NEW YORK STATE PUBLIC SERVICE COMMISSION

IN THE MATTER OF

Case 00-T-0409 Southern Bowline, L.L.C. for a Certificate and Public Need for the underground electric transmission length, located in the Town of

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MINUTES OF EVIDENTIARY HEARING held at the Town of Haverstraw Town Hall, 1 Rosman Road, Garnerville, New York, Wednesday the 1st of November, 2000, commencing at 9:30 a.m.

BEFORE: WALTER T. MOYNIHAN,
Administrative Law Judge

APPEARANCES:

For NEW YORK STATE DEPARTMENT OF PUBLIC SERVICE COMMISSION
3 Empire State Plaza
Albany, New York, 12223
By: STEVEN BLOW, ESQ.
CHRISTINA PALMERO

For SOUTHERN ENERGY BOWLINE, L.L.C.:

COUCH, WHITE & BRENNER
540 Broadway
Albany, New York, 12201
By: LEONARD H. SINGER, ESQ.
LISA RUOFF PURDY, ESQ.

ORIGINAL

For SOUTHERN COMPANY

Southern Energy, Inc.
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Suite 500
Atlanta, Georgia, 30338

For ORANGE and ROCKLAND UTILITIES, INC.:

Orange & Rockland Utilities, Inc.
One Blue Hill Plaza
Pearl River, New York, 10965
By:. JOHN L. CARLEY, ESQ.

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JUDGE MOYNIHAN: Okay. Please come to order. I call Case 00-T-0409 - Application of Southern Energy Bowline for Certificate of Environmental Capability and Public Need for the Construction of a 345 kilovolt underground electric transmission line, approximately 1.7 miles in length, located in the Town of Haverstraw, Rockland County.

We'll start off by taking appearances. I'll begin with you, Mr. Singer, and work our way around the room.

MR. SINGER: Leonard H. Singer and Lisa R. Purdy for Southern Energy Bowline.

We also have, representing Southern Energy Bowline, Donald K. Gray and Chris Doyle and John Bubenko.

JUDGE MOYNIHAN: Okay. Thank you. Okay. Mr. Blow.

MR. BLOW: Your Honor, Steven Blow, Assistant Counsel for the Staff of Department of Public Service.

JUDGE MOYNIHAN: All right.

Mr. Carley.

MR. CARLEY: And for Orange and Rockland

Utilities, John L. Carley.

JUDGE MOYNIHAN: Are there any other appearances?

(No response given.)

JUDGE MOYNIHAN: None. Is there anything to discuss before we start bringing in the testimony and exhibits?

MR. SINGER: No.

JUDGE MOYNIHAN: Can you report on the preliminary discussions of the negotiations, for negotiations?

MR. SINGER: Yes, we received from Staff a copy of the proposed ordering clauses. We've reviewed them. We don't feel that there are any significant issues with respect to those, and we hope to be able to come to an agreement on the ordering clauses fairly soon, and then we need to work on the actual drafting of a settlement agreement and relate that to what we have in the record, --

JUDGE MOYNIHAN: Okay.

MR. SINGER: -- to meet what the Commission's regulations say we have to hit in order to get the certificate.

JUDGE MOYNIHAN: All right. I'll remind you of two things. First, under our settlement guidelines, once you decide to go into actual negotiations, you have to submit a Notice of Impending Negotiations, or something like that.

MR. SINGER: Yes.

JUDGE MOYNIHAN: And you have to send that to me, and then I have to report to the Commission on that. It's very important. Please don't overlook it.

And the second thing is, if you should come to a settlement, and this would apply especially to the applicant, in the statement supporting the negotiated document, please address all of the findings that the Commission must make. In other words, give me factual support, so that I can draw the proper conclusions from that.

MR. SINGER: Yes.

JUDGE MOYNIHAN: Okay.

MR. SINGER: We had a discussion yesterday, Mr. Blow and I, about Section 3.9 notification.

JUDGE MOYNIHAN: Good.

MR. SINGER: And we're going to get that out by the end of this week.

JUDGE MOYNIHAN: Great. Great. Thank you.

Okay. Then I guess you'll begin, Mr. Singer.

MR. SINGER: Okay. What I intended to do first was to have the application marked as an exhibit.

JUDGE MOYNIHAN: All right.

MR. SINGER: And the supplemental filings that we made, which we have one of, to mark that as an exhibit, and then go to the testimony.

JUDGE MOYNIHAN: All right. Now, in the application you're excluding the testimony or is that included?

MR. SINGER: Well, since we're marking the testimony separately, and --

JUDGE MOYNIHAN: Right.

MR. SINGER: -- we're putting the testimony into the record, --

JUDGE MOYNIHAN: Right.

P R O C E E D I N G S

MR. SINGER: -- I assume we would exclude the testimony from the application.

JUDGE MOYNIHAN: Exclude it from it, all right.

MR. SINGER: So I'd like to have it marked as Exhibit 1 to this proceeding.

JUDGE MOYNIHAN: All right. We'll mark Exhibit 1 for identification.

(Whereupon, Southern Energy Bowline, L.L.C. Exhibit 1 was marked for identification.)

MR. SINGER: If any of the other parties would like additional copies of anything that we're handing out, we'll give them to you today, but I will let you know that we have provided you everything that we're going to either be marking as an exhibit or asking to be entered into the record.

MR. CARLEY: Okay. I'd like a copy of everything. If that's okay.

MR. SINGER: Okay.

JUDGE MOYNIHAN: We'll go off the record for a second.

(There was a discussion held off the

record.)

JUDGE MOYNIHAN: Okay. Back on the record, please.

MR. SINGER: I'd like to have marked as Exhibit 2 a document that's entitled at the top Site Assessment of Electric and Magnetic Fields. This was filed as a supplement to our application on April 19, 2000.

JUDGE MOYNIHAN: All right. We'll mark it Exhibit 2 for identification.

(Whereupon, Southern Energy Bowline, L.L.C. Exhibit 2 was marked for identification.)

MR. SINGER: And the other exhibits that I have are exhibits to the supplemental prefiled testimony that we have, so I thought that what we would do is do the testimony and then put the exhibits in after we have the testimony in the record, since the affidavits that we're going to mark as exhibits refer to the testimony also.

JUDGE MOYNIHAN: Fine.

MR. SINGER: So let me just start then with the prefiled direct testimony of panel,

consisting of Terry J. Coggins, Donald K. Gray, Bruce H. Burn and Kevin J. Maher. And that panel testimony consists of 27 pages of written questions and answers.

The testimony that I'm handing to the reporter has marked on it the changes to the testimony that will be referenced in the affidavits that I'm going to discuss next.

JUDGE MOYNIHAN: Now what you're handing me is the original application, or is this the corrected copy?

MR. SINGER: It's the corrected copy, Judge.

JUDGE MOYNIHAN: It's the corrected copy.

MR. SINGER: I assume that's what you wanted.

JUDGE MOYNIHAN: Yes, it is.

MR. SINGER: Now, would you like me to have each of the affidavits marked as an exhibit?

JUDGE MOYNIHAN: No. You know what we can do, just put them in either just in front of or behind the prefiled testimony. They

can appear then in the record right with the testimony.

MR. SINGER: Okay.

THE CHAIRMAN: Okay.

MR. SINGER: So I will then hand the Reporter, and I'll identify each of these as I hand them to her.

We have affidavit of Terry J. Coggins that -- excuse me one second.

JUDGE MOYNIHAN: Sure.

MR. SINGER: We have the affidavit of Terry Coggins. An affidavit of Donald K. Gray, with an errata sheet attached. Affidavit of Bruce H. Burn, with an attached errata sheet. And the affidavit of Kevin Maher.

And just so the record is clear, both Mr. Burn and Mr. Maher have additional testimony that they've submitted. They submitted testimony as part of this panel, but they also have other testimony that they submitted. And the affidavits that I've provided to the Reporter refer to both pieces of testimony.

JUDGE MOYNIHAN: Are there any objections to having this copied into the record today?

MR. CARLEY: No.

MR. BLOW: No.

JUDGE MOYNIHAN: Hearing none, they'll be copied in.

(The following is the prefiled testimony of Southern Energy Bowline, L.L.C. Panel)

STATE NEW YORK

PUBLIC SERVICE COMMISSION

In the Matter of the Application of Southern Energy Bowline, L.L.C. Pursuant to Subpart 85-2 of the Public Service Commission's Rules of Procedure for a Certificate of Environmental Compatibility and Public Need for an Electric Transmission Line

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PREFILED DIRECT TESTIMONY

OF

A PANEL CONSISTING OF:
TERRY J. COGGINS
DONALD K. GRAY
BRUCE H. BURN
and
KEVIN J. MAHER

ON BEHALF OF
SOUTHERN ENERGY BOWLINE, L.L.C.

PREFILED DIRECT TESTIMONY
OF
A PANEL CONSISTING OF:
TERRY J. COGGINS
DONALD K. GRAY
BRUCE H. BURN
and
KEVIN J. MAHER

ON BEHALF OF SOUTHERN ENERGY BOWLINE, L.L.C.

Q. MR. COGGINS PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Terry J. Coggins and my business address is Southern Energy, Inc., 900 Ashwood Parkway, Suite 500, Atlanta, Georgia 30338-4780.

Q. MR. GRAY PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Donald K. Gray and my business address is Southern Energy, Inc., ~~900 Ashwood Parkway, Suite 500~~ 1155 Perimeter Circle West, Atlanta, Georgia 30338-4780.

Q. MR. BURN PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Bruce H. Burn and my business address is ~~Simons Engineering~~ AGRA Simon, Inc., One West Court Square, Decatur, Georgia 30030.

Q. MR. MAHER PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Kevin J. Maher and my business address is TRC Environmental Corp., 1200 Wall Street West, Lyndhurst, New Jersey 07071.

Q. MR. COGGINS BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Southern Energy, Inc. as Manager of Electrical Support.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I have a bachelor of Electrical Engineering from Auburn University and an Executive Master of Business Administration from the University of Alabama.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. I have been in my present position since 1998. As Manager of Electrical Support I am responsible for all issues involving technical assistance pertaining to electrical engineering. These include system impact studies, electrical system interconnection support for substation and transmission design and construction, metering in a deregulated market, as well as electrical support relating to power plant construction. I am also involved in issues regarding FERC and RTO/ISO interconnection policies as well as permitting processes.

Prior to 1998 I was a Supervisor of Engineering for Alabama Power Company, Birmingham Division, in Birmingham, Alabama. In that position, I was responsible for design of distribution facilities to serve new customers, operations and maintenance of systems, overall system coordination and load studies for reliability.

Q. WHAT PROFESSIONAL REGISTRATIONS DO YOU HOLD?

A. I am a Registered Professional Engineer in the State of Alabama.

Q. MR. GRAY BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. ~~I am employed by Southern Energy, Inc. as a Technical Support Manager.~~ I am employed by Southern Energy, Inc. as Director of Business Development.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I have a Bachelor ~~of Science~~ degree in Mechanical Engineering Technology from Southern Technical Institute. I also have taken Management, Finance and Leadership courses from Southern Company College.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. ~~I have been in my present position since 1992. As a Technical Support Manager I provide direction to technical support disciplines, both internal and external to Southern Energy, Inc. and I support business development activities for the company.~~ Since 2000, as Director of Business Development, I identify and pursue opportunities for new business. Prior to 2000, as a Technical Support Manager, I provided direction to technical support disciplines, both internal and external to Southern Energy, Inc. and I supported business activities for the company. Prior to 1992 I was a Project Engineer for Southern Energy, Inc., supporting business development activities and facility start-up activities.

Q. MR. BURN BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Simons Engineering as Manager, Industrial/Power .

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I have a B.S. degree in Mechanical Engineering from the Georgia Institute of Technology.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. I have 30 years of experience in engineering management, design and project management of power generation, pulp and paper and process facilities. I have served as department manager, project manager, project engineer, staff engineer and design engineer with engineering consultants for over 25 years. I have been in my present position since 1996.

Q. WHAT PROFESSIONAL REGISTRATIONS DO YOU HOLD?

A. I am licensed as a Professional Engineer in the States of Georgia and Washington.

Q. MR. MAHER BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by TRC Environmental Corporation as an Assistant Project Manager.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I have a Master of Planning degree from the University of Southern California, School of Urban and Regional Planning in Los Angeles, CA and I have a B.S. degree in Environmental Planning and Design from Cook College, Rutgers University

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. I have seven years of professional experience as an Urban and Environmental Planner with an expertise in environmental documentation and permitting coordination on infrastructure projects. A significant portion of this experience includes environmental planning and evaluation under Article X of the New York State Public Service Law ("Article X"), the National Environmental Policy Act ("NEPA"), the New York State Environmental Quality Review Act ("SEQR"), and the New York City Environmental Quality Review ("CEQR"), urban and regional planning, and construction management of public projects. Additionally, I have extensive experience in municipal and transportation planning.

Prior to joining TRC, I was a Senior Planner at Buckhurst Fish & Jacquemart Inc. Prior to that I held the position of Environmental Planner at Parsons Engineering Science, Inc.

Q. WHAT PROFESSIONAL REGISTRATIONS DO YOU HOLD?

A. I am registered with the American Institute of Certified Planners and the American Planning Association, New Jersey Chapter.

Q. GENTLEMEN, WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of our testimony is to: (1) describe the 345 kV underground electric transmission line (the "electric transmission line") that Southern Energy Bowline, L.L.C. ("Southern Energy") has proposed in its Application filed herewith pursuant to Article VII of the New York Public Service Law; (2) identify the location of the electric transmission

line; (3) provide the engineering justification and design standards for the electric transmission line; (4) describe why the route selected for the electric transmission line is the only reasonable alternative available; (5) describe the economic effects of the electric transmission line; and (6) provide the cost of the electric transmission line.

Q. WERE YOU RESPONSIBLE FOR THE PREPARATION OF ANY SECTIONS OF SOUTHERN ENERGY'S APPLICATION IN THIS PROCEEDING?

A. Yes, the following exhibits to Southern Energy's Article VII Application were prepared by us or under our direction and supervision:

Exhibit 1 – General Information

Exhibit 2 – Location of Transmission Line

Exhibit 3 – Alternatives

Exhibit 5 – Design Drawings

Exhibit 6 – Economic Effects

Exhibit 7 – Local Ordinances

Exhibit 8 – Other Pending Filings

Exhibit E-1 – Description of Transmission Line

Exhibit E-2 – Other Facilities

Exhibit E-3 – Underground Construction

Exhibit E-4 – Engineering Justification

Exhibit E-5 – Effect on Communications

Exhibit E-6 – Effect on Transportation

Q. PLEASE DESCRIBE THE PRINCIPAL REASON THAT SOUTHERN ENERGY WISHES TO BUILD THE ELECTRIC TRANSMISSION LINE.

A. The reason that Southern Energy is seeking to build the electric transmission line is that the existing electric transmission facilities are not designed to accommodate the incremental increase in electric generating capacity that Southern Energy has proposed to build at the Bowline Generating Station Property. Southern Energy will be filing an Application pursuant to Article X of the Public Service Law seeking a Certificate of Environmental Compatibility and Public Need for certification of a major electric generating facility to be known as Bowline Unit 3 (Project or Facility). The Project is a nominal 750 megawatt (MW) combined cycle electric generating facility to be developed by Southern Energy Bowline, L.L.C. (Southern Energy) in the Town of Haverstraw, Rockland County, New York. The Facility will be capable of firing both natural gas and low sulfur fuel oil. This state-of-the-art design will optimize efficiency while minimizing impacts on the environment.

There are two existing 345 kV electric transmission lines, owned by Southern Energy, that connect the existing electric generating facilities at the Bowline Generating Station Property, Bowline Units 1 and 2, also owned by Southern Energy, to the electric substation located in West Haverstraw, New York, which is owned by Orange & Rockland Utilities, Inc. ("O&R"). However, the existing transmission lines are not designed to accommodate the incremental generating capacity from Bowline Unit 3. Accordingly, the new 345 kV electric transmission line proposed by Southern Energy in this proceeding is necessary to transmit the power from Bowline Unit 3 to the New York State power grid.

Q. WILL SOUTHERN ENERGY BUILD BOWLINE UNIT 3 IF THE NEW ELECTRIC TRANSMISSION LINES IS NOT GRANTED A CERTIFICATE OF ENVIRONMENTAL CAPABILITY AND PUBLIC NEED BY THE COMMISSION?

A. No it will not. Bowline Unit 3 will be an exempt wholesale generator and a merchant plant that will sell energy into the deregulated energy market. Southern Energy will be unable to deliver the electric output of Bowline Unit 3 into the power grid if the transmission line is not built. Consequently, certification of the electric transmission line is necessary for the construction of Bowline Unit 3.

Q. PLEASE PROVIDE A GENERAL DESCRIPTION OF THE LOCATION OF THE ELECTRIC TRANSMISSION LINES.

A. The electric transmission line will run approximately 1.7 miles from the nominal 750 MW Bowline Unit 3 that Southern Energy proposes to construct in the Town of Haverstraw to O&R's West Haverstraw substation. The West Haverstraw substation is located in the village of West Haverstraw and is generally west of the Bowline Generating Station Property. The electric transmission lines will be approximately 9,000 feet in length.

Q. WILL SOUTHERN ENERGY NEED TO ACQUIRE ANY NEW RIGHTS-OF-WAY TO BUILD THE ELECTRIC TRANSMISSION LINE ALONG THE ROUTE THAT HAS BEEN SELECTED?

A. No it will not – no new rights-of-way are required for this project. The line will be constructed entirely on property that Southern Energy owns in fee, on property for which Southern Energy owns a right-of way and on property in which O&R owns a right-of way. For the portion of the route where O&R owns the right-of-way, Southern Energy is negotiating with O&R to acquire the necessary easements

Q. ARE THERE ANY OTHER UTILITY LINES IN THE RIGHTS-OF-WAY THAT SOUTHERN ENERGY HAS SELECTED FOR THE NEW ELECTRIC TRANSMISSION LINE?

A. Yes there are. In fact, the new electric transmission line will be constructed entirely on property in which underground utility lines already exist. There currently exists two 345 kV underground electric transmission lines and a 16 inch natural gas pipeline on the route that Southern Energy has selected for the new 345 kV electric transmission line. A section of the route also includes two 138 kV transmission lines. In addition, Southern Energy has filed an application with the Commission seeking to build a new 24 inch natural gas pipeline, a portion of which would be built along the route for the new 345 kV electric transmission line (PSC Case 99-T-1814).

Q. PLEASE PROVIDE A DETAILED DESCRIPTION OF THE ROUTE FOR THE ELECTRIC TRANSMISSION LINE.

A. Starting at the Bowline Generating Station Property, the electric transmission line will cross approximately 1,300 feet of property on the Bowline Point site before reaching Samsondale

Avenue. Southern Energy owns approximately 4,450 feet of contiguous property from Samsondale Avenue to approximately 450 feet east of Bridge Street in the Village of West Haverstraw.

