Rule 80 of the Commission's Rules (5 VAC-20-80)?[8] Explain.
2. Should any locality requesting the SCC's consideration of an underground transmission line alternative be obligated to develop and submit to the SCC a proposal detailing that alternative, providing evidentiary support for that proposal, and having the burden of proof therefore? If not, why not.
3. Should a locality requesting the SCC's consideration of an underground transmission line alternative be obligated to propose such an alternative not later than a date corresponding to a specific procedural milestone established in the docket's scheduling order? [9] If so, which procedural milestone? If not, why not?
4. Should the applicant utility, itself, have the obligation to develop an underground transmission line alternative if such an alternative's consideration by the SCC is requested by a locality? If so, what should be the locality's role in that alternative's development, if any? Additionally, should the cost of such an alternative's development be born entirely by the applicant utility? If not, why not.
5. Are there any additional procedural or evidentiary issues that the Commission should consider as part of this study? If so, please elaborate.

To assist the Commission, the Staff requests that persons and entities having an interest in this study, submit detailed responses to the preceding questions.

Accordingly, if you or representatives of your organization are interested in participating in this study, please respond to the above questions by July 12, 2005. Responses to these preliminary questions should be submitted in writing to Mr. W. Timothy Lough, Ph.D., P.E., Special Projects Engineer, Division of Energy Regulation, P.O. Box 1197, Richmond, Virginia 23218, P.O. Box 1197, Richmond, Virginia 23218. It is also requested that an electronic version of your response be e-mailed in Word format to Tim.Lough@scc.virginia.gov.

It is anticipated that responses to these questions may be posted on the Commission's web site as publicly accessible documents.

Finally, if you are not participating in this study, but you or representatives of your organization wish to remain on the mailing list, please e-mail notification to that effect to Tim.Lough@scc.virginia.gov.

Sincerely yours,

W. Timothy Lough, Ph.D., P.E.
Special Projects Engineer

Attachments

[8] Status as a Respondent would, for example, subject a locality to discovery under Rule 250 (5 VAC 5-20-250) and Rule 260 (5 VAC 5-20-260) of the Commission's Rules of Practice and Procedure. Additionally, a locality appearing as a Respondent in a proceeding would likely be required to appear by counsel pursuant to the provisions of Rule 30 (5 VAC 5-20-30) of the Commission's Rules.

[9] As an example, § 56-259 D of the Code presently requires localities to request the SCC's consideration of joint use of right of way by the date that public comments on a electric transmission line application are to be filed.

## APPENDIX C: RESPONSES TO FIRST INFORMATION REQUEST

The following represents the Staff's compilation of interested parties responses to the questions in the first information request.

1. **Should a locality requesting the SCC's consideration of an underground transmission line alternative be required to participate as a formal party to the proceeding in which it proposes such an alternative, i.e., should it be required to be a Respondent pursuant to Rule 80 of the Commission's Rules (5 VAC-20-80)?[10] Explain.**

**KFHA.** *During step 2 of the application process, qualified localities should inform the SCC and the Applicant that they wish the Applicant to propose an underground alternative(s). Since the request comes prior to filing, the locality can't be a respondent.*

**SLLD.** *Yes. Generally, it is the position of SLLD that localities desiring to affect Commission decision-making should participate as a formal party to the proceeding. The Commission, as a powerful and important agency of state government having a unique blend of legislative/administrative/judicial responsibilities and authorities, has developed procedures over time. It is not unusual for government entities to participate. If a locality wishes to participate in any case before any court of record, including the Commission, it should be required to publicly participate as any other party. To not require such participation would create an atmosphere of ex parte and extrajudicial communication.*

**VML.** *The governing body of the locality should not be required to become a party in the proceedings of the SCC on the application. A governing body may simply desire that the SCC and the utility applicant consider the request. On the other hand, a locality may well be prepared to fully engage itself in the proceeding, so there should be a right of a local government to become a party to the proceeding. In terms of SB 783, it does not require the locality requesting the undergrounding to become a party to the transmission line application that triggers the request. The request by a locality would typically be initiated by a resolution or other legislative action by the governing body, either the city council or county board of supervisors.*

**PWC.** *Localities should not be required to participate as a formal party to the proceeding. Localities may simply want to weigh in as a public witness. If, however, the issue is really critical to a locality, then it could become a formal party to the case.*

**LC.** *Yes. The intent expressed in SB-783 is that the governing body would request the SCC to consider the transmission lines to be installed underground. Typically, such participation would be by formal intervention. Loudoun County has been a formal party to power line proceedings in the past and is currently participating in the proceeding of a request of Dominion Power to construct this new 230 kV transmission line. (Case Number: PUE-2005-00018)*

**VMDAEC.** *A locality requesting SCC consideration of an underground transmission line should be required to participate as a respondent to the proceeding in which it proposes such an alternative. As a respondent the locality would be subject to the same rules of discovery and examination as the applicant utility. Unless the locality is formally included as a Respondent, they have opportunity to intervene, creating additional costs and delays, without any responsibility or accountability. Requiring a locality to become a Respondent could cause the locality and its governing body to more fully weigh their decision concerning participation in a legal proceeding.*

**DVP.** *Regardless of whether or not the amendments suggested in SB 783 are adopted, a locality proposing an underground alternative to an applicant's proposal should fully participate as a formal party in the*

[10] Status as a Respondent would, for example, subject a locality to discovery under Rule 250 (5 VAC 5-20-250) and Rule 260 (5 VAC 5-20-260) of the Commission's Rules of Practice and Procedure. Additionally, a locality appearing as a Respondent in a proceeding would likely be required to appear by counsel pursuant to the provisions of Rule 30 (5 VAC 5-20-30) of the Commission's Rules.