The proposed line will cross several public roads and other intervening landmarks. Specifically, the proposed underground transmission line will cross: (i) Samsondale Avenue; (ii) CSX tracks; (iii) Route 9W; (iv) the Minisceongo Creek; (v) Bridge Street; (vi) Eakman Drive; and (vii) Route 202.

The CSX railroad tracks bisect the fee property between Samsondale Avenue and Route 9W in the Village of West Haverstraw. CSX transferred the necessary licenses for the existing utility crossings to Southern Energy when Southern Energy purchased the property from O&R Southern Energy intends to negotiate a new license agreement with CSX to permit the additional crossing of the railroad tracks by Southern Energy's 345kV transmission line and proposed 24-inch underground natural gas pipeline (PSC Case 99-T-1814).

From the western boundary of Southern Energy's fee property to the West Haverstraw Substation, a distance of approximately 2260 feet, Southern Energy has or will acquire several easements and rights-of-way (collectively "rights-of-way"). Presently, Southern Energy has rights-of-way for the installation and operation of one or more underground electric transmission lines from the edge of the Southern Energy-owned fee property across the lands of Garnerville Holding Company (tax map designation: 26.07-1-12) and Pena (tax map designation: 26.07-1-11.1) to the east side of Bridge Street.

Southern Energy is negotiating an agreement with O&R to acquire the necessary easements for that portion of the proposed line between the west side of Bridge Street and the termination point at the West Haverstraw Substation. For this portion of the project, the proposed line will cross the lands of: (i) the Village of West Haverstraw (tax map designation: 26.06-6-71); (ii) Hidalgo (tax map designation: 26.06-6-69); (iii) Lodini (tax map designation: 26.06-6-68); (iv) Howe (tax map designation: 26.06-6-67); and (v) O&R (tax map designations 26.06-6-75 and 26.10-1-1).

In a deed from the Village of West Haverstraw dated November 10, 1978, O&R was granted, among other things, the right to install, operate and maintain one or more underground electric transmission lines through the lands of the Village of West Haverstraw. Portions of the lands of the Village of West Haverstraw that were the subject of the 1978 grant of easement, are now owned by Hidalgo, Lodini and Howe, as indicated above. These property owners have taken their properties subject to the existing O&R easement.

Moreover, O&R has agreed to convey to Southern Energy an easement across the West Haverstraw Substation property for installation, operation and maintenance of the proposed 345 kV electric transmission line and Southern Energy's proposed 24-inch underground natural gas transmission line (P.S.C. Case 99-T-1814).

Q. HAS SOUTHERN ENERGY PROVIDED MAPS OF THE ROUTE FOR THE ELECTRIC TRANSMISSION LINES IN ITS APPLICATION?

A. Yes, maps have been provided in accordance with 16 NYCRR section 86.3 of the Commission's regulations. The maps are attached as Appendix 1 and 2 to the Application.

Q. HAS SOUTHERN ENERGY PROVIDED AERIAL PHOTOGRAPHS OF THE LOCATION OF THE ELECTRIC TRANSMISSION LINES?

A. Yes, aerial photographs of the location are attached as Appendix 3 to the Application.

Q. ARE THERE ANY REASONABLE ALTERNATIVE ROUTES TO THE ROUTE THAT SOUTHERN ENERGY HAS SELECTED FOR THE ELECTRIC TRANSMISSION LINES.

A. No reasonable alternative routes exist. Rights-of-way for underground utility lines already exist over the entire route and, therefore, the selected route will not require new rights-of-way or easements from property owners. The route that has been selected already contains underground utility lines and, therefore, will not require any changes in use to property along the route. In fact, Southern Energy owns a section of the property to be traversed in fee and by using a section of its own property, Southern Energy will minimize impacts on other property owners. Finally, the West Haverstraw substation is the closest substation to which it is electrically feasible to interconnect and the selected route is a direct route to that substation. Based on these factors, the only reasonable route for the electric transmission line is the route selected by Southern Energy,

Q. DID SOUTHERN ENERGY CONSIDER BUILDING OVERHEAD RATHER THAN AN UNDERGROUND TRANSMISSION LINE?

A. No we did not consider anything other than an underground line to be reasonable. As stated above, underground utility lines already exist along the entire route and, as such, an

underground line is consistent with the current use of the property along the right-of-way. In addition, an underground line will substantially minimize any environmental and visual impacts from a new line.

Q. IS NOT BUILDING A NEW TRANSMISSION LINE A REASONABLE ALTERNATIVE?

A. No it is not. As stated above, new transmission line is needed because the existing transmission facilities are not able to accommodate the electric generation that will be produced by Bowline Unit 3.

Q. PLEASE PROVIDE A DESCRIPTION OF THE ENGINEERING CHARACTERISTICS OF THE NEW ELECTRIC TRANSMISSION LINE.

A. The transmission line will be a High Pressure Fluid Filled ("HPFF") cable. The specifications for the line are: two circuits of 3 conductors per circuit, 2500 kcmil copper cable, standard burial depth depending upon design, 25°C, 90 RHO soil. The cables will be placed in two steel pipes that are 8.625 inches in diameter. Southern Energy will install a pressure station at the Bowline plant to maintain the required dielectric fluid pressure in the pipeline at approximately 200 lbs./sq. in. A small dielectric fluid storage tank will be installed at the Bowline plant. The dielectric fluid will be oscillated by the pressure station.

Q. WILL ANY NEW ABOVE GROUND STRUCTURES BE BUILT?

A Since the line will be underground no new above ground structures will be built on the right-of-way between the Bowline Plant and the West Haverstraw substation except for manholes.

Q. WILL SOUTHERN ENERGY MAKE ANY MODIFICATION TO THE EXISTING SWITCHYARD AT THE BOWLINE GENERATING STATION PROPERTY?

A. Yes. At the Bowline Plant, within the confines of the existing switchyard, Southern Energy will develop the switchyard into a breaker and a half substation configuration. This is a substation configuration widely regarded as one of the most reliable substation configurations in use. It is typically used for Extra High Voltage substations. This configuration provides a high degree of reliability, safety and a very flexible operation to get power out or through the substation. All switching is accomplished by power circuit breakers. The name "breaker and a half" is derived from the configuration. There are two main busses. Between the busses, three power circuit breakers will be connected in series. Two electrical circuits will be connected between the power circuit breakers, on both sides of the middle power circuit breaker.

The breaker and a half scheme substation configuration is more expensive than other types of design but affords the user great reliability, safety and operation flexibility. With the loss of any line, the faulted segment can be isolated and the breaker and a half scheme restored. The failure of either bus will not take any line out of service.

The modification and extension to the Bowline Substation will require additional 345 kV power circuit breakers and switches, some structural steel and bus section, potential transformers and potheads. A biodegradable dielectric fluid station or "pressure" station will

be added to oscillate the dielectric fluid in the underground line. There will be a small dielectric fluid storage tank in proximity to the "pressure" station.

Q. PLEASE DESCRIBE ANY OTHER FACILITIES AND EQUIPMENT THAT SOUTHERN ENERGY WILL INSTALL AT THE BOWLINE SWITCHYARD.

A. Within the confines of the existing Bowline Switchyard the following major pieces of equipment will be installed:

a. Generator Step Up Transformer – Used to transition the generated voltage at 18 kV to the transmission voltage of 345 kV.

b. Auxiliary Power Transformer – A lower voltage power transformer used to power the essential systems (pumps, motors, fans, light, heat, etc.) of the generating facility.

c. Power Circuit Breakers – Used for the interruption and to isolate faulted transmission lines or electrical equipment.

d. Gang Operated Air Break Disconnect Switches - Used to isolate various pieces of electrical equipment and to provide a visible point to see that equipment has been de-energized and is safe.

e. Buss and Power Cable – Used to electrically connect equipment in the switch yard. These are current carriers of electrical power.

f. Potential Transformers – Used to reduce a higher voltage to a lower, useable voltage for instruments. For example, to reduce 345,000 Volts to 120 Volts.

g. Six Potheads – Used in the transition of bringing insulated underground cable to the surface and the subsequent connections to an overhead bus or cable. These provide a seal for the pressurizing fluid and prevent the cable insulation from being exposed to air and moisture.

h. Insulators – Used to insulate energized conductors, cables or bus from supporting steel.

i. Supporting steel – Used to support disconnect switches, insulators and electrical bus work and cable.

j. Foundations - Concrete – Used to support and anchor outdoor equipment and steel structures.

k. Cable Trench and Conduit – Used for routing and connecting control and low voltage power cable to electrical equipment and devices. Control and low voltage power cable (120/240 V) is placed in the trench or pulled through the conduit which run between the various pieces of electrical equipment in the substation and to the substation switch house.

l. Relays – Used to monitor cable ampacity in order to prevent damage to lines or equipment by insuring the basic design criteria are not exceeded. Relays are used to detect faulted lines and equipment and isolate these facilities for operational purposes.

m. Dielectric fluid station or "pressure" station – This will be added to oscillate the dielectric fluid in the new underground 345 kV transmission line. The

"pressure"station will maintain the 200 lbs./square inch pressure required in the steel pipe. The size of this station will be the approximate size of a small house trailer.

n. Storage Tank - to store dielectric fluid. The tank capacity has not yet been determined.

Q. WILL ANY NEW STRUCTURES OR EQUIPMENT BE BUILT OR INSTALLED AT THE WEST HAVERSTRAW SUBSTATION?

A. Yes, at the West Haverstraw substation six potheads, which are used in the transition of bringing underground cable to the surface and the subsequent connections to the West Haverstraw overhead bus or cable, will be installed.

Q. PLEASE DESCRIBE THE CONSTRUCTION METHODS THAT WILL BE UTILIZED FOR THE PROJECT.

A. Construction methods will be by conventional trenching, jacking or directional drilling techniques. Because this electric transmission line project will be very similar to the construction of a gas transmission line, Southern Energy will adopt the relevant sections of the "Environmental Management and Construction Standards and Practices for Natural Gas Transmission Facilities" dated April 1994, prepared by Central Hudson Gas & Electric Corporation ("EM & CS&P") and subsequently approved by the Commission. Southern Energy also will comply with applicable DOT regulations related to road crossings. In addition to safety and environmental protections set forth in the EM&CS&P, Southern

Energy will observe the following additional construction management practices with respect to all residences within 50 feet of the construction work area:

- A minimum of 25 feet will be maintained between the residence and the construction work area.
- Mature trees and landscaping will be preserved within the construction work area, except where removal is necessary for the safe operation of construction equipment.
- The top 12 inches of topsoil will be stripped from the construction work area, or topsoil will be replaced (imported) after construction where topsoil cannot be segregated.
- The edge of the construction work area will be fenced for a distance of 100 feet on each side of a residence to ensure that construction equipment and materials, including spoil, remain within the work area.
- The trench will be backfilled and all lawn areas and landscaping will be restored within the construction work area immediately after pipeline installation, as weather permits and provided that the right-of-way will no longer be needed for access.

Q. WILL SOUTHERN ENERGY ADOPT MEASURES TO AVOID CLEARANCE OF THE ENTIRE RIGHT–OF-WAY.

A. Yes, Southern Energy will take appropriate measures to avoid clearance of the entire right-of-way. Southern Energy will employ selective clearing and slash disposal practices when clearing the existing right-of-way, using techniques which are consistent with the safe,

reliable transmission of electric energy in an economic manner and which are compatible with the environment.

Clearing of forested areas has been minimized by routing the proposed transmission line along an existing utility corridor. Vegetation clearing and disposal that is required will be conducted in accordance with the EM&CS&P for this project.

Q. WILL EXCESS SOIL BE REMOVED FROM THE SITE?

A. Yes, all excess soil shall be removed from the site and disposed of at an approved disposal area in compliance with all applicable regulations. Prior to construction, Southern Energy will obtain the locations of proposed disposal sites.

Q. WHAT ARE SOUTHERN ENERGY'S PLANS REGARDING REPLACEMENT OF TOPSOIL REMOVED DURING CONSTRUCTION?

A. The methodology for the utility line installation includes separating the topsoil (upper 12 inches of soil) from the underlying subsoil where possible. This topsoil will be replaced at the surface for excavated areas and will minimize the time required for revegetation within the corridor. To the extent required, imported fill will be used as bedding and backfill.

Q. PLEASE DESCRIBE SOUTHERN ENERGY'S PLANS FOR STABILIZING CLEARED AREAS WITH VEGETATION AND EROSION CONTROL DEVICES.

A. Clearing of forested areas has been minimized by routing the proposed transmission line along an existing utility corridor. Vegetation clearing and disposal that is required will be

conducted in accordance with the EM&CS&P for this project. At sensitive sites, such as the stream crossings and wetlands and along residential areas, vegetation that will not directly interfere with construction access, pipe installation and future maintenance will be retained. After disturbed areas have been restored to grade, scarified, limed and fertilized as necessary, a seed mixture appropriate for the area will be applied. In restoring previously seeded areas, the species composition in adjacent areas will be matched, if practical. Native woody species will be planted in erosion-prone areas such as the crossing of Minisceongo Creek and wetland borders.

Wetland communities within the corridor will be restored following the completion of the construction while upland areas are expected to become revegetated with species present in the vicinity. The methodology for the utility line installation includes separating the topsoil (upper 12 inches of soil) from the underlying subsoil where possible. This topsoil will be replaced at the surface for excavated areas and will minimize the time required for revegetation within the corridor. Disturbed areas will be regraded, limed and fertilized as necessary and seeded with an appropriate seed mix.

During construction, erosion control practices will include a planned rapid construction period and minimum time periods where trenches will be left exposed. Grading will occur only on those areas planned for immediate construction to minimize potential runoff. A minimal construction area will be maintained. Permanent vegetation will be reestablished as soon as possible following construction in unpaved areas.

Q. WHAT ARE SOUTHERN ENERGY'S PLANS TO PREVENT EROSION OF THE BANKS OF THE MINISCEONGO CREEK DURING CONSTRUCTION?

A. Erosion of the banks of streams will be avoided by use of standard erosion and siltation control measures such as silt fences, hay bales or diversion berms. Impact will be further reduced by keeping clearing of vegetation on stream banks to an absolute minimum and by ensuring an adequate buffer of ground cover vegetation along the stream banks.

Q. WHAT TECHNIQUE WILL BE USED FOR CROSSING THE MINISCEONGO CREEK?

A. In accordance with the EM&CS&P for the Project, installation of the proposed transmission line across Minisceongo Creek will take advantage of dry weather and low-flow periods. Installation of the crossing of Minisceongo Creek will be done by cut and cover, using a dry installation with the creek being pumped or directed by flume around the installation..

Q. WILL SOUTHERN ENERGY EMPLOY ANY METHODS TO MINIMIZE CORROSION OF THE ELECTRIC TRANSMISSION LINES?

A. Yes, Southern Energy will use a cathodic protection system on the underground cable pipes that will be installed.

Q. WHAT IS CATHODIC PROTECTION?

A. Cathodic protection is a method used to minimize corrosion. Corrosion is an electrochemical reaction. All metallic structures corrode. When immersed in an electrolyte, such as soil, water, or concrete, metals produce a current which causes ions to leave their surface.

The rate of current flow determines the life of the structure. One ampere of current consumes approximately 20 pounds of iron per year.

Included in the techniques available to minimize corrosion are material selection, coatings, inhibitors and cathodic protection. The area of metal where current is discharged and corrosion occurs is called anodic relative to the cathodic or noncorroding areas. By connecting a metal of higher potential to a metallic structure it is possible to create an electrochemical cell in which the metal with lower potential becomes a cathode and is protected. This technique is called cathodic protection.

Q. WHAT CATHODIC PROTECTION METHOD WILL BE USED BY SOUTHERN ENERGY?

A. Southern Energy will use an external power source to impress current on the steel pipe and make it cathodic. This method is called impressed current cathodic protection. For impressed current cathodic protection systems, a separate source of DC current needs to be supplied. Southern Energy will use this type of cathodic protection system on the cable pipes. The system components will be selected based on the piping arrangements and the soil conditions.

Q. HAS SOUTHERN ENERGY TAKEN ANY STEPS TO DETERMINE THE ELECTRIC AND MAGNETIC FIELD STRENGTH OF THE ELECTRIC TRANSMISSION LINES?

A. Yes. Southern Energy will perform a study of the electric and magnetic field strength of the electric transmission lines. A report is expected to be completed within 45 days of the filing of the Application in this proceeding. The report will be filed with the Commission as soon as practicable.

Q. WILL THE ELECTRIC TRANSMISSION LINE COMPLY WITH THE COMMISSION'S POLICIES REGARDING ELECTRIC AND MAGNETIC FIELD STRENGTH?

A. Yes, the electric transmission line will be designed, constructed and operated such that the electric and magnetic field strength, at the edge of the right-of-way, is in compliance with the applicable Commission policies.

Q. PLEASE DESCRIBE THE WAIVERS FROM COMPLIANCE WITH LOCAL ORDINANCES THAT SOUTHERN ENERGY IS SEEKING FROM THE COMMISSION.

Q. The local ordinances for which Southern Energy is seeking waivers and the reasons why the waiver should be granted are as follows:

1. Code of the Town of Haverstraw

a. §167-9 Use Table; Bulk Table

The bulk table sets forth bulk requirements for each zoning district type within the Town of Haverstraw. The electric transmission line will traverse the PIO district in the vicinity of Bowline Point.

The bulk requirements should not be applied to the electric transmission line. Once constructed, the electric transmission line will be undetectable from the surface, except for above-ground line markers and cathodic protection boxes. Further, because the electric transmission line is a linear underground facility running along an existing utility right-of-way, it is designed to cross many individual parcels through various zoning districts and municipalities.

Traditionally, bulk requirements have been implemented to preserve open space on lots and create uniformity among parcels in a zoning district. Because the electric transmission line will be located below ground, the proximity of the line to lot lines is irrelevant. For these reasons, Southern Energy hereby requests waivers of the bulk requirements.

b. §167-17

Section 167-17 requires a 50-foot setback from property lines when conducting excavations. Setback requirements are unreasonably restrictive when applied to linear underground facilities and should be waived. The existing right-of-way crosses many property lines between the Bowline Point Generating Station Property and the West Haverstraw substation. Because the electric transmission line is a linear facility, it is necessary to cross contiguous

properties between the origination and termination points. Further, once constructed the electric transmission line will be virtually undetectable at the surface, except for above-ground line markers and cathodic protection boxes. Once construction is complete, the aesthetic value of the properties crossed by the electric transmission lines will not be diminished. Therefore, the setback requirement should be waived.

c. §167-65 Floodplain Buffer

Section 167-65 requires a 15-foot buffer when construction is adjacent to a 100-year floodplain. Construction of the electric transmission line at Bowline Point will be within the 100-year floodplain.

Application of this provision to the construction of the electric transmission line is inappropriate. The existing electric and gas transmission line at Bowline are located within the floodplain. The new Transmission Facility will be designed to be floodproofed. Therefore, a waiver of the 15-foot buffer requirement is warranted.

2. Code of the Village of West Haverstraw

a. §250-11 to 250-15 Use and Bulk Regulations

Once constructed, the electric transmission line will be undetectable from the surface, except for above-ground line markers and cathodic protection boxes. Because the facilities will be underground, there will be no need to provide screening. Therefore, the requirements of Section 250-14(D) and 250-15(D) should be waived.

b. §250-18 Regulations Established (District Lot and Bulk Regulations)

This section sets forth the bulk regulations for the Village of West Haverstraw.

Zoning District	min. lot area (square feet)	min. lot width	min. front setback	min. side setback each/total	min. rear setback	rear/side yard
R-3	40,000	150	50	30/70	50	10
R-4	40,000	150	150	30/70	50	–
C	30,000	150	40	30/70[1]	50	–
PLI	25,000	100	50	35/70	50	–

The lot and bulk requirements are not suitable for application to construction of linear underground facilities and, therefore, should be waived. Once constructed, the electric transmission line will be undetectable from the surface, except for above-ground line markers and cathodic protection boxes. Because the facilities will not be visible at the surface, the distance of the facilities from lot lines, etc. is irrelevant. Unlike construction of an above-ground structure, linear underground facilities cross through many individual parcels and, as such traditional bulk requirements are inapplicable.

[1] Side setbacks are doubled when adjacent to a residential district. In addition, development is prohibited within 50 feet of a residential district.

Q. PLEASE DESCRIBE THE ECONOMIC EFFECTS OF THE ELECTRIC TRANSMISSION LINE.

A. The economic effects of the new transmission line are directly related to the economic effects of Bowline Unit 3. As stated above, there will be no need for the new transmission line if Bowline Unit 3 is not built or operated and Bowline Unit 3 will not be built or operated unless the new transmission line is built. Consequently, the economic effect of the transmission lines is the same as the economic effects of Bowline Unit 3. Based on review of the economic characteristics of the area, the construction of Bowline Unit 3 and the transmission lines is expected to have a net beneficial economic impact on the community surrounding the Project Site. These economic effects are described in detail in Exhibit 6 of the Application.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.

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NEW YORK STATE
PUBLIC SERVICE COMMISSION

IN THE MATTER OF

- of the -

Application of Southern Energy Bowline, L.L.C. for a Certificate of Environmental Compatibility and Public Need for the Construction of 1.7 Miles of 345 kV Electric Transmission Line in the Town of Haverstraw and Village of West Haverstraw, Rockland County

AFFIDAVIT OF
TERRY J. COGGINS

Case No. 00-T-0409
Hon. Walter T. Moynihan

STATE OF GEORGIA)
) ss:
COUNTY OF FULTON)

TERRY J. COGGINS, duly sworn, deposes and says:

1. That deponent is the TERRY J. COGGINS described in the prefiled Direct Testimony of TERRY J. COGGINS, accepted into the record in the above-referenced proceedings subject to submission of this affidavit. My Direct Testimony consists of 27 numbered pages of written testimony on a panel with Kevin J. Maher, Donald K. Gray, II and Bruce H. Burn. My Direct Testimony was prepared by me or under my supervision and direction and was filed with the New York State Public Service Commission on March 3, 2000 in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C.

2. Deponent hereby confirms his said testimony in the form presented as though given orally or as though the same was adopted under oath in said proceedings and requests that said testimony be made part of the record in these proceedings.

3. Deponent further swears to the truth of the statements contained in the annexed testimony as to all matters within his knowledge and with respect to any matters alleged upon information and belief, that he believes such statements to be true.

Terry J. Coggins
TERRY J. COGGINS

Sworn to before me this
20th day of October 2000.

Notary Public
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ex 2.22.2002

NEW YORK STATE
PUBLIC SERVICE COMMISSION

IN THE MATTER OF

- of the -

Application of Southern Energy Bowline, L.L.C. for a Certificate of Environmental Compatibility and Public Need for the Construction of 1.7 Miles of 345 kV Electric Transmission Line in the Town of Haverstraw and Village of West Haverstraw, Rockland County

AFFIDAVIT OF
DONALD K. GRAY, II

Case No. 00-T-0409
Hon. Walter T. Moynihan

STATE OF GEORGIA)
) ss:
COUNTY OF FULTON)

DONALD K. GRAY, II, duly sworn, deposes and says:

1. That deponent is the DONALD K. GRAY, II described in the prefiled Direct Testimony of DONALD K. GRAY, II accepted into the record in the above-referenced proceedings subject to submission of this affidavit. My Direct Testimony consists of 27 numbered pages of written testimony on a panel with Kevin J. Maher, Terry J. Coggins and Bruce H. Burn and the attached errata. My Direct Testimony was prepared by me or under my supervision and direction and was filed with the New York State Public Service Commission on March 3, 2000 in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C. The errata was prepared by me or under my supervision and direction and is being filed with the New York State Public Service Commission along with this affidavit, in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C.

2. Deponent hereby confirms his said testimony in the form presented as though given orally or as though the same was adopted under oath in said proceedings and requests that said testimony be made part of the record in these proceedings.

3. Deponent further swears to the truth of the statements contained in the annexed testimony and errata as to all matters within his knowledge and with respect to any matters alleged upon information and belief, that he believes such statements to be true.

DONALD K. GRAY, II

Sworn to before me this
23rd day of October 2000.

Notary Public

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Notary Public, Cobb County, Georgia
My Commission Expires Aug. 11, 2002

Case 00-T-0409

ERRATA TO PREFILED
TESTIMONY OF DONALD K. GRAY
ON A PANEL CONSISTING OF:
TERRY J. COGGINS
DONALD K. GRAY
BRUCE H. BURN
and
KEVIN J. MAHER

Page	Line	Change
1	6-7	Change business address to "1155 Perimeter Circle West, Atlanta, Georgia 30338."
3	5	Insert: "I am employed by Southern Energy, Inc. as Director of Business Development." Delete: "I am employed by Southern Energy, Inc. as a Technical Support Manager."
3	8	Delete: "of science."
3	13	Insert: "Since 2000, as Director of Business Development, I identify and pursue opportunities for new business. Prior to 2000, as a Technical Support Manager, I provided direction to technical support disciplines, both internal and external to Southern Energy, Inc. and I supported business development activities for the company." Delete: "I have been in my present position since 1992. As a Technical Support Manager I provide direction to technical support disciplines, both internal and external to Southern Energy, Inc. and I support business development activities for the company."

NEW YORK STATE
PUBLIC SERVICE COMMISSION

IN THE MATTER OF

- of the -

Application of Southern Energy Bowline, L.L.C. for a Certificate of Environmental Compatibility and Public Need for the Construction of 1.7 Miles of 345 kV Electric Transmission Line in the Town of Haverstraw and Village of West Haverstraw, Rockland County

AFFIDAVIT OF
BRUCE H. BURN

Case No. 00-T-0409
Hon. Walter T. Moynihan

STATE OF GEORGIA)
) ss:
COUNTY OF DE KALB)

BRUCE H. BURN, duly sworn, deposes and says:

1. That deponent is the BRUCE H. BURN described in the prefiled Direct Testimony of BRUCE H. BURN, accepted into the record in the above-referenced proceedings subject to submission of this affidavit. My Direct Testimony consists of (i) 27 numbered pages of written testimony on a panel with Kevin J. Maher, Terry J. Coggins and Donald K. Gray, II; (ii)10 numbered pages of additional written testimony on a panel with Steven E. Panter and; (iii) the attached errata. My Direct Testimony was prepared by me or under my supervision and direction and was filed with the New York State Public Service Commission on March 3, 2000 in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C. The errata was prepared by me or under my supervision and direction and is being filed with the New York State Public Service Commission along with this affidavit, in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C.

2. Deponent hereby confirms his said testimony in the form presented as though given orally or as though the same was adopted under oath in said proceedings and requests that said testimony be made part of the record in these proceedings.

3. Deponent further swears to the truth of the statements contained in the annexed testimony and errata as to all matters within his knowledge and with respect to any matters alleged upon information and belief, that he believes such statements to be true.

BRUCE H. BURN

Sworn to before me this
19th day of October 2000.

Notary Public

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Notary Public, DeKalb County, Georgia
My Commission Expires Feb. 15, 2003

Case 00-T-0409

ERRATA TO:
PREFILED TESTIMONY OF BRUCE H. BURN ON A PANEL CONSISTING OF:
TERRY J. COGGINS, DONALD K. GRAY, BRUCE H. BURN, and KEVIN J. MAHER

and

PREFILED TESTIMONY OF BRUCE H. BURN ON A PANEL WITH STEVEN E. PANTER AND BRUCE H. BURN

Page	Line	Change
1 (Coggins, et. al.)	10	change firm name to "AGRA Simon, Inc."
2 (Panter/Burn)	12	change firm name to "AGRA Simon, Inc."

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NEW YORK STATE
PUBLIC SERVICE COMMISSION

IN THE MATTER OF

- of the -

Application of Southern Energy Bowline, L.L.C. for a Certificate of Environmental Compatibility and Public Need for the Construction of 1.7 Miles of 345 kV Electric Transmission Line in the Town of Haverstraw and Village of West Haverstraw, Rockland County

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AFFIDAVIT OF
KEVIN J. MAHER

Case No. 00-T-0409
Hon. Walter T. Moynihan

STATE OF NEW JERSEY)
) SS:
COUNTY OF BERGEN)

KEVIN J. MAHER, duly sworn, deposes and says:

1. That deponent is the KEVIN J. MAHER described in the prefiled Direct Testimony of KEVIN J. MAHER, accepted into the record in the above-referenced proceedings subject to submission of this affidavit. My Direct Testimony consists of 27 numbered pages of written testimony on a panel with Terry D. Coggins, Donald K. Gray, II and Bruce H. Burn and 14 numbered pages of additional testimony. My Direct Testimony was prepared by me or under my supervision and direction and was filed with the New York State Public Service Commission on March 3, 2000 in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C.

2. Deponent hereby confirms his said testimony in the form presented as though given orally or as though the same was adopted under oath in said proceedings and requests that said testimony be made part of the record in these proceedings.

3. Deponent further swears to the truth of the statements contained in the annexed testimony and errata as to all matters within his knowledge and with respect to any matters alleged upon information and belief, that he believes such statements to be true.

KEVIN J. MAHER

Sworn to before me this
25th day of October 2000.

Notary Public

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CLIFTON WILLIAMS
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires June 12, 2005

JUDGE MOYNIHAN: Okay. I'd just like to point out, for the record also, that we're doing this in anticipation of a settlement.

If in fact no settlement is forthcoming, then these witnesses would have to be produced and stand for cross examination. You understand that?

MR. SINGER: Yes. And that was the agreement that we had with Staff --

JUDGE MOYNIHAN: Okay.

MR. SINGER: -- with respect to this hearing today.

All right. Next I have prefiled direct testimony of Scott J. Heim, and that consists of 15 pages of written questions and answers. And with that I have an affidavit from Mr. Heim, with an attached errata sheet.

JUDGE MOYNIHAN: All right. Are there any objections to having this copied into the record?

MR. BLOW: No.

MR. CARLEY: No.

JUDGE MOYNIHAN: Okay. That will be copied in.

(The following is the prefiled testimony of Scott J. Heim)

STATE NEW YORK

PUBLIC SERVICE COMMISSION

In the Matter of the Application of Southern Energy Bowline, L.L.C. Pursuant to Subpart 85-2 of the Public Service Commission's Rules of Procedure for a Certificate of Environmental Compatibility and Public Need for an Electric Transmission Line

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PREFILED DIRECT TESTIMONY

OF

SCOTT J. HEIM

ON BEHALF OF
SOUTHERN ENERGY BOWLINE, L.L.C.

PREFILED DIRECT TESTIMONY
OF

SCOTT J. HEIM
ON BEHALF OF SOUTHERN ENERGY BOWLINE, L.L.C.

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Scott J. Heim and my business address is 1099 Wall Street West, Lyndhurst, New Jersey 07071.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by TRC Environmental Corporation as a project manager for Ecological Assessments.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I have an A.A.S. degree in Pre-Professional Forestry from Paul Smith's College in Paul Smiths, New York, a B.S. degree in Forest Biology from the State University of New York- College of Environmental Science and Forestry and an M.S. degree in Wildlife Ecology from the University of New Hampshire.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. I have 13 years of experience involving Wetlands investigations, environmental assessments involving various technical areas of concern including the identification of sensitive resources that may be impacted by project proposals, aquatic assessments and

quantitative and qualitative assessments for both aquatic and terrestrial environments at hazardous waste sites.

Prior to joining TRC I directed a regional environmental consulting office where my responsibilities included proposal presentation, marketing , technical report preparation and review and supervision of several scientists.

Q. WHAT ARE YOUR TECHNICAL SPECIALTIES?

A. My technical specialties are: ~~Rare Species and Impact Assessment~~ Wildlife Habitat Assessments; Wetland Delineation, Functional Analysis and Construction; Aquatic/Terrestrial Ecology; Environmental Permitting and Environmental Assessments and Impact Reports.

Q. WHAT PROFESSIONAL CERTIFICATIONS AND AFFILIATIONS DO YOU HAVE?

A. I have attained the certification of Associate Wildlife Biologist from The Wildlife Society and I am a member of The Wildlife Society and the Society of Wetlands Scientists.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is to present the results of the wetlands delineation and vegetation and wildlife studies of the route of the electric transmission line that was conducted on behalf of Southern Energy in support of the Application in this proceeding.

Q. WERE YOU RESPONSIBLE FOR THE PREPARATION OF ANY SECTIONS OF SOUTHERN ENERGY'S APPLICATION IN THIS PROCEEDING?

A. Yes, I supervised the terrestrial ecology and vegetation investigation and I am the principal author of ~~Sections 4.3.2~~ Sections 4.3.2 Forest Land and Vegetation, 4.4 Hydrology and 4.8 Wildlife of Exhibit 4 of the Application.

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.

A. With respect to the electric transmission line route, the construction of the transmission line will result in temporary impacts to the identified plant communities present within the corridor. However, no significant or unusual plant communities, populations, or individuals will be adversely affected. No endangered, threatened, or rare plant species have been previously documented within the corridor, nor were any identified during the site characterization.

Regarding the wetlands assessment that I performed, impacts to wetlands will be temporary and confined to the workspace areas associated with the excavation of trenches.

My assessment of wildlife along the route of the electric transmission line is that the only impacts will be temporary, occurring during construction. Moreover, no endangered, threatened or rare species have been documented to occur within the vicinity of the route.

Q. PLEASE BRIEFLY DESCRIBE THE ROUTE FOR THE ELECTRIC TRANSMISSION LINE.

A. The electric transmission line route is located entirely within an existing utility right-of-way that extends west for approximately 1.7 miles from the Bowline Point Generating Station Property owned by Southern Energy Bowline, L.L.C. ("Southern Energy") to the West Haverstraw substation owned by Orange & Rockland Utilities, Inc. ("O&R"). The route of the electric transmission line is described in detail in Exhibit 2 of the Application. The land use prevalent along the route is highly urbanized.

Q. WHAT METHOD DID YOU USE TO INVESTIGATE PLANT COMMUNITIES ALONG THE ELECTRIC TRANSMISSION LINE ROUTE?

A. I did a site inspection of the electric transmission line route on December 8, 1999 and on May 9, 2000. This included a survey of plant communities, including wetlands, and

wildlife habitats. The objective of the survey was to identify and delineate the extent of wetlands along the route and to characterize plant communities and wildlife habitats present along the route. I also reviewed existing information pertaining to the route including soil surveys, wetland maps and documented occurrences of rare, threatened and endangered species.

The classification methodology adhered to in the field was designed to characterize the composition and structural characteristics of each of the plant sub-communities and the plant community as a whole. Once collected, data on plant community composition were used to assign generic plant community classifications, in accordance with the classification system presented in Ecological Communities of New York State (Reschke, 1990).

Q. PLEASE DESCRIBE THE VEGETATION CONDITIONS PRESENT ALONG THE ELECTRIC TRANSMISSION LINE ROUTE.

A. The route is located within an area that is highly urbanized. Uplands within the route are currently developed and consist of either unvegetated (i.e., paved) areas or landscaped areas associated with residential homes and/or businesses. One upland/wetland plant community also was identified within the route. A summary of the ~~occurrence of plant communities along the route is provided~~approximate relative areal extent (%) of these cover types is presented in the following Table[8].

Percent Composition of Plant Communities on the Northern Section of the Proposed Interconnect Route.

Plant Community	Percent of Interconnect Route
Successional Southern Hardwoods	9[b]
Dredge Spoils/Successional Southern Hardwoods-Wet	12[c]
Unvegetated (Developed/Landscaped)	79[d]

Source: TRC Environmental, December 1999

[a] Total area within 345kV right of way = 897,600 feet, where line length = 1.7 miles (8976 linear feet) and average right-of-way width was assumed to be 100 feet.

[b] Area approximated qualitatively based upon field notes and surveyed plans.

[c] Wetlands area calculated qualitatively as Total Wetland Area withing right-of-way.

[d] See note [b]

The identified plant communities are representative of disturbed environments and are common in New York State (Reschke, 1990). A brief description of the plant community types and their classification (Reschke, 1990) are provided below. Species noted within this community are listed in Appendix 4 of the Application.

Terrestrial Forested Uplands Subsystem

Community 1 (Successional Southern Hardwoods): This community is defined by Reschke (1990) as "a hardwood or mixed forest that occurs on sites that have been cleared or otherwise disturbed" and as "a broadly defined community dominated by light-

requiring species that are well-adapted to establishment following disturbance". This cover type was present in disturbed areas of the corridor. Small eastern cottonwood and American elm trees with an understory comprised of hawthorne, tatarian honeysuckle, and Japanese honeysuckle are present.

Palustrine Cultural Subsystem

Community 2 (Dredge Spoils/Successional Southern Hardwoods): This disturbed wetland community was observed within portions of Wetland I and J that are adjacent to the existing utility corridor. Eastern cottonwood and American elm provided approximately 15 to 20 percent canopy cover with an understory containing hawthorne, mulberry, tatarian honeysuckle, Japanese honeysuckle and winter cress. This community is similar to the preceding community but contains a wetter hydroperiod.

Q. WILL THERE BE ANY SIGNIFICANT DIRECT IMPACTS TO EXISTING VEGETATION ALONG THE ELECTRIC TRANSMISSION LINE ROUTE AS A RESULT OF CONSTRUCTION OR OPERATION OF THE ELECTRIC TRANSMISSION LINE?

A. No. The construction of the electric transmission lines will result in temporary impacts to the identified plant communities present within the corridor. However, no significant or unusual plant communities, populations, or individuals will be adversely affected. No

endangered, threatened, or rare plant species have previously been documented within the corridor nor were any identified during the site characterization.