*regulatory process and explain its justification for the underground scenario. The status of a locality making such an alternative proposal should be the same as that of any other respondent in the proceeding.*

*Rule 5 VAC 5-20-80 B. provides that "A notice of participation as a respondent is the proper initial response to an application. A notice of participation shall be filed within the time prescribed by the commission and shall contain: (i) a precise statement of the interest of the respondent; (ii) a statement of the specific action sought to the extent then known; and (iii) the factual and legal basis for the action. Any person or entity filing a notice of participation as a respondent shall be a party to that proceeding."*

*A locality's participation as a formal party will assist the Commission in evaluating the underground proposal. First, such participation ensures the locality will present its rationale in a timely manner. Second, the locality's participation as a formal party will enable the Commission to establish a complete record for its consideration. This record will include all information the locality submits as justification for its proposal. Such information used to justify the proposal could be significant to the Commission in its evaluation of the advantages and disadvantages of the alternative.*

**APCO.** *In response to questions 1 and 2 in your letter, localities should continue to be permitted to participate in Commission proceedings but should not be required to do so.*

**DPL.** *Yes. In order to make proposals in a proceeding, the locality should seek party status and, thus, would have the same rights and be subject to the same obligations as other parties.*

**ODPC.** *Since a locality requesting the SCC's consideration of an underground transmission line would be requesting a specific action requiring the SCC to consider an additional criterion, it seems only appropriate that the locality should be required to participate as a respondent pursuant to Rule 80 of the SCC's Rules. Under the amendment contemplated by SB 783, consideration of the impact of a transmission line if it were to be located underground is a criterion that would only be considered if requested by the governing body of a city or county. This additional criterion would change the standard used by the SCC to make its determination. Accordingly, there should be some clear indication that the additional criterion applies. Simply making a locality's position known through written comments or testimony as a public witness pursuant to Rule 80 of the SCC's Rules would not be a clear enough indication that the additional criteria applies. The only appropriate vehicle for triggering consideration of an underground location appears to be participation as a respondent.*

**MEPAV.** *Yes.*

**2. Should any locality requesting the SCC's consideration of an underground transmission line alternative be obligated to develop and submit to the SCC a proposal detailing that alternative, providing evidentiary support for that proposal, and having the burden of proof therefore? If not, why not.**

**KFHA.** *Initially the Applicant should develop and submit the requested underground transmission line alternative(s). In a lot of cases, the transmission line will be passing through the locality and provide no positive impact, only negative impacts. It would not be fair to further impact the locality by requiring them to pay to develop and submit detailed proposals for the SCC. Next, most localities don't have the funds or expertise required to do this nor should they. All Applicants utilities should or need to have the expertise required to develop underground alternatives. The Applicant utility should cover the cost. Developing required alternatives is just part of doing business.*

**SLLD.** *No. Any party, including a locality and any other party, may in its discretion develop and submit evidence concerning proposals. The Applicant has the burden of proof. For example, a respondent's participation may be limited to establish defects in positions of other parties without assuming any burden of proof to establish any fact by virtue of participating as a party respondent.*

**VML.** *Similarly, a local government may not desire to be adequately involved to the point of submitting alternatives. In some cases, as noted above, the locality may wish to be fully engaged. In those cases, the local government should have the authority to submit engineering and other information on the alternatives related to the undergrounding of the transmission line subject of the application.*

**PWC.** *No. The development and submission of alternatives would be cost prohibitive to localities. An expert engineering firm would have to be hired to perform the detailed engineering. If utilities are not compelled to provide these alternatives, then the utilities must be compelled to cooperate with localities to provide key data that only utilities can provide.*

**LC.** *The locality should submit a reasonably specific request identifying the proposed location of underground lines to be considered by the Commission.*

**VMDAEC.** *A locality requesting SCC consideration of an underground transmission line alternative should be obligated to develop and submit to the SCC a proposal detailing that alternative, providing evidentiary support for that proposal and having the burden of proof if the locality chooses to participate as a formal party or a respondent. The locality's underground transmission proposed alternative would be analyzed, evaluated and examined under the same scrutiny as any utility alternative. Under such scrutiny the locality would be required to demonstrate the viability and feasibility of their underground alternative.*

**DVP.** *Petitioning localities should be required to develop their own alternatives for underground placement. This would include appropriate evidentiary support, including testimony from expert witnesses. The applicant should not be required to develop an underground alternative simply because a locality suggests such an alternative be considered. This would place the applicant in the awkward position of submitting an alternative that it does not believe is the best electrical solution for the situation.*
*If the locality and the applicant have reached agreement on an underground route as contemplated in Chapter 854 of the Virginia Acts of Assembly (HB 2878), then the applicant should provide the cost and operability data.*

**APCO.** *If a locality chooses to participate, it should be permitted to produce the evidence it deems appropriate to support its proposals based on present public interest standards.*

**DPL.** *Delmarva would suggest that the crux of this issue goes more to the weight of evidence rather than whether or not a party is obligated to present a particular type of case. While Delmarva does not believe that a locality would be "obligated" to develop and present evidence in support of an undergrounding proposal, the failure of a locality to submit such record evidence in support of any such proposal would mean that the proposal could be given very little or no weight. The lack of substantial record evidence would preclude an order requiring undergrounding. The proponent of an undergrounding alternative should have the burden of proof in supporting that alternative.*

*Delmarva would respectfully request that the Commission provide guidance to potential parties and to the Commission's Examiners that because little or no weight would be given to a proposal that is not detailed and supported by record evidence, little or no evidence in opposition to such a proposal is necessary to defeat it. In this regard, Delmarva would note the prejudicial effects if a utility were required to respond in detail to proposals that are not themselves detailed and defined. From this perspective, in order to make undergrounding an issue that warrants detailed review by the Commission, the proponent of undergrounding, including a locality, should submit (at its own cost) detailed proposals for consideration. If the utility will ultimately be responsible for engineering, construction and maintenance of the facilities, then it must have the opportunity and authority to demonstrate the feasibility (or lack thereof) of a locality's proposal and to develop the final plan.*

**ODPC.** *Because localities in general do not have experience designing electric transmission lines, we suggest it would be inappropriate to require a locality requesting the SCC's consideration of an underground transmission line to develop and submit a detailed proposal for the alternative. However, we suggest that a locality making such a request should be required to do so as a respondent (see response to*

*question 1 above) and provide the "factual and legal basis" described in Rule 80 of the SCC's Rules for its request.*

**MEPAV.** *Yes.*

**3. Should a locality requesting the SCC's consideration of an underground transmission line alternative be obligated to propose such an alternative not later than a date corresponding to a specific procedural milestone established in the docket's scheduling order? [11] If so, which procedural milestone? If not, why not?**

**KFHA.** *In the event the requesting locality objects to the Applicants proposed underground alternative, they may develop and submit their own proposal to the SCC. I recommend their submission be provided at step 15 of the Application Process.*

**SLLD.** *No, with qualification. See general response (included in number 1) and response to number 2 above. It is the position of SLLD that a locality or other political subdivision of the Commonwealth should be required to participate as a party respondent subject to the same rules of any other party through an SCC proceeding.*

**VML.** *If a locality decides it wishes to be fully engaged in a proceeding to the point that it becomes a party, then the scheduling of filings should certainly apply to the items filed by the local government. VML has no position on what the milestones would be, except to note that the timing should be such that the documents filed give the other participants time to react in a deliberate manner and the timing should not force the locality to file documents in a hurried fashion. The locality should not bear the burden of proof in a proceeding. The utility should retain the burden of proof.*

**PWC.** *No. If localities were compelled to provide alternatives, then the SCC deadlines may need to be extended. Recommendations made by localities on issues such as transmission lines would have to go to the governing body for approval prior to submission to the SCC. Since transmission lines are a particularly sensitive issue, the local governing body would be justified in obtaining public input prior to a formal decision on the alternative and prior to submission to the SCC. This would potentially prolong the process that the SCC currently has in place.*

**LC.** *The utility has unlimited time to develop its plans before submitting the application to the SCC. An intervening local government seeking an alternative to above-ground power lines needs to be granted sufficient time to develop the underground alternative which may likely involve a different alignment from the original application. The procedural milestone established in the SCC Docket's scheduling order would need to be extended to allow the alternative to be completely developed.*

**VMDAEC.** *As a respondent to the proceeding, the locality should be required to adhere to all rules and meet any schedules set forth by the SCC in the docket. In accordance with the state code governing public comments, the locality's underground transmission proposal should be made available to the public as early as possible, preferably during the public commenting period. The public and interested parties should be availed the opportunity to comment on all transmission alternatives not just the applicant's proposals.*

**DVP.** *Localities as well as individuals participating as Respondents should be obligated to propose any alternative route proposals (overhead or underground) not later than the date set by the Commission for all Respondents in the case to provide Direct Testimony. The SCC's procedural order in a case sets the deadlines for Direct Testimony submissions by the Applicant, any Respondents, and the SCC Staff.*

[11] *As an example, § 56-259 D of the Code presently requires localities to request the SCC's consideration of joint use of right of way by the date that public comments on a electric transmission line application are to be filed.*

*Meeting this deadline should not pose an undue burden on the localities, since Dominion routinely meets with local planning commissions, governing bodies and the general public prior to filing any significant transmission line project. This provides ample time and opportunity for formulating underground options.*

**APCO.** *With respect to question 3, the Company notes that current Commission scheduling orders normally specify when respondents must file testimony, including any justification for undergrounding all or a portion of the line. Localities should continue to be permitted to propose an alternative to a utility's transmission line proposal at the time set by the Commission for respondents' testimony in each case.*

**DPL.** *Yes, a proposed alternative should be required to be submitted by a specific date established in the procedural schedule. In general, an early date for any such proposal should be required. At the latest, such alternatives would need to be submitted at the time that parties are required to submit testimony in response to the utility's proposal.*

**ODPC.** *For the reasons described in our response to question 1 above, a locality requesting the SCC's consideration of an underground transmission alternative should be required to make that request as part of a notice of participation as a respondent pursuant to Rule 80 of the SCC's Rules. The additional criterion of whether an underground location would minimize environmental impact and is otherwise in the public interest is a significant change to the standard used by the SCC. If that criterion will apply, the parties should be aware of it as early in the proceeding as possible.*

**MEPAV.** *Yes.*

**4. Should the applicant utility, itself, have the obligation to develop an underground transmission line alternative if such an alternative's consideration by the SCC is requested by a locality? If so, what should be the locality's role in that alternative's development, if any? Additionally, should the cost of such an alternative's development be born entirely by the applicant utility? If not, why not.**

**KFHA.** *The Applicant utility should have the obligation to develop an underground alternative if a qualifying locality requests it. Step 2 of the Application Process should identify a locality's valid requirement for an underground alternative and facilitate an agreement between the Applicant and the Locality on an acceptable alternative(s). In my opinion, the cost of developing legally required underground alternative(s) must be covered by the Applicant utility. As stated above, some localities may derive no benefit from a transmission line running though them. To force them to pay for the development and submission of alternative(s) would be unfair. Localities are not in the transmission line business. They don't budget funds to design underground transmission lines nor do they have the expertise, Applicant utilities do.*

**SLLD.** *Yes, with qualification. The Applicant utility should develop the underground alternative if the General Assembly requires as part of legislation that the applicant utility has the obligation to develop an underground transmission line alternative, such as the obligation imposed by statute upon an applicant to prove that existing rights of way cannot be used. It should not be a requirement that the applicant utility undertake to develop alternative proposals not required by law. Correspondingly, the cost of development of such alternative proposal should not be borne by the utility unless required by law.*

**VML.** *The utility should be expected to fully cooperate with the locality in developing alternatives if the local government becomes a party and submits proposals. The development of alternatives may be the obligation of the utility applicant or may be developed jointly with the locality in the proper case. The locality should not bear the total cost of underground alternatives. The cost should be evaluated on a case-by-case basis, but with the principal obligation remaining on the utility, as the facilities will be owned and operated by the utility.*

**PWC.** *Yes. Only the SCC or General Assembly has the authority to force utilities to develop an underground transmission line alternative. Utilities should bear the full costs of developing underground transmission line proposals.*

**LC.** *The utility should be directed to fully cooperate with the locality in developing alternatives if the local government becomes a party to the proceedings and submits proposed alternatives. The development of alternatives may be the obligation of the utility applicant or may be developed jointly with the locality.*