Impacts to the identified plant communities will be confined to the workspace areas associated with the excavation of trenches to install the electric transmission line. Currently, the route is primarily disturbed. It is anticipated that the utility line can be located within the existing non-vegetated and disturbed areas within the utility corridor with minimal impact to the limited areas of vegetated cover types present along the route. Temporary impact to plant communities were calculated under the assumption that temporary trench impacts, including trench excavation, stockpile and construction equipment area, will equal 50 feet in width. Temporary impacts were assessed quantitatively. The total area of each cover type that will be temporarily impacted by the construction of the utility lines is presented in the T-able below.

Impacts to Plant Communities within the Electric Transmission Line Route.

Plant Community	Impact Area (ac.)
Successional Southern Hardwoods	~~<0.01~~ ≤1.85
Dredge Spoils/Southern Hardwoods – Wet	~~<0.01~~ ≤1.03

Source: TRC Environmental, December 1999

Q. DESCRIBE THE MEASURES THAT WILL BE USED TO MITIGATE IMPACTS ON VEGETATION ALONG THE ROUTE.

A. Wetland communities within the corridor will be restored following the completion of the construction while upland areas are expected to become revegetated with species present in the vicinity. The methodology for the electric transmission line installation includes separating the topsoil (upper 12 inches of soil) from the underlying subsoil where possible. This topsoil will be replaced at the surface for excavated areas and will minimize the time required for revegetation within the corridor. Disturbed areas will be regraded, limed and fertilized as necessary and seeded with an appropriate seed mix. Native woody plants will be planted along areas subject to potential erosive forces such as adjacent to Minisceongo Creek and wetlands containing surface water flows.

Q. WHAT METHOD DID YOU USE TO INVESTIGATE WETLANDS ALONG THE ELECTRIC TRANSMISSION LINE ROUTE?

A. Wetlands along the route were identified and delineated by using the currently accepted U.S. Army Corps of Engineers (ACOE) Wetlands Delineation Manual (ACOE, 1987). The manual uses three parameters to identify and delineate wetland boundaries: (1) evidence of wetland hydrology, (2) presence of hydric soils, and (3) predominance of hydrophytic plant species (as defined by the National Plant List Panel). Wetland indicators described in the manual for each of the three parameters were examined in the field to determine the presence/absence of wetland resources.

Q. PLEASE DESCRIBE THE WETLANDS THAT ARE PRESENT ALONG THE ELECTRIC TRANSMISSION LINE ROUTE.

A. Two small wetlands and Minisceongo Creek are present either within the route or are in close proximity to the corridor. Each of these areas are discussed below.

Wetlands I and J: Both Wetlands I and J are forested wetlands located within well defined basins situated at the periphery of the route. In general, the wetlands along the route are extremely disturbed and support a number of disturbance-tolerant species. These conditions were exacerbated further by clean up activities associated with the flooding of the adjacent Minisceongo Creek and the subsequent deposition of debris (i.e., trees, sediment). Dominant plant species within these wetlands include multiflora rose, eastern cottonwood, weeping willow (*Salix babylonica*), sycamore (*Platanus occidentalis*) and Japanese honeysuckle.

Minisceongo Creek: The H and K series flags delineate the extent of Minisceongo Creek in the vicinity of the route. The creek is approximately 35 feet wide with banks ranging in height from 15 feet to 35 feet. Recent flooding has induced massive amounts of bank slumping along this reach of the Minisceongo Creek with large areas of exposed soil present. Additionally, scars from past flood stage events are clearly visible along adjacent sections of the hillside. The substrate of Minisceongo Creek consists of sand,

cobbles, and boulders. Dominant species observed along the banks of Minisceongo Creek include eastern cottonwood, American elm, multiflora rose, and Japanese honeysuckle.

Q. WHAT REGULATORY STANDARDS AND PERMIT REQUIREMENTS REGARDING WETLANDS WILL BE APPLICABLE TO THE ELECTRIC TRANSMISSION LINE ROUTE?

A. The New York State Protection of Waters Program (6 NYCRR Part 608) regulates all waterways classified as C(t) or higher (including areas within 50 feet of the waterway) as well as navigable waters (and adjacent wetlands). The surface waters of Minisceongo Creek in the vicinity of the route are classified by the NYSDEC as Class D. As this waterway is not classified above C(t) nor is it navigable, the 50 foot jurisdictional limit is not applicable.

The wetlands identified within the corridor are regulated under Section 404 of the Clean Water Act which is administered by the U.S. Army Corps of Engineers (ACOE). Use of the corridor is not expected to result in any impact to the wetlands present in the vicinity of the corridor.

Q. PLEASE DESCRIBE THE DIRECT IMPACTS TO WETLANDS ALONG THE ELECTRIC TRANSMISSION LINE ROUTE.

A. Impacts to the identified wetlands within the corridor will be confined to a proposed crossing of Minisceongo Creek. The electric transmission line will cross Minisceongo Creek within the Village of West Haverstraw. The line construction within this waterway will be conducted within low-flow periods and take advantage of dry weather. Installation of the Minisceongo Creek crossing will be done by cut and cover using a dry installation with the Minisceongo Creek being pumped or directed by flume around the installation.

Q. WILL THERE BE ANY INDIRECT IMPACTS TO WETLANDS ALONG THE ROUTE AS A RESULT OF THE PROJECT?

A. The route parallels Minisceongo Creek for approximately 8,350 feet Appropriate erosion and sedimentation controls detailed in the EM&CS&P will be implemented adjacent to the route to minimize the potential for adverse effects to this nearby stream as well as wetlands adjacent to the corridor. All cleared areas with erodable soils and topography susceptible to erosion will be stabilized through the use of temporary erosion control measures (e.g., hay bales, silt fence). These temporary measures will be maintained throughout the active construction period until the disturbed area is revegetated.

The following general restrictions also will be in effect for construction activities located in the vicinity of wetlands and watercourses:

-- No deposition of slash within stream channels;

-- No accumulation of construction debris within a minimum of 50 feet of watercourses;

-- No unnecessary degradation of stream banks;

-- No equipment washing or refueling within a minimum of 100 feet of wetlands and streams; and,

-- No storage of any petroleum or chemical materials within a minimum of 100 feet of wetlands and watercourses.

Q. WHAT STEPS WILL BE TAKEN TO MITIGATE THE TEMPORARY CONSTRUCTION-RELATED IMPACTS TO WETLANDS DESCRIBED?

A. Appropriate erosion and sedimentation controls will be implemented to ensure that the nearby Minisceongo Creek and wetlands are not indirectly affected by the proposed construction activities. Native woody plants will be planted along areas subject to potential erosive forces such as adjacent to Minisceongo.

Q. WHAT METHOD DID YOU USE TO INVESTIGATE WILDLIFE ALONG THE ELECTRIC TRANSMISSION LINE ROUTE?

A. I contacted the NYSDEC Natural Heritage Program, U.S. Fish and Wildlife Service (USFWS), and the National Marine Fisheries Service (NMFS) regarding the potential presence of state-listed or Federally-listed endangered, threatened, or species of special concern on the site or in the vicinity of the route. No endangered, threatened or rare species have been documented to occur within the vicinity of the route.

Q. PLEASE DESCRIBE THE WILDLIFE THAT IS PRESENT ALONG THE ROUTE.

A. The wildlife species expected to inhabit the corridor route are expected to include primarily species adapted for the early successional habitats that are present and maintained within the existing utility right-of-way corridor. Wildlife species adapted for "edge' conditions where forested habitats are adjacent to the maintained corridor also are expected to be present.

Appendix 11 of the Application lists amphibian, reptile, bird and mammal species that may potentially be present within the proposed route based on available habitat cover types. State-listed rare wildlife have not been documented previously within the corridor and no state-listed species were noted during the inspection.

Q. DO YOU EXPECT ANY SIGNIFICANT DIRECT IMPACTS ON WILDLIFE FROM THE PROJECT?

A. The proposed utility transmission lines will not result in the permanent alteration of wildlife habitat present within the corridor. Impacts will be temporary and primarily limited to the early successional habitats present within the corridor route. These habitats are expected to become reestablished within a short time period following the construction activities.

Q. DO YOU ANTICIPATE ANY INDIRECT IMPACTS ON WILDLIFE FROM THE PROJECT?

A. The utility installation will result in short-term impacts by the displacement of wildlife in the immediate vicinity of the corridor due to the noise, activity, and disturbance associated with the construction. In general, due to the undeveloped nature of the surrounding area, the short-term displacement is not expected to result in significant changes to wildlife populations in the vicinity of the electric transmission line. Sediment and erosion control measures will be implemented in the vicinity of all wetland and stream crossings. These mitigative measures are expected to eliminate adverse effects to aquatic wildlife (e.g., frogs, turtles) that may inhabit these habitats.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.

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NEW YORK STATE
PUBLIC SERVICE COMMISSION

IN THE MATTER OF

- of the -

Application of Southern Energy Bowline, L.L.C. for a Certificate of Environmental Compatibility and Public Need for the Construction of 1.7 Miles of 345 kV Electric Transmission Line in the Town of Haverstraw and Village of West Haverstraw, Rockland County

AFFIDAVIT OF
SCOTT J. HEIM

Case No. 00-T-0409
Hon. Walter T. Moynihan

COMMONWEALTH OF MASSACHUSETTS)
) SS:
COUNTY OF MIDDLESEX)

SCOTT J. HEIM, duly sworn, deposes and says:

1. That deponent is the SCOTT J. HEIM described in the prefiled Direct Testimony of SCOTT J. HEIM, accepted into the record in the above-referenced proceedings subject to submission of this affidavit. My Direct Testimony consists of 15 numbered pages of written testimony and the attached errata. My Direct Testimony was prepared by me or under my supervision and direction and was filed with the New York State Public Service Commission on March 3, 2000 in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C. The errata was prepared by me or under my supervision and direction and was filed with the New York State Public Service Commission along with this affidavit, in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C.

2. Deponent hereby confirms his said testimony in the form presented as though given orally or as though the same was adopted under oath in said proceedings and requests that said testimony be made part of the record in these proceedings.

3. Deponent further swears to the truth of the statements contained in the annexed testimony as to all matters within his knowledge and with respect to any matters alleged upon information and belief, that he believes such statements to be true.

Scott J. Heim
SCOTT J. HEIM

Sworn to before me this
24th day of October 2000.

Kathleen Ann Hensley
Notary Public
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Case 00-T-0409

ERRATA TO PREFILED
TESTIMONY OF SCOTT J. HEIM

Page	Line	Change
2	9	Replace: "Rare Species and Impact Assessment" with "Wildlife Habitat Assessments".
3	8	Replace "Sections 4.3.1" with "Sections 4.3.2"
4	16	After "December 8, 1999" insert "and on May 9, 2000."
5	13	Replace: "occurrence of plant communities along the route is provided" with "approximate relative areal extent (%) of these cover types is presented"
5	14	Insert footnote "a" after "Table." [a] Total area within 345 kV right of way = 897,600 feet, where line length = 1.7 miles (8976 linear feet) and average right-of-way width was assumed to be 100 feet.

Page	Line	Change
5	15	Replace table: **Percent Composition of Plant Communities on the Northern Section of the Proposed Interconnect Route.** **Plant Community** — **Percent of Interconnect Route** Successional Southern Hardwoods — 9[b] Dredge Spoils/Successional Southern Hardwoods-Wet — 12[c] Unvegetated (Developed/Landscaped) — 79[d] Source: TRC Environmental, December 1999 [b] Area approximated qualitatively based upon field notes and surveyed plans. [c] Wetland area calculated quantitatively as Total Wetland Area within right-of-way. [d] See note b.
7	18	After "route." insert: "Temporary impacts to plant communities were calculated under the assumption that temporary trench impacts, including trench excavation, stockpile and construction equipment area, will equal 50 feet in width. Temporary impacts were assessed quantitatively."
8	3	Replace "<0.01" with "1.85"
8	5	Replace "<0.01" with "1.03"

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MR. SINGER: Prefiled direct testimony of Richard D. Holmes. And Mr. Holmes' testimony consists of 11 pages of written questions and answers.

And I also have an affidavit from Mr. Holmes, with an attached errata sheet.

JUDGE MOYNIHAN: Okay. Thank you. Are there any objections to having this copied into the record?

MR. CARLEY: No.

MR. BLOW: No.

JUDGE MOYNIHAN: Okay. That will be copied.

(The following is the prefiled testimony of Richard D. Holmes).

STATE NEW YORK

PUBLIC SERVICE COMMISSION

In the Matter of the Application of Southern Energy Bowline, L.L.C. Pursuant to Subpart 85-2 of the Public Service Commission's Rules of Procedure for a Certificate of Environmental Compatibility and Public Need for an Electric Transmission Line

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PREFILED DIRECT TESTIMONY

OF

RICHARD D. HOLMES

ON BEHALF OF SOUTHERN ENERGY BOWLINE, L.L.C.

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PREFILED DIRECT TESTIMONY
OF
RICHARD D. HOLMES
ON BEHALF OF
ON BEHALF OF SOUTHERN ENERGY BOWLINE, L.L.C.

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Richard D. Holmes and my business address is 4221-aA Balloon Park Road, Albuquerque, New Mexico 87109.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by ~~TRC Mariah Associates, Inc.~~ TRC Mariah Associates Inc. as a project manager of cultural resource management.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I have a B.A. degree in History from Amherst College, Amherst Massachusetts, an M.A. degree in Anthropology from the University of Massachusetts, a Ph.D. in Anthropology from the University of Massachusetts and a ~~C~~certificate in Museum Studies from Harvard University.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. I have been a Manager for TRC for the last five years. In that capacity, I have supervised or played a key role in a number of cultural resource management projects. I have

conducted research in New Jersey, New York, Massachusetts, New Hampshire, Vermont, New Mexico, Texas, Louisiana, Tennessee and Alabama. I work regularly with laboratory, archival and field personnel to improve the quality of their performance and assure that the particular research needs of a project are met. I have done extensive research in the historic period of the Northeast as well as in the Southwest.

Prior to joining TRC, I was employed as a Project Archaeologist and Historian at the University of Massachusetts Archaeologic Services from 1988 to 1995.

Q. WHAT ARE YOUR TECHNICAL SPECIALTIES?

A. My technical specialties are: Cultural Resource Management, Data Recovery Excavations, Test Excavations, Site Inventory, Historical Investigations, Ethnographic and Oral History Investigations, Preparation of Data Recovery Plans and Research Designs, Preparation of Cultural Resource Management Plans and Planning of Museum Exhibits and Collections Management.

Q. WHAT PROFESSIONAL REGISTRATIONS DO YOU HAVE?

A. I meet the Secretary of the Interior's Professional Guidelines for Prehistoric Archaeologist, Historic Archaeologist and Historian. I am a Registered Professional Archaeologist (R.P.A.).

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is to present the results of the comprehensive cultural resources investigation of the route of the electric transmission line that was conducted on behalf of Southern Energy Bowline, L.L.C. ("Southern Energy").

Q. WERE YOU RESPONSIBLE FOR THE PREPARATION OF ANY SECTIONS OF SOUTHERN ENERGY'S APPLICATION IN THIS PROCEEDING?

A. Yes, I supervised the cultural resources investigation and I am the principal author of Section 4.7 of Exhibit 4 of the Application.

Q. PLEASE BRIEFLY DESCRIBE SECTION 4.7 OF EXHIBIT 4 OF THE APPLICATION.

A. This section of the Application describes cultural resources we identified within the route for the electric transmission line. Cultural resources are considered to include the collective evidence of past activities and accomplishments of people. The section makes some conclusions and recommendations concerning these resources.

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.

A. In my opinion, no significant impact to cultural resources will occur as a result of the construction or operation of the electric transmission line. Therefore, no mitigation is required. Visual impacts to historic structures and cultural sites also will not occur.

Temporary impacts to these resources may occur during construction; however these will be limited by existing vegetation and other developments along the electric transmission line route and, as such, are not considered significant.

Q. PLEASE EXPLAIN THE METHODOLOGY YOU USED TO INVESTIGATE THE CULTURAL RESOURCES ALONG THE ROUTE OF THE ELECTRIC TRANSMISSION LINE.

A. I performed a cultural resources investigation to identify cultural resources within the area of potential effect of the electric transmission line. This investigation involved a Phase IA archaeological investigation of the routes. A report on the Phase IA survey of the electric transmission line (Holmes and Reycraft 1999b) is attached as Appendix 8 to the Application.

Q. WHAT IS A PHASE IA SURVEY?

A. The purpose of a Phase IA archaeological survey is to identify archaeologically sensitive areas, cultural/sacred areas, and standing structures that are at least 50 years old that may be affected by a proposed project and to locate all prehistoric and historic cultural/archaeological resources that may exist within a proposed project area. (New York Archaeological Council 1994.) A Phase IA reconnaissance is intended to gather information on the environmental setting and the cultural/historical setting to provide a basis for a sensitivity assessment. It also should provide a rationale for developing a

research design, a sensitivity assessment, and appropriate Phase IB field methods, where applicable. A Phase IB site locational survey uses subsurface investigation to find features and artifacts that indicate the presence of sites.

Q. DESCRIBE THE METHOD YOU USED TO PERFORM THE PHASE IA SURVEY.

A. The Phase IA survey was conducted in accordance with the standards and methods contained in the New York Archaeological Council's Standards for Cultural Resource Investigations and the Curation of Collections in New York State (1994). The Phase IA research consisted of the following:

I visited and inspected the electric transmission line route and adjacent lands. I examined archeological site files and reports at the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) at Peebles Island State Park. I acquired information on State and National Registers of Historic Places (S/NRHP) properties, archaeological sites recorded at the OPRHP and the files of the New York State Museum (NYSM).

I reviewed the archaeological literature about the immediate vicinity, incorporating the results of previous archaeological and geotechnical studies. These studies included Weed and Walsh (1997) and Schnabel Engineering (1999). I interviewed persons knowledgeable about the history of the region, the location of the route and the

adjacent area. Information on the brickmaking industry was acquired. The Historical Society of Rockland County was contacted.

Q. PLEASE BRIEFLY DESCRIBE THE CONDITIONS ALONG THE ELECTRIC TRANSMISSION LINE ROUTE.

A. The route is described in detail in Exhibit 2 of the Application. Briefly, the electric transmission line will be located on property owned by Southern Energy or within a single existing right-of-way. The route is approximately 1.7 miles.

In the vicinity of the Bowline Generating Station Property, the right-of-way is level and graded. Crossing Samsondale Avenue, the right-of-way is on alluvial terraces next to Minisceongo Creek. This area is wooded, although storm damage last fall felled many trees that maintenance crews have removed with heavy equipment. A railroad bridge (ca. 1880) crosses the creek in this area. Upstream from the bridge, the land shows less disturbance from traffic or stream cutting/deposition, although floods have damaged a concrete culvert near State Highway 9W. Residential property borders the right-of-way.