**VMDAEC.** *The applicant utility should not be required to develop an underground alternative based solely on a locality's request. The development of an underground alternative requires considerable effort and expense, and should only be required after thorough analysis by and instruction from the Commission. Unlike most localities, the Commission and its Staff have the experience and technical knowledge necessary to determine the appropriateness of developing an underground alternative. Additionally, unlike localities, the Commission has the responsibility to consider the best interests – both economics and reliability – of all utility consumers, not just the interests of citizens of a certain locality. If applicants were required to develop, at their own costs, underground alternatives simply at the request of a locality, localities could impose this requirement routinely since such localities would incur no costs or other burden in so doing. This requirement could only serve to increase the applicant's engineering and analysis costs for the application process and delay the approval and construction of needed facilities. . Additionally, there is an inherent conflict of interests because the applicant is essentially incurring the cost to prove it previously submitted transmission proposals invalid by developing underground transmission proposals for any locality wishing to forward such proposals for consideration. As a respondent the locality should either be responsible for sponsoring, developing and proving the viability of its own underground transmission alternative, or for significantly sharing the applicant's cost of developing an underground transmission alternative if the Commission determines development of such an alternative is appropriate.*

**DVP.** *Under no circumstances should a utility be required to develop an underground transmission line alternative solely because a locality asks the Commission to consider such an option. The utility, as the applicant for the project, should present to the SCC the overhead or underground alternative that in its judgment best meets the company's engineering and reliability concerns and reasonably minimizes environmental impact in a cost-effective manner. In doing so the Commission and the public derive the full benefit of the utility's expertise in planning, engineering, route selection and construction in determining the most appropriate routing and installation options. Additional requirements would be burdensome and unnecessary.*

*If a locality feels that a particular line application should be underground, the locality then has the opportunity to participate in the case and argue for that solution. This is the case under existing rules, as well as in the rules proposed by Senate Bill 783.*

*The locality or individual advocating the underground alternative should bear the cost of developing the proposal just as they presently bear the cost of developing an alternative overhead proposal. Requiring an applicant to develop a proposal in opposition to its best professional judgment runs counter to the basic premise of the administrative process, in which an applicant presents and defends a position that it truly advocates. The process as it exists today works well. It allows every party, including applicants and localities, to present and strongly defend their own best solution. The Commission then considers the merits of each proposal and makes an informed decision.*

**APCO.** *In response to question 4, applicants for authority to construct transmission lines should be free to propose undergrounding all or a portion of the line in their applications but, like localities, should not be required to do so. The Company submits that current rules with respect to the content of utility applications for approval of transmission lines should continue to be applied on a case by case basis. The Commission's procedures should recognize that undergrounding of transmission lines has been necessary and required only in unique and limited circumstances in the past. As a general rule, undergrounding inures to the benefit of a limited number of customers who should also bear the corresponding cost burden*

*of that undergrounding, unless the Commission concludes that the public interest requires a different result on the evidence in exceptional cases.*

**DPL.** *Utilities should not be obligated to develop underground transmission line alternatives unless the incremental cost to develop such a plan and cost to construct and maintain the facilities is agreed to be paid entirely by the locality that requested the undergrounding. If utilities are permitted to provide safe and reliable electric service with overhead conductors, undergrounding the facilities could be requested by a locality for aesthetic reasons and would not necessarily result in enhanced reliability. Undergrounding electric facilities imposes extraordinary additional cost that should be borne entirely by the locality making the request.*

**ODPC**. *If a locality requests consideration of an underground transmission line alternative, it is probably necessary for that alternative to be developed to the point that it can be compared with the proposed overhead line. Because the applicant utility has expertise in designing electric transmission lines, the alternative should be developed by the applicant utility. While we do not see a feasible system for sharing the cost of developing an alternative with the locality involved, we point out that such costs would ultimately be borne by the customers of the applicant utility. We ask that the SCC consider this impact when analyzing if and to what extent applicant utilities should be required to develop alternatives.*

**MEPAV.** *No.*

**5. Are there any additional procedural or evidentiary issues that the Commission should consider as part of this study? If so, please elaborate.**

**KFHA.** *.... I recommend the SCC Staff prepare a document for SCC Commissioners approval that identifies all direct and indirect costs that must be addressed by the Applicant for all proposed overhead and underground transmission line routes.... By not factoring in the indirect costs the SCC is taking something of value without just compensation....*

**SLLD.** *.... Yes, we generally request that the Commission not advocate creation of a "special" class to participate in power line cases reserved for localities....*

**VML.** [No response.]

**PWC.** [No response.]

**LC.** *The technology for under grounding transmission lines has improved greatly in recent years. Any cost comparisons should include lifetime costs for repair and maintenance as well as initial construction costs. Utilities in other states and countries are embracing newer technologies that result in lower life cycle costs, higher reliability rates and less damage to the surrounding communities.*

**VMDAEC.** *The Commission's present authority to consider underground alternatives to transmission line routing pursuant to Subsection E of § 56-46.1 is sufficient.*

**DVP.** *Regardless of whether these amendments become law, we recommend that the locality making the undergrounding proposal be a party to the proceeding, develop and provide support for the proposal, bear the burden of proof, and bear the cost thereof. Our recommendations on these points are contained in the responses to questions 1 through 4.*

**APCO.** *Question 5 requests comments on any other issue that might be considered in the study. The Company would add only a brief comment in response to that question. The text of SB783 limits its application to localities with a population of 225,000 or more, a stipulation that excludes all of the localities served by Appalachian in Virginia. However, the Company is concerned about the precedent the study might represent with respect to other localities. A change in current Commission requirements*

*necessitating widespread undergrounding of transmission lines could cause the Company significant additional expense to provide its electric service to Virginia customers.*

**DPL.** [No response.]

**ODPC.** *We point out a procedural issue in the form of some ambiguity in Section 1.A.3. of SB 783. That section would require the SCC to state its reason or reasons for declining to impose a requirement that an electrical transmission line be located underground whenever it approves construction without imposing such a requirement. As written, the provision would require such a justification even if an underground location has not been requested. We suggest that this provision, if enacted, should only apply where a locality has requested an underground alternative. Otherwise, the SCC would be required to provide reasons for making a decision it has not been asked to make.*

**MEPAV.** *No.*

# APPENDIX D: SECOND INFORMATION REQUEST

August 16, 2005

Dear:

By legislation enacted in 2005 (SB 783), the General Assembly directed the Virginia State Corporation Commission ("Commission" or "SCC") "to analyze the implications of a requirement that it consider imposing a condition, when requested by certain localities, that proposed electrical transmission lines be installed underground."

Specifically, the legislation requires the Commission, by January 1, 2006, to conduct an analysis of the effects on all affected persons of an amendment to § 56-46.1 of the Code of Virginia ("Code") with implications for transmission line planning, application and approval processes, and to submit the results of its analysis to the Governor and to the chairmen of the Senate and House Committees on Commerce and Labor.

In its first information request, the Staff invited potential interested parties to respond to several key threshold questions relative to the procedural and evidentiary implications of the proposed legislation described in SB 783. The interested parties who responded were divided as to whether the responsibility to develop an underground alternative should rest primarily with the locality or the applicant utility.

As such, with this second information request, the Staff is addressing the mandate of SB 783 to "conduct an analysis of the effects on all affected persons" of the proposed amendment within the context of this locality-utility dichotomy. This second information request is being submitted to those persons or entities who expressed an interest in participating in this study by responding to the threshold questions, as well as all persons who expressed a wish to remain on the mailing list. In order to allow a nominal level of consistency among the anticipated responses, please assume a 10-mile, 230kV transmission line. The questions are as follows:

1. **Question for Localities**. If a locality requesting the SCC's consideration of an underground transmission line alternative ("alternative") were required to participate as a formal party, to develop and submit a proposal detailing that alternative, and to provide evidentiary support for that proposal, what would be the estimated cost to the locality to conduct the following activities: (1) route development and coordination with pertinent state and federal agencies[12], (2) preliminary line design and development of estimated engineering and construction costs, and (3) development, presentation and defense of supporting evidence in a formal proceeding pursuant to Section 56-265.2 of the Code of Virginia? Provide underlying assumptions and supporting documentation to the extent possible. Describe any need and associated costs for outside consultant work to accomplish the activities listed.

2. **Question for Non-Localities**. With respect to Question 1, what would be the impact of the locality's actions on your costs of participating in such a proceeding?

3. **Question for Utilities**. If an applicant utility were required to develop the proposal detailing an underground alternative, what would be the estimated incremental direct cost to the utility to perform the activities in Question 1? Provide underlying assumptions and

[12] For example, U.S. Army Corps of Engineers, U.S. Department of Homeland Security, U.S. Fish and Wildlife Service, Virginia Department of Environmental Quality ("DEQ"), Virginia Department of Transportation.

supporting documentation to the extent possible. Describe any need and associated costs for outside consultant work.

4. **Question for Non-Utilities**. With respect to Question 3, what would be the impact of the utility's actions on your costs of participating in such a proceeding?

5. **Question for Localities.** Once notice has been served that a transmission line is proposed, how much time would you need to obtain the necessary information, public input and local approvals in order to determine that you are going to request the SCC to consider an underground alternative? What information would the locality need from the utility in order to make such a determination?

6. **Question for Utilities, Localities, or Other Interested Parties.** How long would it take you, as a utility, locality, or other interested party, to develop a proposal and supporting direct testimony (including environmental information required by DEQ) detailing the underground transmission line alternative described above?

7. **Question for Utilities, Localities, or Other Interested Parties.** Are there any additional implications or effects on any affected persons that have not been addressed in the above questions? If so, please explain.

To assist the Commission, the Staff requests those persons who could be affected by the proposed legislation to submit detailed responses to any or all of the preceding questions, as appropriate. Please respond by September 12, 2005. Responses to these questions should be submitted in writing to Mr. W. Timothy Lough, Special Projects Engineer, Division of Energy Regulation, P.O. Box 1197, Richmond, Virginia 23218, P.O. Box 1197, Richmond, Virginia 23218. It is also requested that an electronic version of your response be e-mailed in Word format to Tim.Lough@scc.virginia.gov.

It is anticipated that responses to these questions may be posted on the Commission's web site as publicly accessible documents.

Sincerely yours,

W. Timothy Lough

## APPENDIX E: RESPONSES TO SECOND INFORMATION REQUEST

The following represents the Staff's compilation of interested parties responses to the questions in the second information request.

1. **Question for Localities**. If a locality requesting the SCC's consideration of an underground transmission line alternative ("alternative") were required to participate as a formal party, to develop and submit a proposal detailing that alternative, and to provide evidentiary support for that proposal, what would be the estimated cost to the locality to conduct the following activities: (1) route development and coordination with pertinent state and federal agencies[13], (2) preliminary line design and development of estimated engineering and construction costs, and (3) development, presentation and defense of supporting evidence in a formal proceeding pursuant to Section 56-265.2 of the Code of Virginia? Provide underlying assumptions and supporting documentation to the extent possible. Describe any need and associated costs for outside consultant work to accomplish the activities listed.

2. **Question for Non-Localities**. With respect to Question 1, what would be the impact of the locality's actions on your costs of participating in such a proceeding?

**KFHA.** *The cost impact to KFHOA is dependent on the proposed routes impact on the community. If the proposed route is adjacent or through the community and has an adverse impact, then our costs goes from zero to approximately $150,000.*

3. **Question for Utilities**. If an applicant utility were required to develop the proposal detailing an underground alternative, what would be the estimated incremental direct cost to the utility to perform the activities in Question 1? Provide underlying assumptions and supporting documentation to the extent possible. Describe any need and associated costs for outside consultant work.