West of State Highway 9W is the paved parking lot used by the Samsondale Professional Building. To my recollection, the parking lot property is owned in fee by Southern Energy and used by the Samsondale Professional Building pursuant to an easement. The route continues along an access path crossing the Minisceongo Creek in an area with steep banks. After crossing the creek and ascending the southern bank, the

route is on relatively level ground as it enters Garnerville. In Garnerville, most of the route of the right-of-way is beneath paved or graded land. North of U.S. Highway 202 are overhead utility lines. South of the substation, the right-of-way contains existing underground utility lines and overhead electric lines supported by towers.

Q. WHAT ARE THE RESULTS OF THE PHASE IA SURVEY FOR THE ELECTRIC TRANSMISSION LINE ROUTE?

A. At the eastern end of the electric transmission line route is the Bowline Point Generating Station Property. Minisceongo Creek is next to the right-of-way at the entrance to Bowline Units 1 and 2. This area was once the location of brickyards. The pond in the Pecks Pond Park located to the north of the right-of-way and west of Bowline Units 1 and 2 was once a clay pit. It is apparent that the ground surface, including the banks of the creek, have been graded and landscaped, making it unlikely that undisturbed subsurface deposits exist. Previous researchers noted historic fill deposits (A08740.000161, ROC-101/500) (Weed and Walsh 1997).

The route crosses Samsondale Avenue and generally is parallel to the Minisceongo Creek. The terrain consists of alluvial terraces. Adjacent properties have been developed for housing. Between Samsondale Avenue and a railroad bridge that crosses the Minisceongo Creek, the ground surface has been disturbed by vehicular traffic, stream bank cutting and deposition, and tree removal. During fieldwork, maintenance crews were observed removing fallen trees that had been uprooted by Hurricane Floyd, which hit the area in September 1999. This work included the use of

heavy machinery. Root masses of fallen trees were examined for evidence of prehistoric artifacts, but none were seen. Although the terraces appear to be places for prehistoric horticulture, there is little likelihood that cultural material could withstand the flooding that occurred here.

There is a railroad bridge that has been reported as A08744.000012, ROC-007. This single track railroad was built in the 1880s for the New York, West Shore and Buffalo Railroad. Archeological site records at the OPRHP indicate that this bridge is not eligible for the NRHP.

Upstream, west of the railroad bridge, the ground surface shows less disturbance than does the area downstream of the bridge. High water during the 1999 storm had inundated the area, and damage to a culvert at State Highway 9W is evident. There is a steep slope from the creek terrace to the highway. Archaeologically, there is a moderate potential for subsurface deposits. However, mechanical disturbance by tree removal and excavation for previous utility lines has impacted the archaeological potential.

West of State Highway 9W, the electric transmission line route passes through a paved parking lot used by the Samsondale Professional Building. To my recollection, the parking lot property is owned in fee by Southern Energy and used by the Samsondale Professional Building pursuant to an easement. The stream crossing is in an area with steep embankments. On the southern side of the creek the land has slumped, creating a sheer cliff. Attempts to control erosion on the stream bank are evident in the gabions deposited on the banks and the rip-rap in the stream bed. Considering the steep slope,

it is unlikely that this area was used for habitations prehistorically. Any remains related to historic use of the stream probably have been eliminated by erosion. After the route crosses the creek, it ascends the southern bank and reaches a more level, wooded area before entering Garnerville. There is a moderate potential for subsurface remains in the limited level area away from the Minisceongo Creek.

A previous survey reported several standing structures and architectural remains (ROC-008, Rockland Print Works houses; A08744.000011, ROC-002, a ca. 1860 house at 48-50 Bridge Street; A08744.000009, ROC-300, a foundation that was not evaluated; and A08744.000010, ROC-102, a potential well/cistern, not evaluated). It is my understanding that the electric transmission line will not impact the integrity of any building, that any subsurface remains can be avoided, and that most of the line runs over paved or graded land where there is a low potential for intact subsurface deposits.

Immediately north of U.S. Highway 202, construction of utility towers and buried lines have broken the ground, but surfaces do not appear disturbed. Given the northern aspect, the location at the bottom of a slope, and poorly drained soil, there is low archaeological potential. On the northern slope of South Mountain there is a slope of 15% to 25%. Consequently, here, there is a low potential for sites, particularly habitation sites.

Q. ARE THERE ANY STATE OR NATIONAL REGISTER SITES IN THE VICINITY OF THE ELECTRIC TRANSMISSION LINE ROUTE?

A. Yes there are. These are listed in Section 4.7 of Exhibit 4 of the Application.

Q. DO YOU RECOMMEND ANY FURTHER INVESTIGATION OF THE ELECTRIC TRANSMISSION LINE ROUTE?

A. No I do not. No further work is required along the electric transmission line route. Although historic fill deposits east of Samsondale Avenue (A08740.000161, ROC-101/500) were reported previously, it is not likely that these deposits will provide information on residential or industrial use. The area between Samsondale Avenue and State Highway 9W has been altered by previous underground utility construction, traffic, stream cutting/deposition, and the removal of felled trees.

There is low archaeological potential where the interconnection area crosses Minisceongo Creek. No subsurface investigations are required there.

Because there will be no direct impact on the standing structures in Garnerville, an architectural survey is not necessary to document the community or determine boundaries for an historic district. It is my understanding that ~~Two~~ features (a foundation, A08744.000009, ROC-300; and the well/cistern, A08744.000010, ROC-102) can be avoided by construction.

Q. WILL CONSTRUCTION OR OPERATION OF THE ELECTRIC TRANSMISSION LINE RESULT IN ANY SIGNIFICANT IMPACTS ON CULTURAL RESOURCES IN THE VICINITY OF THE ROUTE?

A. No it will not. As stated above, no significant impacts to any historic structures or cultural sites is likely to occur as a result of construction of the electric transmission line. Accordingly, no mitigation of potential impacts is required. Moreover, although temporary impacts to some resources may occur during construction, these will be limited by existing vegetation and other development along the route. As such, the impacts are not considered significant.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.

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NEW YORK STATE
PUBLIC SERVICE COMMISSION

IN THE MATTER OF

- of the -

Application of Southern Energy Bowline, L.L.C. for a Certificate of Environmental Compatibility and Public Need for the Construction of 1.7 Miles of 345 kV Electric Transmission Line in the Town of Haverstraw and Village of West Haverstraw, Rockland County

AFFIDAVIT OF
RICHARD D. HOLMES

Case No. 00-T-0409
Hon. Walter T. Moynihan

STATE OF NEW MEXICO)
) SS:
COUNTY OF BERNALILLO)

RICHARD D. HOLMES, duly sworn, deposes and says:

1. That deponent is the RICHARD D. HOLMES described in the prefiled Direct Testimony of RICHARD D. HOLMES, accepted into the record in the above-referenced proceedings subject to submission of this affidavit. My Direct Testimony consists of 11 numbered pages of written testimony and the attached errata. My Direct Testimony was prepared by me or under my supervision and direction and was filed with the New York State Public Service Commission on March 3, 2000 in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C. The errata was prepared by me or under my supervision and direction and was filed with the New York State Public Service Commission along with this affidavit, in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C.

2. Deponent hereby confirms his said testimony in the form presented as though given orally or as though the same was adopted under oath in said proceedings and requests that said testimony be made part of the record in these proceedings.

3. Deponent further swears to the truth of the statements contained in the annexed testimony and errata as to all matters within his knowledge and with respect to any matters alleged upon information and belief, that he believes such statements to be true.

Richard D. Holmes

RICHARD D. HOLMES

Sworn to before me this
23rd day of October 2000.

Peter A Melomo

Notary Public

OFFICIAL SEAL
Peter A. Melomo
NOTARY PUBLIC—STATE OF NEW MEXICO
My commission expires: SEPT 10, 2002

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Case 00-T-0409

ERRATA TO PREFILED
TESTIMONY OF RICHARD D. HOLMES

Page	Line	Change
1	2	change business address to: "4221-A Balloon Park Road"
1	6	change firm name to: "TRC Mariah Associates Inc."
1	12	change: "certificate" to "Certificate"
2	7	change: "Archaeologic" to "Archaeological"
2	18	insert: "I am a Registered Professional Archaeologist (R.P.A.)."
5	12	change: "OPRHP" to "(OPRHP)"
5	14	insert: comma after "OPRHP"
10	9	insert at beginning of last sentence: "It is my understanding that two . . ."

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MR. SINGER: Next we have the prefiled direct testimony of a panel consisting of Steven E. Panter and Bruce H. Burn, and this testimony consists of ten pages of written questions and answers.

I also have an affidavit from Mr. Panter, with an attached errata sheet.

And the affidavit of Mr. Burn that relates to this panel testimony that he is on has already been provided. It's on the affidavit with the first panel that Mr. Burn was on.

JUDGE MOYNIHAN: Okay. Are there any objections to having this prefiled direct testimony copied into the record?

MR. CARLEY: No.

MR. BLOW: No.

JUDGE MOYNIHAN: It will be copied into the record.

(The following is the prefiled testimony of Panter & Burn).

STATE NEW YORK

PUBLIC SERVICE COMMISSION

In the Matter of the Application of Southern Energy Bowline, L.L.C. Pursuant to Subpart 85-2 of the Public Service Commission's Rules of Procedure for a Certificate of Environmental Compatibility and Public Need for an Electric Transmission Line

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PREFILED DIRECT TESTIMONY

OF

A PANEL CONSISTING OF:

STEVEN E. PANTER
AND
BRUCE H. BURN

ON BEHALF OF
SOUTHERN ENERGY BOWLINE, L.L.C.

PREFILED DIRECT TESTIMONY
OF
A PANEL CONSISTING OF:
STEVEN E. PANTER
AND
BRUCE H. BURN
ON BEHALF OF SOUTHERN ENERGY BOWLINE, L.L.C.

Q. MR. PANTER PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Steven E. Panter and my business address is ~~1099~~1200 Wall Street West, Lyndhurst, New Jersey 07071

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by TRC Environmental Corporation as Senior Project Manager/Senior Hydrogeologist.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I have a B.S. degree in Forest Science from the University of Wisconsin and an M.S. degree in Environmental Engineering from the New Jersey Institute of Technology. I also did Graduate Study work in soil sciences at Rutgers University.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. As a Senior Project Manager for TRC, I have supervised or played a key role in many soil and ground water investigations.

Q. WHAT ARE YOUR TECHNICAL SPECIALTIES?

A. My technical specialties are: soils and groundwater contamination assessment, underground storage tank removal and assessment, design of environmental sampling and analysis programs, technical oversight ~~and legal support and soil and ground water remediation.~~ of soil and groundwater remediation programs, and technical legal support in environmental cases.

Q. WHAT PROFESSIONAL REGISTRATIONS DO YOU HAVE?

A. I am a Certified Ground Water Professional (CGWP No. 437) and I also have received Certification ~~as~~ under the New Jersey Department of Environmental Protection Subsurface Underground Storage Tank Closure Program, Certification Number G0001633.

Q. MR. BURN PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Bruce H. Burn and my business address is ~~Simon Engineering,~~ AGRA Simon, Inc., One West Court Square, Decatur, Georgia 30030.

Q. MR. BURN BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Simons Engineering as Manager, Industrial/Power .

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I have a B.S. degree in Mechanical Engineering from the Georgia Institute of Technology.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. I have 30 years of experience in engineering management, design and project management of power generation, pulp and paper and process facilities. I have served as department manager, project manager, project engineer, staff engineer and design engineer with engineering consultants for over 25 years. I have been in my present position since 1996.

Q. WHAT PROFESSIONAL REGISTRATIONS DO YOU HOLD?

A. I am licensed as a Professional Engineer in the States of Georgia and Washington.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of our testimony is to describe existing conditions regarding soil, geology and seismology along the route for the 345 kV underground electric transmission line ("electric transmission line") proposed by Southern Energy Bowline, L.L.C. ("Southern Energy") in its Application in this proceeding. We also will discuss the impacts on soils, geology and seismology from construction and operation of the electric transmission line and the measures that will be used by Southern Energy to mitigate any such impacts.

Q. WERE YOU RESPONSIBLE FOR THE PREPARATION OF ANY SECTIONS OF SOUTHERN ENERGY'S APPLICATION IN THIS PROCEEDING?

A. Yes, we supervised the soils, geology and seismology investigations and preparation of Section 4.5 of Exhibit 4 of the Application.

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.

A. In our opinion, the construction and operation of the electric transmission line will have no significant impact on geologic resources along the electric transmission line route.

Q. PLEASE BRIEFLY DESCRIBE THE ROUTE FOR THE ELECTRIC TRANSMISSION LINE.

A. The electric transmission line route is located entirely within an existing utility right-of-way that extends west for approximately 1.7 miles from the Bowline Point Generating Station Property owned by Southern Energy to the West Haverstraw substation owned by Orange & Rockland Utilities, Inc. ("O&R"). The route of the electric transmission line is described in detail in Exhibit 2 of the Application. The land use prevalent along the route is highly urbanized.

Q. DID YOU DETERMINE THE LEVEL OF SEISMIC RISK ASSOCIATED WITH CONSTRUCTION AND OPERATION OF THE ELECTRIC TRANSMISSION LINE ?

A. Yes we did.

Q. WHAT IS THE SEISMIC RISK ALONG THE ELECTRIC TRANSMISSION LINE ROUTE?

A. The risk is minimal. The Ramapo Fault follows the northwestern edge of the Newark Basin within which the route is located. Although the Ramapo Fault is associated with very minor seismic activity, it probably is not the source of any damaging earthquakes that have occurred in the New York metropolitan area in the past. Moreover, no blasting will occur along the route. Thus, the Ramapo Fault will not be affected by any vibrations from such work.

Furthermore, the electric transmission line route is in seismic zone C pursuant to the New York State Building Code ("NYSBC"). This represents an intermediate hazard zone with a seismic event having a 10 percent probability of exceeding the peak acceleration in 50 years. This classification requires that when constructing new facilities measures be taken to insure that structures are protected against seismic forces and soil liquefaction.

The electric transmission line will be built in accordance with NYSBC requirements in order to ensure that it will operate safely during and following a seismic

event. The design of the transmission line will comply with all current seismic protection measures.

Q. PLEASE DESCRIBE THE BEDROCK GEOLOGY OF THE ROUTE FOR THE ELECTRIC TRANSMISSION LINE.

A. As stated above, the electric transmission line corridor runs west from the Bowline Point Generating Station Property to the West Haverstraw Substation. Bedrock within the electric transmission line corridor consists of rock of the Passaic Formation and Palisades Diabase. The Passaic Formation includes rock consisting of a reddish-brown shaley mudstone with alternating layers of red-brown sandstone, and another unit consisting of sandstone and conglomerate. The Palisades Diabase is a hard, igneous rock that intruded into the Passaic Formation during the Jurassic period. The dark mineral, pyroxene, and the light-colored mineral, plagioclase feldspar, give it its characteristic "salt-and-pepper" appearance. It has been exposed through erosion of the softer rock of the Passaic Formation.

Q. PLEASE DESCRIBE THE SURFICIAL GEOLOGY OF THE ELECTRIC TRANSMISSION LINES ROUTE.

A. The *Geologic Map of New York, Lower Hudson Sheet* (Fisher et al. 1970) shows that the soils along the electric transmission line route consist predominantly of glacial till with smaller localized areas of glacial outwash, kame, and alluvial deposits. The glacial till

consists of a poorly sorted mixture of sand, silt, clay, gravel, and larger rock fragments. Thickness varies from exposed bedrock to 150 feet. Outwash and kame deposits contain water-sorted deposits of sand and gravel, some of which are well stratified. Thickness varies from six to ninety feet.

Q. PLEASE DESCRIBE THE SOILS ALONG THE ROUTE FOR THE ELECTRIC TRANSMISSION LINE.

A. The route from the Bowline Point Generating Station Property to the West Haverstraw Substation consists of a variety of soil types on slopes ranging from level to steep. The soils developed in the local rock were re-worked or transported during glaciation. In upland areas the soils generally developed in a mantle of glacial till over the bedrock or in colluvium deposited on the till. In low lying areas and locations close to streams, the soils developed in parent materials transported by glacial outwash and recent river-transported alluvium. Soils developed in lacustrine sediments over till occur selectively along drainageways.

Depth to bedrock varies with location. In upland areas, depth to bedrock occurs at the surface, while close by, in stream valleys scoured by ice, it exceeds 150 feet. In lower lying areas, depth to bedrock frequently exceeds 20 feet.

The diversity of soil types results in drainage that varies from excessively drained soils on steep slopes and those derived from outwash sand and gravel deposits, to poorly drained soils developed on low lying glacial till and those with perched water tables. The

construction limitations, soil properties, and ~~interconnections'~~ interconnection areas relative to the soil mapping units appear in Appendix 7 of the Application.

There are several soil series between the Bowline Point Generating Station Property and the West Haverstraw Substation. The USDA Soil Conservation Service Rockland County Soil Survey Report describes them as follows:

(1) Hinckley soils are very deep, excessively drained, and coarse-textured. Slopes range from 0 to 25 percent. They formed in outwash deposits of sand and gravel and occupy stream terraces and terraced hillsides. The soils are moderately to extremely acid.

(2) Udorthents, wet substratum and Urban Land soils are highly variable. A site-specific investigation is required to evaluate their characteristics for building purposes.

(3) Wallington soils are very deep, nearly level, fine-textured, and somewhat poorly drained. They formed in lacustrine material over medium-textured glacial till on lake plains. Wallington soils are very strongly acid to neutral. They have a fragipan at approximately 14 to 40 inches that inhibits drainage.

(4) Wethersfield soils are very deep, well drained, medium textured soils that formed in glacial till on ridgetops and foot slopes. Slopes range from 0 to 25 percent. They are very strongly to moderately acid and have a dense substratum that inhibits drainage.

The soils and slopes along the route appear in Section 4.5.1.3 of Exhibit 4 of the Application.

Q. PLEASE DESCRIBE THE IMPACT OF THE ELECTRIC TRANSMISSION LINE ON SOIL CONDITIONS.

A. Appendix 7 of the Application shows the soil types and the characteristics crossed by the route. Most of the route to the West Haverstraw Substation crosses soils that are deep, well to moderately well drained, and are on nearly level to moderate slopes. The slopes and types of soils encountered by this utility line corridor are set forth in Exhibit 4 of the Application. In two locations, the route will cross the Minisceongo Creek. At these locations, the electric transmission line will be constructed beneath the creek bottom. The consolidated and unconsolidated strata beneath the electric transmission line are suitable to support the structures using the construction practices set forth in the EM&CS&P for this project.

The route crosses rocks of the Passaic Formation and may encroach upon the Palisades Diabase in this route segment. The rock in both units is competent to support the electric transmission line. Along most of the route, the rock will not contact the lines because the soils are sufficiently deep. The route does not cross any major faults or fractures, although it does cross one brittle fault overlain by deep soils.

Q. WHAT MEASURES WILL BE USED TO MITIGATE THE POTENTIAL IMPACTS ON SOILS FROM THE CONSTRUCTION OF THE ELECTRIC TRANSMISSION LINE?