**DVP.** *Route selection activities to determine a viable underground alternative, including coordination with the locality/general public and assessing the environmental impacts (wetland/stream areas, cultural resources, threatened and endangered species, etc.) and consultant services for underground design to locate and avoid existing underground utilities would have an estimated cost range of $124,000 - $243,000 based on the Company's experience in performing this type of work. Preliminary engineering design by Dominion Virginia Power, consultant services for underground design to locate and avoid existing underground utilities and additional planning studies to assess system impacts of an underground alternative would have an estimated cost range of $156,000 - $365,000 based on the Company's experience in performing this type of work. Preparing additional portions of SCC application for an underground alternative, including legal review of additional Dominion Virginia Power and Underground Consultant testimony and additional attorney fees for preparation and hearing time to defend an underground proposal would have an estimated cost range of $69,000 - $329,000 based on the Company's experience in performing similar work, or a higher range depending on the level of controversy regarding the proposal.*

AP. Potomac Edison.

**APCO.** *AEP does not have any 230 kV underground transmission lines. However, AEP estimates that the total incremental cost to develop a suitable route and coordinate with the pertinent local, state and federal agencies would be approximately $1,000,000 for a ten mile underground 230 kV line. The total incremental cost to complete a preliminary line design and develop an estimate of the engineering and construction costs for such a line is estimated to be approximately $1,500,000. Finally, the Company estimates that the total incremental cost to develop, present and defend supporting evidence in a formal proceeding pursuant to Section 56-265.2 of the Code of Virginia would be in the range of $100,000 to $250,000. This range represents the incremental costs only of our outside attorneys in a hypothetical*

[13] For example, U.S. Army Corps of Engineers, U.S. Department of Homeland Security, U.S. Fish and Wildlife Service, Virginia Department of Environmental Quality ("DEQ"), Virginia Department of Transportation.

*proceeding without strong opposition. Expenses for outside consultants are included in the routing and engineering costs above.*

*These cost estimates are based generally upon actual costs incurred with respect to a three mile 138 kV underground transmission line project that was placed in service by AEP in Dublin, Ohio, in March of 2005. The Dublin underground project involved hiring a routing consultant who was responsible for route development, while AEP transmission line engineers were responsible for the preliminary line design and estimates for the project. Both the routing consultant and AEP personnel were involved in the coordination with pertinent local and state agencies.*

*For purposes of this information request, it was assumed that the 10 mile 230 kV underground line would be constructed with extruded dielectric cable. It was further assumed that the line would be routed in a suburban area through open fields, parking lots and around office complexes, and that the line would not be routed through congested urban areas. Urban areas can include city streets with various underground utility encumbrances such as sewer lines, water lines, gas lines, communication lines, electric distribution lines, and possibly transportation tunnels. If urban construction were involved, the cost estimates involving siting and preliminary engineering costs would be higher than those shown above.*

*The estimate of line siting costs includes the development of routing alternatives that considered all cultural, visual and natural resource impacts. Such costs also include the evaluation of routes, selection of a preferred alternative, and coordination with local, state and federal agencies. Preliminary line design activities include exploratory drilling to determine subsurface conditions, identification of any underground facilities, determination of rock and soil properties, determination of the thermal properties of the soil and determination of appropriate cable size.*

*It should be noted that costs could vary significantly based upon many factors. The estimates shown above assume that there will be only minimal conflicts with other utilities. The cost estimates also assume that there will be only a minimal amount of directional boring required on the project. Open trench was assumed to be the dominant method of construction. In addition, the estimates assume there were no bedrock or hazardous waste sites, river crossings, and minimal streams and road crossings.*

*AEP will typically hire a routing consultant to develop and evaluate routes for the underground transmission line. AEP will also likely hire various contractors to assist with exploratory drilling to determine subsurface conditions, identification of any underground facilities, determination of rock and soil properties, and determination of the thermal properties of the soil. AEP may also hire consultants to assist in the development of cost estimates and perform preliminary engineering on the underground line. Finally, AEP will typically hire outside legal counsel to assist in the development, presentation and defense of supporting evidence in a formal proceeding. The anticipated costs associated with all of these functions are included in AEP's total cost estimates set forth above.*

**DPL.** *Estimated cost for route development and coordination with pertinent state and federal agencies: A typical 10 mile underground 230 kV transmission line on a new or existing right of way would require the involvement of most if not all of the pertinent local, state and federal agencies, such as the, Virginia Department of Environmental Quality, National Marine Fisheries, U.S. Fish and Wildlife Service, Historical Preservation Offices, US Army Corp of Engineers, Department of Game and Inland Fisheries, Department of Conservation and Recreation, Marine Resources Commission, Department of Health, Department of Agriculture. Once the routes are selected, internal GIS mapping is used to analyze potential environmental impacts and develop environmental permitting cost estimates. Several meetings with each agency may be necessary to review the routes and make any changes which may be required. Upon determination of final route, environmental studies including wetlands delineation, threatened & endangered species studies and cultural resource surveys will be conducted to determine environmental permitting requirements. Public meetings or hearings are held to seek public comment on route and design. Modifications of route and design are evaluated with supporting field studies. Estimated cost to develop support documentation (i.e., mapping, surveying, etc.), conduct environmental studies and acquire permits is approximately $150,000 to $350,000. Depending on the location of the route (i.e., existing or new right of way), costs could be significantly greater than those provided above.*

*Estimated cost for preliminary line design and development of engineering and construction costs: Once the general route is selected, a study would be performed to determine the type of cable system to be installed. Typically at this voltage level, the options would be either a fluid-filled (pipe-type) or solid dielectric system. Assuming the number of directional bores and environmental restrictions are known, an estimated cost for these tasks is approximately $75,000 to $125,000. Estimated cost to develop, present and defend supporting evidence is approximately $100,000 to $200,000.*

**ODPC.** *A recent route selection process was conducted in Virginia for a line approximately 10 miles in length which cost $83,000 in contract labor and approximately 4 months of company labor. Due to the coordination with existing underground facilities, it is expected that there would be an increase of roughly 30% for the routing of underground facilities (roughly $25,000). It is also expected to have a 30% adder for the coordination with the pertinent state and federal agencies since underground construction can cause a greater environmental impact when crossing such sensitive areas as wetlands that will require further coordination with the Corps of Engineers where an overhead route can usually span such areas of concern (approximately $25,000). An extra month of engineering time for our company personnel would also be required for the routing process (estimate of $20,500).*

*Preliminary line design and development of engineering and construction costs would require approximately an additional month of engineering time for company personnel due to the increased obstacles and preparation of below ground profiles. This is estimated to cost an additional $20,500. The above described work would prepare for the development of said process. Any additional work for the presentation and defense of the route would be minor. The routing process involves contract GIS personnel to help identify routing constraints and develop the least impactful routes for the location of transmission lines.*

4. **Question for Non-Utilities**. With respect to Question 3, what would be the impact of the utility's actions on your costs of participating in such a proceeding?