A. The construction methods employed to install the electric transmission line include conventional trenching practices, such as excavation and backfilling of underground pipelines, and balancing cut and fill quantities. Imported fill is required as bedding and backfill for the transmission route. Areas for staging imported fill and excavated cut material will be chosen in order to minimize environmental impacts. Preferred sites include level ground and locations that minimize transport across unpaved areas. Estimated cut and fill quantities for the electric transmission lines appear in Section 4.5.3 of Exhibit 4 of the Application.

Q. WILL ANY DEWATERING BE NECESSARY DURING CONSTRUCTION OR OPERATION OF THE ELECTRIC TRANSMISSION LINE?

A. No significant dewatering will be necessary.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.

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NEW YORK STATE
PUBLIC SERVICE COMMISSION

IN THE MATTER OF

- of the -

Application of Southern Energy Bowline, L.L.C. for a Certificate of Environmental Compatibility and Public Need for the Construction of 1.7 Miles of 345 kV Electric Transmission Line in the Town of Haverstraw and Village of West Haverstraw, Rockland County

AFFIDAVIT OF
STEVEN E. PANTER

Case No. 00-T-0409
Hon. Walter T. Moynihan

STATE OF NEW JERSEY)
) SS:
COUNTY OF BERGEN)

STEVEN E. PANTER, duly sworn, deposes and says:

1. That deponent is the STEVEN E. PANTER described in the prefiled Direct Testimony of STEVEN E. PANTER, accepted into the record in the above-referenced proceedings subject to submission of this affidavit. My Direct Testimony consists of 10 numbered pages of written testimony on a panel with Bruce H. Burn, as amended by the attached errata. My Direct Testimony was prepared by me or under my supervision and direction and was filed with the New York State Public Service Commission on March 3, 2000 in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C. The errata was prepared by me or under my supervision and direction and is being filed with the New York State Public Service Commission along with this affidavit, in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C.

2. Deponent hereby confirms his said testimony in the form presented as though given orally or as though the same was adopted under oath in said proceedings and requests that said testimony be made part of the record in these proceedings.

3. Deponent further swears to the truth of the statements contained in the annexed testimony and errata as to all matters within his knowledge and with respect to any matters alleged upon information and belief, that he believes such statements to be true.

Steven E. Panter
STEVEN E. PANTER

Sworn to before me this
18th day of October 2000.

Clifton Williams
Notary Public

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CLIFTON WILLIAMS
NOTARY PUBLIC OF NEW JERSEY
My Commission Expires June 12, 2005

Case 00-T-0409

ERRATA TO PREFILED TESTIMONY OF
STEVEN E. PANTER
ON A PANEL WITH STEVEN E. PANTER AND BRUCE H. BURN

Page	Line	Change
1	2	change business address to: "1200 Wall Street West."
1	6	change title to: "Senior Project Manager/Senior Hydrogeologist"
2	3-4	replace with: "underground storage tank removal and assessment, design of environmental sampling and analysis programs, technical oversight of soil and ground water remediation programs, and technical legal support in environmental cases."
2	8	change: "as" to "under the"
2	9	insert: "Program" after "Closure"
5	11	change: "measure" to "measures"
7	3	insert: "re-worked or" after "were"
7	15	change: "interconnections" to "interconnection"
8	12	insert: "that inhibits drainage" after "substratum"

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MR. SINGER: Next we have the prefiled direct testimony of a panel consisting of Johnny R. Willis and Douglas R. Brown. And the prefiled direct testimony of those gentlemen consists of 18 pages of written questions and answers.

We also have prefiled supplemental direct testimony of the same individuals; Johnny R. Willis and Douglas R. Brown. And the supplemental direct testimony consists of three pages of written questions and answers.

And there is also an affidavit, one from Mr. Brown and one from Mr. Willis, and the affidavits refer to both the original direct testimony and the supplemental direct testimony.

JUDGE MOYNIHAN: Are there any objections to having this prefiled material copied into the record?

MR. CARLEY: No.

MR. BLOW: No, your Honor.

JUDGE MOYNIHAN: It will be copied in.

(The following is the prefiled testimony and supplemental testimony of Willis & Brown).

STATE NEW YORK

PUBLIC SERVICE COMMISSION

In the Matter of the Application of Southern Energy Bowline, L.L.C. Pursuant to Subpart 85-2 of the Public Service Commission's Rules of Procedure for a Certificate of Environmental Compatibility and Public Need for an Electric Transmission Line

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PREFILED DIRECT TESTIMONY

OF

A PANEL CONSISTING OF:

JOHNNY R. WILLIS
AND
DOUGLAS R. BROWN

ON BEHALF OF
SOUTHERN ENERGY BOWLINE, L.L.C.

PREFILED DIRECT TESTIMONY
OF
A PANEL CONSISTING OF:
JOHNNY R. WILLIS
AND
DOUGLAS R. BROWN
ON BEHALF OF SOUTHERN ENERGY BOWLINE, L.L.C.

Q. MR. WILLIS PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Johnny R. Willis and my business address is Power Technologies, Inc., 1473 Erie Boulevard, Schenectady, New York 12305.

Q. MR. BROWN PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Douglas R. Brown and my business address is Power Technologies, Inc., 1473 Erie Boulevard, Schenectady, New York 12305.

Q. MR. WILLIS, BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Power Technologies, Inc., a division of S&W Consultants, Inc. as an Executive Consultant.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I received the Bachelor of Science in Engineering (BSE) and Master of Science in Engineering (MSE) degrees from the University of Alabama in Birmingham in 1972 and 1978. In 1985, I received the degree of Electrical Engineer (EE) from the University of Michigan.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. In 1974, I joined the Rust Engineering Co. of Birmingham, Alabama. There I specified and designed industrial power distribution, motor control, and lighting systems, and served as a project construction engineer. From 1979 until 1980, I was with Bechtel Power Corporation in Ann Arbor, Michigan. In 1982, I joined the Power Resources and System Planning Department of Consumers Power Company in Jackson, Michigan. During my five years at Consumers Power, I participated in projects involving torsional monitoring of a turbine generator, generator testing and modeling, power system and power plant dynamic studies, and analysis and field testing of the first application of PTI's SS/1 digital power system stabilizer.

In 1987, I joined PTI as a Senior Engineer in the Utility Systems Performance unit where I participated in projects including: determining induction motor models from tests; contributing to the development of PTI's Fundamentals of Protective Relaying course; review and analysis of electrical protection at industrial plants; a study regarding uprating a 138 kV transmission line to higher voltages; conducting tuning studies for several applications of PTI's SS/1 power system stabilizer; conducting load flow and dynamics studies for planning and operations; and field testing of turbine generators to determine simulation model parameters.

In 1991, I was named Manager of Engineering Development in the Software Products Department, where I was responsible for marketing and development of PTI's PSS/OPF, PSS/U, RDS/E, PSIM, and PSS/O software programs.

Q. PLEASE BRIEFLY DESCRIBE YOUR CURRENT DUTIES.

A. In 1994, I was named Manager of the System Performance unit, whose work is primarily in power flow studies, dynamic analysis, and testing of power plant equipment. Presently I am an Executive Consultant conducting and supervising technical studies.

Q. WHAT PROFESSIONAL CERTIFICATIONS AND AFFILIATIONS DO YOU HAVE?

A. I am a member of IEEE and its Power Engineering Society, and a registered professional engineer in the states of Alabama and New York.

Q. MR. BROWN, BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

I am employed by Power Technologies, Inc., a division of S&W Consultants, Inc. as a Senior Consultant.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I attended the University of Illinois at Urbana where I received the Bachelor of Science in Electrical Engineering degree with honors in 1992 and the Master of Science in Electrical Engineering degree in 1993. While attending Illinois I was employed as a research assistant working on a FACTS phase shifter control scheme derived from energy methods.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. Upon graduation from college, I joined the Energy Group at Burns and McDonnell in Kansas City, MO. As an application engineer, I carried out all aspects of power system design including short circuit, power flow and relay coordination studies, one-line development, equipment specification and substation layout. In 1997, I joined Kansas City Power and Light in Kansas City, MO as a Transmission Planning Engineer. While at KCPL I performed power system operations and planning studies. These studies encompassed power flow and stability aspects of the bulk power system. In 1999, I joined PTI as a Senior Consultant.

Q. PLEASE BRIEFLY DESCRIBE YOUR CURRENT DUTIES.

A. In my present position, my primary duties include carrying out power flow and dynamics studies involving the interconnection of proposed generators to the bulk power system.

Q. WHAT PROFESSIONAL CERTIFICATIONS AND AFFILIATIONS DO YOU HAVE?

A. I am a member of the IEEE Power Engineering Society and I am a Registered Professional Engineer in the state of Missouri.

Q. GENTLEMEN, WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of our testimony is to present the results of the thermal and transfer, voltage, phase angle regulator and short circuit analyses that we performed on behalf of Southern Energy Bowline, L.L.C. ("Southern Energy") for the Bowline Unit 3 generating facility and the 345 kV underground electric transmission line ("electric transmission line") that will connect Bowline Unit 3 to the New York transmission grid at the West Haverstraw substation owned by Orange & Rockland Utilities, Inc. A report detailing our analyses is included in Southern Energy's Application in this proceeding as Appendix 13.

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.

A. We performed a linear thermal and transfer analysis in which we assessed the transmission system when Bowline 3 is dispatched against existing units such as Indian Point 2, Indian Pont 3, Roseton, Gilboa, and Moses, as well as the proposed Sithe (Ramapo) and Athens plants. Our preliminary findings from this analysis are:

1. Upgrading the Y88 circuit (Buchanan S. to Ladentown 345 kV) and W93 circuit (Buchanan N. to Eastview 345 kV) as identified in the system impact study on the ANP (Ramapo) plant dated Sept. 23, 1999 remains necessary.

2. Taking into account the upgrades of the Y88 (Buchanan S. to Ladentown 345 kV) and W93 (Buchanan N. to Eastview 345 kV) circuits as provided in the ANP study, there is potential for overloading the W72 (Ramapo to Ladentown 345 kV) and Y94 (Ramapo to Buchanan N 345 kV) circuits following loss of both of the Buchanan South to Millwood 345 kV circuits. However, these overloads may be mitigated either by eliminating wave trap constraints, by using special operating guides, or by

reconductoring existing lines.

3. Even with the upgrade of Y88 and W93, dispatch of Bowline 3 against the some of the other units studied reduces UPNY-ConEd transfer capability. However, prior studies, such as the ANP system impact study, indicate that reduction of the UPNY-ConEd transfer capability is not a concern provided that it does not "limit the aggregate level of grandfathered energy and capacity contracts flowing over this interface".

4. UPNY – SENY is enhanced when Bowline 3 is dispatched against Athens, while there is not much change when it is dispatched against other units.

5. Central East and Total East interfaces were not significantly affected by the Bowline 3 dispatches and transfer scenarios studied.

In addition, our initial linear thermal and transfer analysis indicates that the Bowline 3 plant has both positive and negative effects on the bi-directional transfer capability of New York with the New England ISO ("NEISO") depending on which unit Bowline 3 displaces and the direction of transfer, but it has little affect on the NYISO to PJMISO transfer capability. Effect on PJMISO – NYISO has not been evaluated at this time.

In the Voltage Analysis, the effect of Bowline 3 on the voltage performance of the Con Edison transmission system was studied. System voltages were evaluated with Bowline 3 displacing generation in western New York State and in New York City. Voltages were evaluated with the system intact and following the sequential (non-simultaneous) loss of each of the two largest reactive power sources on the Con Edison System. Our analysis shows that the system meets voltage performance criteria for the contingencies analyzed following

the addition of the proposed Bowline 3 plant.

In the Phase Angle Regulator Analysis, the impact of dispatching Bowline 3 on the phase-shifted tie lines regulating the 1000 MW wheeling contract between Con Edison and Public Service Electric and Gas was studied. The analysis shows that exporting Bowline 3 energy to PJM through the Ramapo and/or Waldwick phase angle regulators does not constrain the wheeling contract under normal operating conditions.

In the Short Circuit Analysis, the impact of Bowline 3 on the total substation fault duty levels was evaluated at Con Edison substations 69 kV and above. The analysis shows that the total station fault duty will exceed the breaker rating at Southern Energy's 345 kV Bowline substation. Our studies indicate that in the base case without Bowline the total station fault duties ~~presently~~ exceed the breaker ratings at the following 345 kV substations: Buchanan, Dunwoodie, Farragut, Mahwah, Ramapo and Sprain Brook. The fault duty on individual circuit breakers in the substations listed above will be evaluated to determine breaker upgrade requirements.

Q. PLEASE DESCRIBE THE DATA THAT YOU USED TO PERFORM THE ANALYSES.

A. We used two data bases provided by Consolidated Edison Company of New York, Inc. ("Con Edison") in the load flow analysis; a summer peak case and a winter peak case. Another data base provided by Con Edison was used in the short circuit analysis. Con Edison also provided information to use in the analyses such as interface definitions and generation shifts to be used in the transfer analysis. Southern Energy provided us

information about the proposed 345 kV electric transmission line, modifications to the Bowline Point Generation Station Property switchyard and data regarding the generating units for Bowline Unit 3.

Q. DID THE BASE CASE DATA SHOW OVERLOADS PRIOR TO THE ADDITION OF THE BOWLINE UNIT 3?

A. Yes, there were some base case and post-contingency overloads in the base cases provided by Con Edison, after the addition of the Athens plant, but before the addition of Bowline Unit 3. These are identified on page 3-1 of Appendix 13 to the Application.

Q. DID YOU MAKE ANY DATA ASSUMPTIONS FOR THE ANALYSES THAT YOU PERFORMED?

Q. Yes, we used the following assumptions: (1) the step-up transformers are assumed to have 9% impedance on their self-cooled (OA) MVA rating. We assumed that the FOA rating is the same as the corresponding generator base, and that the FOA rating is 167% of the OA rating; and (2) we assumed that the kV bases of the step-up transformers match those of the new generator buses (18 kV) and the Bowline HV bus (345 kV).

Q. DID YOU DEVELOP NEW BASE CASES FOR USE IN THE ANALYSES?

A. Yes, we developed new base cases. We developed a summer peak base case that included the new 345 kV electric transmission line from the Bowline Point Generating Station Property to the West Haverstraw substation but showed Bowline Unit 3 off-line. This is

referred to as "Case S2". We also developed a winter peak case with the electric transmission line present and with Bowline Unit 3 off-line. This is "Case W2". The S2 and W2 Cases were used for the linear power flow analysis. For the voltage analysis and phase angle regulator analyses, we developed base cases with Bowline Unit 3 on-line and used to displace generation from other sources as identified on page 3-4 of Appendix 13 to the Application. Additional assumptions and bases cases, as described on pages 3-5 to 3-6 of Appendix 13 of the Application, were used for the short circuit analysis.

Q. WHAT IS THE PURPOSE OF A LINEAR THERMAL ANALYSIS?

A. A Linear ("DC") power flow analysis is used to examine the potential for transmission system overloads when Bowline 3 power output is displacing other power plants in the local (New York) area, such as the existing Indian Point 2, Indian Point 3, and Gilboa, Moses, and Roseton plants, as well as the proposed Athens and Sithe (Ramapo) plants. Linear analysis also is used to examine the marginal effect of the Bowline Unit 3 plant on transfer capability across major New York transmission interfaces defined by the New York Independent System Operator ("NYISO"), such as Total East and Upper New York to Southeast New York (UPNY-SENY). Finally, linear analysis is used to examine the effect of the Bowline Unit 3 plant on the transfer capability between the NYISO and the New England Independent System Operator ("NEISO") as well as the NYISO with the Pennsylvania-Jersey-Maryland Independent System Operator ("PJMISO").

Q. WHAT IS THE EFFECT ON THE TRANSMISSION SYSTEM FROM DISPATCHING BOWLINE UNIT 3 AGAINST OTHER NEW YORK GENERATION?

A. The results of this analysis is described in detail in Appendix 13 to the Application. In general, the studies showed some overloads. The results reaffirmed the need to upgrade the Y88 circuit and the W93 circuits both of which previously had been identified as overloaded in the ANP system impact study. The results of our analysis also showed a potential for overloading of the W72 and Y94 circuits following loss of both Buchanan South to Millwood 345 kV circuits. However, as stated above, these overloads may be mitigated either by eliminating wave trap constraints, by using special operating guides, or by reconductoring existing lines.

Q. WHAT IS THE EFFECT ON NEW YORK INTERFACE LIMITS FROM DISPATCHING BOWLINE UNIT 3 AGAINST OTHER NEW YORK GENERATION?

A. For the summer peak case, Case S2, dispatch of Bowline Unit 3 reduced the UPNY-ConEd normal transfer limit except when dispatched against Sithe-Ramapo. The dispatch of Bowline Unit 3 against Indian Point 3 showed the least effect on UPNY-ConEd transfer limits in the S2 Case. Regarding transfer limits at the other interfaces, dispatch of Bowline Unit 3 against Athens resulted in an improvement in transfer limits at the UPNY-SENY interface. When Bowline Unit 3 is dispatched against other units, there was little change in the transfer limit at the UPNY-SENY interface. Transfer limits at the Central East and Total

East interfaces had little effect when Bowline Unit 3 is dispatched against the other units studied. The results for the W2 winter peak case are similar to the summer peak S2 case. The results are shown on page 4-8 of Appendix 13.

Q. WHAT IS THE EFFECT ON INTERREGIONAL TRANSFER LIMITS FROM DISPATCHING BOWLINE UNIT 3 AGAINST OTHER NEW YORK GENERATION?

A. For the summer peak S2 case, the NE – NY interface transfer limit is improved or remains unchanged in all scenarios. For the NY – PJM interface, there is no effect on the transfer limit. Transfer limits at the NY – NE interface may be degraded depending on which unit Bowline 3 displaces. The effect on PJM – NY limits have not been studied at this time. However, based on the results reported on the Sithe (Ramapo) project, we do not expect the effect to be significant, as Bowline 3 is electrically very similar to Sithe (Ramapo) with regard to PJM transfers into New York.

For the winter peak W2 case, there is some reduction in transfer limits at the NY-NE interface for some dispatches (Athens, Roseton-Gilboa, and Moses) of the Bowline plant. The NE-NY capability is somewhat higher for dispatch against Athens and Moses. This analysis assumes that the upgrades of the Y88 and W93 circuits are in place.

Q. WHAT IS THE PURPOSE OF A VOLTAGE ANALYSIS?

A. A voltage or non-linear ("AC") power flow analysis is used to examine the effect of the Bowline 3 plant on the voltage performance of the New York transmission system following

the loss of other critical reactive power sources. Non-linear analysis also was used to examine the effects of dispatching Bowline 3 on the phase-shifted tie lines regulating the 1000 MW wheeling contract between Con Edison and Public Service Electric and Gas (PSE&G).