**KFHA.** *Same answer as question 2.*

5. **Question for Localities.** Once notice has been served that a transmission line is proposed, how much time would you need to obtain the necessary information, public input and local approvals in order to determine that you are going to request the SCC to consider an underground alternative? What information would the locality need from the utility in order to make such a determination?

6. **Question for Utilities, Localities, or Other Interested Parties.** How long would it take you, as a utility, locality, or other interested party, to develop a proposal and supporting direct testimony (including environmental information required by DEQ) detailing the underground transmission line alternative described above?

**KFHA.** *As stated earlier, we are a 500 home community. We do not have the financial resources or expertise to develop an underground proposal and supporting direct testimony. The only potential participants that have the funds necessary would be large cities, heavily populated counties, and the utility companies. It should be noted that only the utility companies have a requirement to have expertise in underground transmission lines to perform the mission they were created for.*

**DVP.** *Nine – eighteen months.*

**APCO.** *Since AEP, like other entities, relies on outside consultants and public feedback, it is expected that it could take a year or longer to develop the proposal and supporting direct testimony required to detail the underground transmission line alternative. The actual time could also be impacted by the availability of consultants and the actual location of the proposed underground facility.*

**DPL.** It would take Delmarva Power approximately 6 - 9 months to develop a proposal and supporting direct testimony (including environmental information required by DEQ).

Assumptions:

- Determination of environmental impacts upon evaluating GIS and public sector data that will be confirmed by field studies.
- Timing considerations would need to be evaluated for each project. For example, projects with tight timelines may result in greater costs than shown. Factors to consider are the outage times, field evaluation periods, construction feasibility, right of way condition, land acquisition, timing restrictions, etc.
- Environmental studies are completed upon selection of route and alternatives: wetland delineation; threatened & endangered species studies; cultural resources
- Consultants would be utilized for mapping, engineering and environmental permit development and consultation.
- Routing of line is neither highly controversial, nor located in an environmentally or culturally sensitive area, and EMF is not a major concern. Whether the route is on an existing or new right of way could substantially impact projects costs.
- Wetland mitigation costs can be accurately determined prior to submission of permit applications and after the completion of field studies.

**ODPC.** *The normal process would generally only take 5 – 7 months. However, the new process would require an additional period of approximately 2 months for a total of 7 – 9 months.*

7. **Question for Utilities, Localities, or Other Interested Parties.** Are there any additional implications or effects on any affected persons that have not been addressed in the above questions? If so, please explain.

**KFHA.** *Towns, Cities, Counties, and Homeowners Associations were not set up to develop underground transmission line proposals and the supporting direct testimony, Utility Companies were. If the SCC insists we duplicate the Utility Companies capability to defend against the potentially negative impacts of transmission lines, then the SCC is significantly increasing the cost to a small subset of the ratepayers. This process could also pit Towns against Counties and HOA's against Towns and Counties. This is not good public policy and it unfairly increases the cost to a small subset of the ratepayers, who in most cases will derive little or no benefit from the proposed transmission line.*

**DVP.** *As we noted in our July 12 response to an earlier letter from Dr. Lough, Dominion Virginia Power recognizes that the design and siting of proposed transmission lines are matters of great interest to local governments and consumers across the Commonwealth. Before filing, the Company carefully develops proposals that will, in its judgment, best fulfill requirements for reliability, operability and cost-effectiveness.*

*Dominion Virginia Power proposes underground facilities when, in its best judgment, such facilities are necessary, taking into consideration a range of factors. For example, the Company recently proposed, and the State Corporation Commission approved, a 230 kV transmission line which included an underground segment beneath the Elizabeth River needed to avoid interference with navigation and air traffic in the vicinity of the Norfolk Naval Base area.*

*However, as we noted in our July 12 response, the vast majority of Dominion Virginia Power's transmission network has been, and is being, constructed overhead. This is in the best interest of its customers, because of reliability, operability and cost factors that directly affect the price and quality of service to customers. This is consistent with SCC decisions in recent cases rejecting construction of underground 230 kV lines where "there is no evidence that benefits will accrue to the Company or its ratepayers which outweigh the increased costs and risk of reliability problems associated with the underground installation of a portion of the proposed transmission line." The much higher costs of*

*underground construction and the extended time periods to repair underground lines are two important reasons why deployment of overhead facilities is the better option in most circumstances.*

*Regardless of whether or not the amendments suggested in SB 783 are adopted, the Company believes localities and other interested parties have a full opportunity to present underground (or overhead) alternatives under applicable statutes and the existing Commission hearing process. In fact, parties do so, often through the testimony of consultants. Localities and other participants, including developers and homeowner groups, have presented underground alternatives to proposed overhead facilities in a number of Commission cases. Proposals have been rejected after extensive records have been developed which have shown much higher cost and reliability concerns for underground projects. The evidence, fairly evaluated, and not lack of resources to present underground alternatives, has defeated such proposals.*

*And regardless of the adoption of the suggested SB 783 amendments, the Company strongly believes that there is no legitimate basis to require a utility to develop and propose an underground alternative when it does not find such an approach in the best interest of its customers. The same holds true for the Commission Staff, if it does not believe underground construction is in the public interest in a particular case.*

*A requirement to develop and present an underground proposal upon request would compromise the decision-making process and add to the already burdensome and time-consuming process for consideration of transmission proposals, which could result in delays in construction and operation of needed infrastructure, and affect the reliability of electric service. Dominion Virginia Power follows North American Electric Reliability Council (NERC) guidelines which dictate the need for and timing of new transmission facilities based upon contingency standards. If a utility were required to devote the resources, at ratepayer expense, to develop and present an underground proposal which was contrary to the Company's best engineering and economic judgment, the Company's ability to meet NERC contingency guidelines in a timely manner could be compromised. Moreover, if such a requirement were imposed, it can be expected that presentation of an underground alternative would be requested in nearly every case, resulting in extended delay in construction of facilities needed to maintain reliable service and an increase in cost for all customers. It would become another barrier to constructing much-needed transmission infrastructure in a timely way.*

*Another reason for placing the responsibility for a specific route for an underground alternative to a utility's overhead proposal on the locality (or any other proponent) and requiring the locality to defend it is that an underground line on a specific route, like an overhead line, can still be expected to encounter opposition, from property owners, state agencies and others. Without the locality committing to a specific route and defending it as expected of any other proponent, the underground proposal would remain nothing more than a concept, with no support for a specific route, with specific impacts to be analyzed.*

*And as a concept route it could become a moving target depending on how the locality responds to community opposition. Parties and the general public would also need to know the actual costs of the proposal and what financial contribution, if any, the locality is prepared to shoulder, and who would be affected financially by its proposal. Without taking the responsibility for these key aspects of routing and costs of a specific underground alternative, the ultimate resolution of the case, and the construction and operation of new transmission infrastructure, is likely to be delayed, with attendant risks to reliability and higher overall costs of the project.*

*The Commission has reviewed underground alternatives in numerous cases and, where warranted, has approved underground projects, and current statutes and Commission procedures provide an adequate avenue for full consideration of all transmission proposals. The Commission weighs numerous factors, including the impact on property owners, the costs to ratepayers, environmental factors, reliability concerns and other factors in evaluating transmission proposals. Against this backdrop, the Commission has often, but not always, found overhead transmission projects to better address the needs of customers based on both cost and reliability. These positions have been reached through a balanced, open process that considers all alternatives based upon a fully developed record and is not slanted to one particular view. The process should not be undermined with new procedures that introduce a bias favoring*

*a particular construction approach that ignores basic economic and engineering factors. Such an approach could have serious adverse consequences for a reliable and cost-effective transmission network.*

**APCO.** *AEP would build any underground lines in private easements. The Company opposes locating the line in public rights-of-way without protection from future relocation costs. In addition, it should be noted that underground construction is typically much more disruptive than overhead construction in many respects, including impacts of the construction on traffic as well as the environmental impact on stream and river crossings.*

**DPL.** *Delmarva Power reserves the right to supplement its comments at a future date to the extent it appears to be necessary. From a very high level perspective, Delmarva Power would note that: undergrounding transmission lines typically costs from 8 to 10 times the costs of equivalent overhead lines; any reduction in the number of outages that may occur as a result of undergrounding may be offset as a result of the fact that faults in undergrounded lines typically take much longer to locate and repair; and undergrounding may result in significant environmental issues arising not only during construction but also during any repair work.*

**ODPC.** *Underground transmission has several disadvantages over overhead construction. Reliability is one concern where the maintenance and inspection of underground facilities are not easily completed because of the specialized equipment and personnel required; whereas an overhead line can be visually inspected and maintained with our normal company personnel. Splicing and manhole construction also adds to the reliability concerns of underground transmission over long distances. Identification and repair of underground transmission outages also require specialized materials, equipment, and personnel which may not be readily accessible for an outage. Cost of the installation of underground facilities is also prohibitive compared to overhead lines. Underground facilities can cost as much as 6 to 8 times the cost of equivalent overhead facilities. In urban situations this cost can increase beyond this due to the elevated number of existing underground facilities that are already located below grade.*

**VMDAEC.** *The Virginia Maryland Delaware Association of Electric Cooperative has reviewed your second informational request, which continues the study mandated by Senate Bill 783. Participating in this review were Southside Electric Cooperative (SEC), Northern Virginia Electric Cooperative (NOVEC), Rappahannock Electric Cooperative (REC), and Shenandoah Valley Electric Cooperative (SVEC). Please note, while SEC and NOVEC are the only cooperatives that would be affected by SB 783 as currently drafted, the implications of any legislation resulting from this study could set a precedence that affects our entire membership. Additionally, Old Dominion Electric Cooperative, and its members, would be impacted by such legislation, as Dominion Virginia Power would probably recover any costs resulting from mandatory review of underground transmission alternatives through its rates.*

*While the study is of utmost importance to the electric cooperatives, this second request for information delves into highly technical issues that would require the use of external consultants who are expert in underground high voltage technology. You ask that those responding to assume a 10-mile, 230kV transmission line. Currently, none of our members own or operate transmission lines operating at this voltage. Without any historical cost data for 230kV transmission lines, we cannot determine any incremental direct cost for the additional underground analysis in question.*

*That being said, we want to highlight our comments made in response to question #4 of the threshold questions posed in July. The utility should not bear the cost of developing an underground alternative simply because a locality makes this request. Localities could easily start asking for a review of the underground alternative each time a project is proposed in their area. Underground feasibility studies are not easily prepared, as many factors need to be analyzed when looking at underground feasibility, including: terrain, voltage stability, harmonics, reliability, and environmental impacts. As such, the analysis requires considerable efforts and expense. The State Corporation Commission (Commission) should be responsible for determining the appropriateness of developing an underground alternative as its Staff has the experience and technical knowledge necessary to discern this need. Furthermore, the Commission is responsible for protecting the best interest of all utility consumers, which must be considered when addressing the concerns of a few citizens in a specific locality.*

*Should a locality request the review of underground transmission alternatives, and the Commission determines the request viable, the locality should either bear the entire cost of the analysis or bear a significant share of the cost with the applicant. Requiring financial responsibility of the locality will help ensure a request for underground alternatives is not arbitrarily filed for each project. Additionally, it will ensure those benefiting from the analysis are helping to fund it without placing the burden on all citizens in the Commonwealth.*

**VDOT.** *VDOT needs to be consulted if any proposals by the localities, non-localities or utilities impact roadways under DOT's jurisdiction. We will comment on the types of permits needed from VDOT or if the facility proposed is compatible with the roadway usage.*