Q. HOW WAS THE VOLTAGE ANALYSIS PERFORMED?

A PTI's PSS/E (Power System Simulator) was used to conduct the voltage analysis. The approach we used was to evaluate the voltage performance of the Con Edison system in three scenarios:

1. Bowline 3 off-line – This case documents the voltage performance of the existing system and serves as a benchmark against which the other two scenarios can be compared.
2. Bowline 3 on-line displacing generation at the Oswego Complex (Fitzgerald) – The addition of Bowline 3 in this case shifts generation from western to southeastern New York State. This case shows the effects of Bowline 3 on Con Edison system voltages without stressing the Con Edison system.
3. Bowline 3 on-line displacing generation at Ravenswood – The addition of Bowline 3 in this case shifts generation from New York City to southeastern New York State. This case stresses the Con Edison system because the machine at Ravenswood will not be producing reactive power and additional power will be flowing south to the city from upstate New York.

Q. WHAT CONTINGENCIES WERE ANALYZED IN THE VOLTAGE ANALYSIS?

A. Con Edison's second-contingency design criteria require the Con Edison system to withstand the occurrence of two consecutive disturbances. The contingency used in our voltage analysis consisted of the sequential (non-simultaneous) loss of the two largest reactive power sources on the Con Edison system, the Indian Point 2 and Poletti generators.

Q. PLEASE DESCRIBE THE RESULTS OF THE VOLTAGE ANALYSIS.

A. If the assumption is made that no existing generating capacity in New York State will be retired as a result of this project, the overall reactive capability of the interconnected system will be augmented by the addition of Bowline 3. However, the analysis shows that the impact of Bowline 3 on Con Edison system voltages is influenced by the location of the generation that Bowline 3 displaces.

For the summer peak, the pre-contingency and post-contingency voltages at various buses in the study area are shown in Appendix 9.4.1 of Appendix 13. Con Edison system pre-contingency and post-contingency voltages are essentially unaffected by the addition of Bowline 3 if generation in western New York (Oswego complex) is displaced. A group of 138 kV buses around the Rainey substation in New York City have post-contingency voltages between 94.5% and 95% of rated. If Bowline 3 displaces generation in New York City (Ravenswood 3), pre-contingency voltages are generally lower but within 3.5% of voltages in the scenario with Bowline 3 off-line; most of the significant changes occur in New York City on the 345 kV network. Post-contingency voltages are generally lower but within 1.5% of voltages in the scenario with Bowline 3 off-line.

For the winter peak, the pre-contingency and post-contingency voltages at various buses in the study area are shown in Appendix 9.4.2 of Appendix 13. A review of the table indicates buses with voltages between 94% and 95% of rated. Con Edison system pre-contingency voltages are essentially unaffected by the addition of Bowline 3 if generation in western New York (Oswego complex) is displaced. A group of 138 kV buses around the Rainey substation in New York City have voltages between 94% and 95% of rated. In the scenario with Bowline 3 displacing generation in New York City, some pre-contingency voltages on the Con Edison system are as much as 7% lower than with Bowline 3 off-line. Several pre-contingency voltages are between 94% and 95% of rated voltage, post-contingency voltage performance is similar to performance in the other scenarios.

Q. PLEASE DESCRIBE THE PHASE ANGLE REGULATOR ANALYSIS.

A. The purpose of this analysis was to examine the effect of dispatching Bowline 3 on the Con Edison-Public Service Electric and Gas (PSE&G) phase shifted tie lines. Con Edison and PSE&G have a contractual wheeling agreement where PSE&G transfers up to 1000 MW from the PSE&G Waldwick substation to the Con Edison Farragut and Goethals substations. Six phase angle regulators (PARs) control the transfer of power between the two companies. Con Edison and PSE&G are also indirectly connected through two 345 kV PARs at the Con Edison Ramapo substation (Feeder 5018).

The base cases for this analysis are the summer and winter peak cases with Bowline 3 off-line (cases S2 and W2). These cases simulate the PSE&G 1000 MW transfer and a small import to Con Edison from PJM over Feeder 5018 at Ramapo (40 MW in the summer

peak case, 0 MW in the winter peak case). Four scenarios were analyzed: (1) Bowline 3 offline; (2) Bowline 3 displaces Indian Point 3 - Transaction is internal to the NYPP so MW setpoints on the PARs are not changed from Scenario 1; (3) Bowline 3 displaces generation in PJM - Transaction is routed through Feeder 5018 at Ramapo by changing the Ramapo PARs' MW setpoints; and (4) Bowline 3 displaces generation in PJM and PSE&G- Transaction is routed through Ramapo and Waldwick PARs by changing the Ramapo and Waldwick PARs' MW setpoints.

Q. WHAT ARE THE RESULTS OF THIS ANALYSIS?

A. For the summer peak, a summary of PAR angles and flows for summer peak conditions is contained in Appendix 9.5.1 to Appendix 13. In the scenario where Bowline 3 displaces Indian Point 3, the transaction is internal to New York and the PAR MW setpoints are not altered. Regulator action results in PAR phase shift angle changes of 6° at Farragut and 4° at Ramapo and Waldwick. In the scenario where Bowline 3 displaces generation in PJM, the transaction is routed through the Ramapo PAR. The PAR angles on Feeder 5018 change by 18°. Regulator control on the other tie lines results in PAR angle changes of 3°. In the scenario where Bowline 3 displaces generation in PJM and PSE&G, the transaction is routed through the Ramapo and Waldwick PARs. The PAR angles change by 9 at Ramapo and by 4° at Waldwick. Regulator control on the other tie lines results in a 1° PAR angle change at Goethals and Farragut.

For the winter peak, a summary of PAR angles and flows for winter peak conditions is contained in Appendix 9.5.2. In the scenario where Bowline 3 displaces Indian Point 3, the transaction is internal to New York and the PAR MW setpoints are not altered. Regulator action

results in PAR phase shift angle changes of 7° at Farragut, 6° at Goethals and 5° at Ramapo and Waldwick In the scenario where Bowline 3 displaces generation in PJM, the transaction is routed through the Ramapo PAR. The PAR angles on Feeder 5018 change by 20°. Regulator control on the other tie lines results in PAR angle changes of 3°. In the scenario where Bowline 3 displaces generation in PJM and PSE&G, the transaction is routed through the Ramapo and Waldwick PARs. The PAR angles change by 11° at Ramapo and by 5° at Waldwick. Regulator control on the other tie lines results in a 1° PAR angle change at Goethals and Farragut.

Q. WHAT IS THE PURPOSE OF A SHORT CIRCUIT ANALYSIS?

A. Fault simulations are used to examine the effect of Bowline 3 on the magnitude of the fault currents on buses 69 kV and above in the Consolidated Edison (Con Edison) system. The need for this analysis is to assess the adequacy of the existing substation equipment to withstand changes in the level of short circuit currents as a result of Bowline 3.

Q. PLEASE DESCRIBE THE METHOD USED TO PERFORM THE SHORT CIRCUIT ANALYSIS.

A. The methodology employed to evaluate circuit breaker performance follows Con Edison practice. This practice is referred to as the Classical Method, which implies that all generating units are in

service; all transmission feeders are in service; all series reactors in service; all loads, shunts and line capacitance not modeled; and Pre-fault flat-start power flow representation.

From the inception of the fault, total opening time (relay plus breaker operation) for Con Edison 345 kV breakers is typically 4 cycles. In consideration of this fact, Con Edison represents generators by their direct-axis subtransient reactance at rated voltage (X_{dv}").

The short circuit case was analyzed using the fault analysis capabilities of the PSS/E software package. Fault currents calculated in this manner represent the total symmetrical current. This method of analyzing breaker fault duties has both conservative and non-conservative elements. A conservative element is that all generators are in service in the short circuit case. One non-conservative element is that pre-fault conditions are ignored. Because generators are unloaded in the short circuit case, generator internal source voltages do not reflect levels of excitation and flux linkage needed to support load current. A second non-conservative element is that symmetrical current values are compared to circuit breaker interrupting ratings. This comparison is only valid at low X/R ratios where the asymmetrical component of the fault current can be neglected and may result in fault currents that exceed circuit breaker interrupting ratings.

Q. PLEASE DESCRIBE THE RESULTS OF THE SHORT CIRCUIT ANALYSIS.

A. Interconnection of the Bowline 3 plant raises fault duty levels at Con Edison and neighboring utilities' substations. Total station fault duties are summarized in Appendix 9.6.1 of Appendix 13. The total station fault duty will exceed the breaker rating at the Southern Energy 345 kV

Bowline substation. In addition, our studies indicate that total station fault duties ~~presently~~ without Bowline 3 presently exceed breaker ratings at the following 345 kV substations: Buchanan S, Dunwoodie, Farragut, Mahwah, Ramapo, and Sprain Brook. Thus, for example, as shown on Appendix 9.6.1 of Appendix 13, the fault duty at Buchanan South, in the base case, already exceeds the lowest breaker rating. The fault duty on individual circuit breakers in the substations listed above will be evaluated to complete the short circuit analysis and determine breaker upgrade requirements.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.

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NEW YORK STATE PUBLIC SERVICE COMMISSION

IN THE MATTER

- of the -

Case 00-T-0409

Application of Southern Energy Bowline, L.L.C., for a Certificate of Environmental Compatibility and Public Need for the Construction of a 345 Kilovolt Underground Electric Transmission Line, Approximately 1.7 Miles in Length, Located in the Town of Haverstraw, Rockland County

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PREFILED SUPPLEMENTAL DIRECT TESTIMONY

OF

A PANEL CONSISTING OF:

JOHNNY R. WILLIS
AND
DOUGLAS R. BROWN

ON BEHALF OF
SOUTHERN ENERGY BOWLINE, L.L.C.

PREFILED SUPPLEMENTAL DIRECT TESTIMONY
OF
A PANEL CONSISTING OF:
JOHNNY R. WILLIS
AND
DOUGLAS R. BROWN
ON BEHALF OF SOUTHERN ENERGY BOWLINE, L.L.C.

Q. MR. WILLIS PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Johnny R. Willis and my business address is Power Technologies, a division of S&W Consultants, Inc., 1473 Erie Boulevard, Schenectady, New York 12305.

Q. MR. BROWN PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Douglas R. Brown and my business address is Power Technologies, a division of S&W Consultants, Inc., 1473 Erie Boulevard, Schenectady, New York 12305.

Q. MR. WILLIS, BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Power Technologies, a division of S&W Consultants, Inc. as an Executive Consultant.

Q. MR. BROWN, BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Power Technologies, a division of S&W Consultants, Inc. as a Senior Consultant.

Q. GENTLEMEN, HAVE YOU PREVIOUSLY FILED TESTIMONY IN THIS DOCKET?

A. Yes, our testimony was filed as part of Southern Energy Bowline, L.L.C.'s ("Southern Energy") initial filing in this docket, dated March 3, 2000.

Q. WAS AN ANALYSIS OF TRANSMISSION IMPACTS INCLUDED IN THE INITIAL FILING IN THIS DOCKET?

A. Yes, a report entitled "Bowline Combined Cycle Plant: Thermal, Transfer, Voltage and Short Circuit Analysis: PTI Report R9-2000," dated March 3, 2000 was included as Appendix 13 to the filing.

Q. SINCE MARCH 3, 2000, HAVE YOU PERFORMED ANY ADDITIONAL ANALYSES OR STUDIES?

A. Yes, since March 3, 2000, we performed the following additional analyses and studies:

-- "Bowline Combined Cycle Plant: Stability, Relay Coordination and Auto-Reclosing Analysis"; PTI Report R16-00; April 3, 20000 - Attached hereto as Exhibit JRW/DRB - 1

-- "Supplement to Bowline 3 Thermal, Voltage and Short Circuit Analysis"; PTI Report Supplement; May 23, 2000 - Attached hereto as Exhibit JRW/DRB - 2

-- "Bowline Combined Cycle Plant; Supplement 2"; PTI Report R54-00; October 5, 2000 - Attached hereto as Exhibit JRW/DRB - 3

-- "Bowline Combined Cycle Plant: Supplement Number 3"; PTI Report R57-00; October 24, 2000 - Attached hereto as Exhibit JRW/DRB - 4

Q. DOES THIS CONCLUDE YOUR SUPPLEMENTAL DIRECT TESTIMONY?

A. Yes, it does.

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NEW YORK STATE
PUBLIC SERVICE COMMISSION

IN THE MATTER OF

- of the -

Application of Southern Energy Bowline, L.L.C. for a Certificate of Environmental Compatibility and Public Need for the Construction of 1.7 Miles of 345 kV Electric Transmission Line in the Town of Haverstraw and Village of West Haverstraw, Rockland County

AFFIDAVIT OF
DOUGLAS R. BROWN

Case No. 00-T-0409
Hon. Walter T. Moynihan

STATE OF NEW YORK)
) SS:
COUNTY OF SCHENECTADY)

DOUGLAS R. BROWN, duly sworn, deposes and says:

1. That deponent is the DOUGLAS R. BROWN described in the prefiled Direct Testimony of DOUGLAS R. BROWN, accepted into the record in the above-referenced proceedings subject to submission of this affidavit. My Direct Testimony consists of: (i) 18 numbered pages of written testimony on a panel with Johnny R. Willis, as amended by the attached errata; and (ii) three numbered pages of written supplemental testimony on a panel with Johnny R. Willis. My Direct Testimony was prepared by me or under my supervision and direction and was filed with the New York State Public Service Commission on March 3, 2000 and October 25, 2000, respectively, in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C. The errata was prepared by me or under my supervision and direction and is being filed with the New York State Public Service Commission along with this affidavit, in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C.

2. Deponent hereby confirms his said testimony in the form presented as though given orally or as though the same was adopted under oath in said proceedings and requests that said testimony be made part of the record in these proceedings.

3. Deponent further swears to the truth of the statements contained in the annexed testimony as to all matters within his knowledge and with respect to any matters alleged upon information and belief, that he believes such statements to be true.

Douglas R Brown
DOUGLAS R. BROWN

Sworn to before me this
24th day of October 2000.

Judith A Brodeur
Notary Public

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JUDITH A. BRODEUR
Notary Public, State of New York
4528493
Residing in Schenectady County
My Commission Expires 5/3/2002

Case 00-T-0409

ERRATA TO PREFILED
TESTIMONY OF DOUGLAS R. BROWN
ON A PANEL CONSISTING OF:
JOHNNY R. WILLIS
and
DOUGLAS R. BROWN

Page	Line	Change
3	12	After: "Power Technologies, Inc." insert ", a division of S&W Consultants, Inc."

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NEW YORK STATE
PUBLIC SERVICE COMMISSION

IN THE MATTER OF

- of the -

Application of Southern Energy Bowline, L.L.C. for a Certificate of Environmental Compatibility and Public Need for the Construction of 1.7 Miles of 345 kV Electric Transmission Line in the Town of Haverstraw and Village of West Haverstraw, Rockland County

AFFIDAVIT OF
JOHNNY R. WILLIS

Case No. 00-T-0409
Hon. Walter T. Moynihan

STATE OF CALIFORNIA)
) SS:
COUNTY OF YOLO)

JOHNNY R. WILLIS, duly sworn, deposes and says:

1. That deponent is the JOHNNY R. WILLIS described in the prefiled Direct Testimony of JOHNNY R. WILLIS, accepted into the record in the above-referenced proceedings subject to submission of this affidavit. My Direct Testimony consists of: (i) 18 numbered pages of written testimony on a panel with Douglas R. Brown, as amended by the attached errata; and (ii) three numbered pages of written supplemental testimony on a panel with Douglas R. Brown. My Direct Testimony was prepared by me or under my supervision and direction and was filed with the New York State Public Service Commission on March 3, 2000 and October 25, 2000, respectively, in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C. The errata was prepared by me or under my supervision and direction and is being filed with the New York State Public Service Commission along with this affidavit, in the above-referenced proceedings on behalf of Southern Energy Bowline, L.L.C.

2. Deponent hereby confirms his said testimony in the form presented as though given orally or as though the same was adopted under oath in said proceedings and requests that said testimony be made part of the record in these proceedings.

3. Deponent further swears to the truth of the statements contained in the annexed testimony and errata as to all matters within his knowledge and with respect to any matters alleged upon information and belief, that he believes such statements to be true.

Johnny R. Willis
JOHNNY R. WILLIS

Sworn to before me this
24th day of October 2000.

Notary Public

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SAILESH PATEL
Comm. # 1252198
NOTARY PUBLIC-CALIFORNIA
Yolo County
My Comm. Expires Jan. 31, 2004

Case 00-T-0409

ERRATA TO PREFILED
TESTIMONY OF JOHNNY R. WILLIS
ON A PANEL CONSISTING OF:
JOHNNY R. WILLIS
and
DOUGLAS R. BROWN

Page	Line	Change
1	10	After: "Power Technologies, Inc." insert ", a division of S&W Consultants, Inc."
6	7	Replace: "scenario" to "scenarios"
7	6	After "case" insert: "without Bowline"
7	7	Delete: "presently"
10	13	Before "transfer" insert: "normal"
17	19	Replace: "presently" with "without Bowline 3"

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MR. SINGER: In the supplemental direct testimony of Mr. Willis and Mr. Brown they refer to four exhibits, and I'd like to have those exhibits marked for identification.

The first exhibit is JRW/DRB-1. If you could mark that Exhibit 3, please.

JUDGE MOYNIHAN: Yes, we'll mark Exhibit 3 for identification.

(Whereupon, Southern Energy Bowline, L.L.C. Exhibit 3 was marked for identification.)

MR. SINGER: The next is Exhibit JRW/DRB-2. I request that that be marked as Exhibit 4 for identification.

JUDGE MOYNIHAN: We'll mark it Exhibit 4 for identification.

(Whereupon, Southern Energy Bowline, L.L.C. Exhibit 4 was marked for identification.)

MR. SINGER: Next is Exhibit JRW/DRB-3, that should be marked as Exhibit 5 for identification.

JUDGE MOYNIHAN: We'll mark it Exhibit 5 for identification.

(Whereupon, Southern Energy Bowline, L.L.C. Exhibit 5 was marked for identification.)

MR. SINGER: And JRW/DRB-4, and I request that that be marked as Exhibit 6 for identification.

JUDGE MOYNIHAN: Exhibit 6 for identification.

(Whereupon, Southern Energy Bowline, L.L.C. Exhibit 6 was marked for identification.)

MR. SINGER: And that's all I have, your Honor.

MR. BLOW: Your Honor.

JUDGE MOYNIHAN: One moment. I just want to make sure I've got everything straight here.

I also had a prefiled direct testimony of Kevin J. Maher.

MR. SINGER: Oh, yes. Okay. Well, we have the copies that are in the application for Kevin J. Maher. There were no changes for that testimony.

JUDGE MOYNIHAN: So it was left in the

application?

MR. SINGER: Right. But I think we ought to pull it out and mark it separately and give that to the Reporter.

JUDGE MOYNIHAN: Okay. Fine. Sure.

(There was a discussion held off the record.)

JUDGE MOYNIHAN: You say you left that in there, in any event, for the others?

MR. SINGER: Yes.

JUDGE MOYNIHAN: You could just leave that in.

MR. SINGER: Well, I wanted to pull that out for the Reporter, so she can put that into the transcript.

JUDGE MOYNIHAN: Fine.

MR. SINGER: All right. We have testimony of Kevin J. Maher, consisting of 14 pages of written questions and answers.

There are no changes to that testimony. And the affidavit of Mr. Maher that I handed to the Reporter, the Judge and the parties, with respect to Mr. Maher's panel testimony refers to Mr. Maher's individual direct

testimony also.

JUDGE MOYNIHAN: Okay. Are there any objections to having that copied in the record?

MR. CARLEY: No.

MR. BLOW: No.

JUDGE MOYNIHAN: It will be copied in.

(The following is the prefiled testimony of Kevin J. Maher).

STATE NEW YORK

PUBLIC SERVICE COMMISSION

In the Matter of the Application of Southern Energy Bowline, L.L.C. Pursuant to Subpart 85-2 of the Public Service Commission's Rules of Procedure for a Certificate of Environmental Compatibility and Public Need for an Electric Transmission Line

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PREFILED DIRECT TESTIMONY

OF

KEVIN J. MAHER

ON BEHALF OF SOUTHERN ENERGY BOWLINE, L.L.C.

PREFILED DIRECT TESTIMONY
OF
KEVIN J. MAHER
ON BEHALF OF SOUTHERN ENERGY BOWLINE, L.L.C.

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Kevin J. Maher and my business address is 1200 Wall Street West, Lyndhurst, New Jersey 07071.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by TRC Environmental Corporation as an Assistant Project Manager.

Q. PLEASE STATE YOUR EDUCATIONAL BACKGROUND.

A. I have a Master of Planning degree from the University of Southern California, School of Urban and Regional Planning in Los Angeles, CA and I have a B.S. degree in Environmental Planning and Design from Cook College, Rutgers University.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL EXPERIENCE.

A. I have eight years of professional experience as an Urban and Environmental Planner with an expertise in environmental documentation and permitting coordination on infrastructure projects. A significant portion of this experience includes environmental planning and evaluation under Article X of the New York State Public Service Law ("Article X"), the National Environmental Policy Act ("NEPA"), the New York State

Environmental Quality Review Act ("SEQR"), and the New York City Environmental Quality Review ("CEQR"), urban and regional planning, and construction management of public projects. Additionally, I have extensive experience in municipal and transportation planning.

Prior to joining TRC, I was a Senior Planner at Buckhurst Fish & Jacquemart Inc. Prior to that I held the position of Environmental Planner at Parsons Engineering Science, Inc.

Q. WHAT PROFESSIONAL REGISTRATIONS DO YOU HOLD?

A. I am registered with the American Institute of Certified Planners and the American Planning Association, New Jersey Chapter.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is to describe the relationship of the 345 kV underground electric transmission line ("electric transmission lines" or "Transmission Facility") proposed in Southern Energy Bowline, L.L.C.'s ("Southern Energy") Application pursuant to Article VII of the New York Public Service Law ("Application") to existing land uses; local zoning and development standards; and local and regional planning objectives in the area surrounding the route for the line. I also will discuss potential impacts which may be experienced by existing land uses within the vicinity during construction of the electric transmission line. Finally, I will identify mitigation, where reasonable and practicable, to reduce the effect of potential impacts.

Q. WERE YOU RESPONSIBLE FOR THE PREPARATION OF ANY SECTIONS OF SOUTHERN ENERGY'S APPLICATION IN THIS PROCEEDING?

A. Yes, I supervised the Land Use evaluation and I am the principal author of Section 4.3.1 of Exhibit 4 of the Application.

Q. PLEASE BRIEFLY DESCRIBE SECTION 4.3.1 EXHIBIT 4 OF THE APPLICATION.

A. Section 4.3 of Exhibit 4 of the Application sets forth existing land uses along the route for the electric transmission line, discusses potential impacts to existing land uses and identifies mitigation measures that will be used by Southern Energy to minimize those impacts.

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.

A. Significant land use impacts are not anticipated as a result of the operation of the electric transmission line. Short-term impacts resulting from construction activities, however, will be experienced by land uses within or adjacent to the proposed electric transmission line route. However, Southern Energy will adopt the relevant sections of the Environmental Management and Construction Standards and Practices ("EM&CS&P") submitted by Central Hudson Gas & Electric Corporation and approved by the Commission in Case No. 94-T-0316. The construction practices set forth in the EM&CS&P ensure amelioration of adverse environmental impacts.

The electric transmission line is expected to operate in compliance with all existing local laws and ordinances except those that are found to be unreasonably restrictive in view of existing technology. The local laws for which Southern Energy is seeking waivers from the Commission are discussed in the Panel Testimony of Mr. Gray, Mr. Kirk, Mr. Burn and myself.

Q. PLEASE BRIEFLY DESCRIBE THE ROUTE FOR THE ELECTRIC TRANSMISSION LINE.

A. Southern Energy proposes to construct approximately 1.7 miles of 345 kV underground electric transmission line to transmit power from the nominal 750 MW Bowline Unit 3 that Southern Energy proposes to construct to Orange &Rockland Utilities, Inc.'s ("O&R") West Haverstraw substation. Bowline Unit 3 will be constructed in the Town of Haverstraw. From Bowline Unit 3, two underground lines will run approximately 1.7 miles to the West Haverstraw substation on property either owned in fee by Southern Energy or in rights-of-way owned by Southern Energy and O&R. No new right-of-way is required for this project. The transmission facility will be constructed entirely on property in which existing underground utility lines already exist. There currently exists a 345 kV underground electric transmission line and a natural gas pipeline within the right-of-way that Southern Energy has selected for the new 345 kV electric transmission line. A section of the route also includes two 138 kV underground transmission lines. In

addition, Southern Energy has filed an application with the Commission seeking to build a new natural gas pipeline, a portion of which would be built along the proposed route for the 345 kV electric transmission line (PSC Case 99-T-1814).

Q. PLEASE DESCRIBE THE EXISTING LAND USES ALONG THE ELECTRIC TRANSMISSION LINE ROUTE.

A. Residential development, primarily single-family, low density housing, is the predominant land use adjacent to the transmission line route. These residential areas are located primarily in the Village of West Haverstraw between Samsondale Avenue and Route 9W and between the Minisceongo Creek and the West Haverstraw substation.

The entire route of the electric transmission line follows an existing utility corridor classified as utility use according to the land use maps of the Town of Haverstraw, prepared by the Rockland County Planning Department.

The route for the electric transmission line is located adjacent to two public recreation areas. Near the Bowline Point site, east of Samsondale Avenue, the transmission line route will be located near Peck's Pond Park. Peck's Pond Park includes a ball field, basketball court, and a walking path around a small pond. At the crossing of the Minisceongo Creek, the transmission line route will be located near a paved path that provides access to Samsondale Park, which includes a playground, basketball courts and

a ball field. The transmission lines will not be located within these two public recreation areas.

Commercial land uses are found along the proposed route in the immediate vicinity of Route 9W. These commercial developments include Samsondale Plaza; a car dealership; an auto supply store; and a fast food restaurant. The electric transmission line will cross a parking lot used by businesses located in Samsondale Plaza. The section of the parking lot to be disturbed is owned by Southern Energy. The owner of Samsondale Plaza has a permanent easement over this property for the purpose of maintaining a parking lot.

No industrial uses were identified along the route except for the CSX rail line, the existing 138 kV lines, 345 kV line and the 16 inch natural gas pipeline. No New York State certified agricultural districts exist in Rockland County. In addition, no agricultural lands within or adjacent to the electric transmission line route were found during field reviews of the proposed route. For agricultural uses, both active and inactive fields were considered.

Q. WILL THERE BE ANY SIGNIFICANT IMPACTS ON LAND USE ALONG THE ELECTRIC TRANSMISSION LINE ROUTE AS A RESULT OF THE OPERATION OF THE LINE?

A. No, there will not. In fact, the entire route already has underground utility lines installed. These uses have successfully co-existed with existing land uses adjacent to the proposed transmission route for approximately 30 years.

Q. WILL THERE BE ANY SIGNIFICANT IMPACTS ON LAND USE ALONG THE ELECTRIC TRANSMISSION LINE ROUTE AS A RESULT OF THE CONSTRUCTION OF THE ELECTRIC LINES?

A. There will be no significant impacts as a result of construction of the electric transmission line. However, temporary, non-significant impacts, such as the visual presence of construction workers and machinery will occur. Southern Energy will take steps to mitigate any temporary impacts from construction. Because this underground transmission line project will be very similar to the construction of a gas transmission line, Southern Energy will adopt the relevant sections of the "Environmental Management and Construction Standards and Practices for Natural Gas Transmission Facilities" dated April 1994, prepared by Central Hudson Gas & Electric Corporation ("EM & CS&P") and subsequently approved by the Commission. Southern Energy also will comply with applicable Department of Transportation regulations related to road crossings. In addition to safety and environmental protections set forth in the EM&CS&P, Southern Energy will observe the following additional construction management practices with respect to all residences within 50 feet of the construction work area:

-- A minimum of 25 feet will be maintained between the residence and the construction work area.

-- Mature trees and landscaping will be preserved within the construction work area, except where removal is necessary for the safe operation of construction equipment.

-- The top 12 inches of topsoil will be stripped from the construction work area, or topsoil will be replaced (imported) after construction where topsoil cannot be segregated.

-- The edge of the construction work area will be fenced for a distance of 100 feet on each side of a residence to ensure that construction equipment and materials, including spoil, remain within the work area.

-- The trench will be backfilled and all lawn areas and landscaping will be restored within the construction work area immediately after pipeline installation, as weather permits and provided that the right-of-way will no longer be needed for access.

Although construction of the electric transmission line will remain within existing utility easements and property owned in fee by Southern Energy, there may be a need for additional, temporary construction easements. If that is the case, Southern Energy will negotiate temporary construction easements with individual property owners.

The electric transmission line route will travel adjacent to Peck's Pond Park and Samdondale Park. Site specific mitigation measures, including provisions to provide security for the construction area, will be developed for Peck's Pond Park and Samsondale Park in consultation with the Village of West Haverstraw.

In addition, Southern Energy has notified the agent of the owner of Samsondale Plaza of its intention to open a trench in the area for the purpose of constructing the electric transmission line. During construction, there will be a temporary loss of some parking spaces. Safety barriers will be installed in accordance with the EM&CS&P to secure the construction work area. In addition, the businesses within Samsondale Plaza will be given advanced notice of construction. Moreover, the temporary loss of parking will occur on land owned in fee by Southern Energy for which the owner of Samsondale Plaza has an easement. Other commercial land uses in this area will be unaffected by the construction and no further site specific mitigations will be necessary for adjacent businesses.

Q. PLEASE DISCUSS THE IMPACT ON EXISTING AMBIENT NOISE LEVELS AS A RESULT OF CONSTRUCTION OF THE ELECTRIC TRANSMISSION LINE.

A. Potential land use impacts from construction activities also include increased ambient noise levels at residential locations and public recreation areas located near the

construction activities. Actual noise levels during construction will vary with construction activity and distance to receptors. Construction Activity is expected to be concentrated between the hours of 7:00 am and 7:00 pm Monday through Friday. Construction activity also may occur on Saturdays between 8:00 am and 5:00 pm. Construction activities related to electric lines will adhere to all state and local requirements, except where otherwise noted in Section 4.3.2 an Exhibit 7 of the Application. Noise generated by construction equipment will be minimized to the maximum extent practicable through proper maintenance and operation in strict accordance with the manufacturer's recommendations.

Q. PLEASE DISCUSS THE IMPACTS ON COMMERCIAL ACTIVITIES AS A RESULT OF CONSTRUCTION OF THE ELECTRIC TRANSMISSION LINE.

A. At the Samsondale Plaza, during construction, there will be a temporary loss of some parking spaces. Southern Energy has notified the agent of the owner of Samsondale Plaza of its intention to open a trench in the area for the purpose of constructing the proposed transmission line. Safety barriers will be installed in accordance with the EM&CS&P to secure the construction work area. In addition, the businesses within Samsondale Plaza will be given advanced notice of construction. Moreover, the temporary loss of parking will occur on land-owned-in-fee by Southern Energy, over which the owner of Samsondale Plaza has an easement.

Other commercial land uses in this area will be unaffected by the proposed construction and no further site specific mitigations will be necessary for adjacent businesses.

Q. IS THE CONSTRUCTION OF THE ELECTRIC TRANSMISSION LINE PERMITTED UNDER APPLICABLE ZONING REGULATIONS?

A. Yes it is. The use and bulk tables set forth permitted uses and bulk requirements for each zoning district type within the Town of Haverstraw and Village of West Haverstraw. The transmission line will originate in the PIO district of the Town of Haverstraw. Public utility lines and rights-of-way are allowed by special permit in the PIO zoning district.

From the PIO district the route will travel westward out of the Town of Haverstraw and into property within the incorporated Village of West Haverstraw. The electric transmission line will travel through the R-2, R-3, Planned Light Industrial ("PLI") and C districts of the Village. Utility rights-of-way and structures necessary to serve areas in the Village of West Haverstraw are allowed by special permit in R-2 and R-3 districts. Utility rights-of-way and structures are permitted by right in C and PLI districts.[1]

[1] Although utility rights-of-way and structures are not expressly mentioned in the use table for the PLI districts, all industrial uses not otherwise prohibited are permitted in the PLI districts.

Q. IS THE CONSTRUCTION AND OPERATION OF THE ELECTRIC TRANSMISSION LINE CONSISTENT WITH LOCAL PUBLIC POLICY RELATED TO LAND USE?

A. Yes it is. In January of 1999, the Rockland County Department of Planning published a preliminary master planning document titled *Rockland County: River to Ridge* which encourages reasonable growth, compatible land uses and the preservation of existing resources. The document is divided into two main components: the Land Use Plan and the Policy Plan. While having no jurisdiction to dictate permitted land uses through zoning, the Land Use Plan is intended to provide guidance to ensure that future development is either: 1) in keeping with that part of community character worthy of preservation, or 2) helps to address those aspects of the community that are in need of change. The Policy Plan establishes a strategic and programmatic guide for enhancing the County's transportation systems, housing resources, open space network and waterfront, and future economic development. The construction and operation of the electric transmission lines is consistent with document's Land Use and Policy Plan.

Q. IS THE CONSTRUCTION AND OPERATION OF THE ELECTRIC TRANSMISSION LINE CONSISTENT WITH THE NEW YORK COASTAL ZONE MANAGEMENT PLAN?

A. Yes it is. All lands east of State Route 9W and within High Tor State Park are located in the coastal zone. Therefore, approximately 4,600 feet of the easternmost portion of the

electric transmission lines route is located within the coastal zone of the State of New York. As such, I reviewed this project for consistency with the New York State Coastal Zone Management Program (NYSCMP) established in 1981 by the Waterfront Revitalization and Coastal Resources Act (Article 42 of the Executive Law), and administered by the New York State Department of State (NYSDOS). The principal function of the NYSCMP is to provide a framework for government decision making in the coastal area. The Coastal Management Program is based on 44 policies which are grouped into 10 categories that address: 1) Development; 2) Fish and Wildlife; 3) Flooding and Erosion; 4) Public Access; 5) Recreation; 6) Historic Resources; 7) Visual Quality; 8) Agricultural Lands; 9) Energy and Ice Management; and 10) Water and Air Resources.

Article 42 of the Executive Law requires state agency actions within the coastal zone to be undertaken in a manner that is consistent with the State's coastal area policies, or a State approved Local Waterfront Revitalization Program (LWRP). A LWRP is a refinement of the State's coastal policies, developed jointly by the State and a municipality. Land development and related activities in New York's coastal area which involve state agency direct action or funding, or requiring state permits must be consistent with the coastal policies in Article 42 or an LWRP.

Discussions with the Town of Haverstraw indicate that the Town is currently in the process of preparing a draft LWRP. The draft LWRP was not made available to Southern Energy despite formal requests including the submittal of a Freedom of Information Act request. Until such time that the Town of Haverstraw draft LWRP is approved by the NYSDOS, the project will be reviewed for consistency with the policies of the State Coastal Management Program. The construction and operation of the electric transmission line is expected to be consistent with those policies.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.

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MR. BLOW: Your Honor, may we go off the record?

JUDGE MOYNIHAN: Yes. This will be a good time.

(There was a discussion held off the record.)

JUDGE MOYNIHAN: Okay. Back on the record.

MR. SINGER: We have marked as Exhibit 7 for identification a document dated May 18, 2000, which is Southern Energy Bowline's response to the Department of Public Service's letter dated April 5, 2000 requesting additional information regarding the application.

JUDGE MOYNIHAN: All right. We'll mark it Exhibit 7 for identification.

(Whereupon, Southern Energy Bowline, L.L.C. Exhibit 7 was marked for identification.)

MR. BLOW: Your Honor?

JUDGE MOYNIHAN: Yes, Mr. Blow.

MR. BLOW: Just for the record, Staff considers this particular set that was marked

a response to be a supplement to the application to bring that into compliance, as we indicated in our April letter, there needed to be a supplement to do that.

We've discussed also marking as exhibits other interrogatory responses or discovery responses -- responses to discovery, and I think that's appropriate, but I just want to, for the record, note that this is somewhat of a different category, because in our view that is what made the application a complying application, as the statute required.

JUDGE MOYNIHAN: You don't have any objections with that characterization; do you?

MR. SINGER: Not at all. So then, with that, I will ask to have marked as exhibits our response to add -- to discovery requests that have been served on us by the Department of Public Service Staff.

JUDGE MOYNIHAN: All right.

MR. SINGER: The first one is Southern Energy's response to Staff's first set of discovery requests, and that is dated

September 8, 2000.

JUDGE MOYNIHAN: We'll mark it Exhibit 8 for identification.

(Whereupon, Southern Energy Bowline, L.L.C. Exhibit 8 was marked for identification.)

MR. SINGER: The next one is Southern Energy's supplemental response to Staff's first set of discovery requests. That is dated October 5, 2000.

JUDGE MOYNIHAN: And we'll mark that Exhibit 9 for identification.

(Whereupon, Southern Energy Bowline, L.L.C. Exhibit 9 was marked for identification.)

MR. SINGER: And, finally, we have Southern Energy's second supplemental response to Staff's first set of discovery requests, dated October 24, 2000.

JUDGE MOYNIHAN: We'll mark it Exhibit 10 for identification.

(Whereupon, Southern Energy Bowline, L.L.C. Exhibit 10 was marked for identification.)

MR. BLOW: May we go off the record a minute, your Honor?

JUDGE MOYNIHAN: Yes, sir.

(There was a discussion held off the record.)

JUDGE MOYNIHAN: Okay. Back on the record.

MR. SINGER: That's all we have, your Honor.

JUDGE MOYNIHAN: Okay. Thank you. Is there anything else at this time?

Nothing. Are there any objections to receiving Exhibits 1 through 10 into the record?

MR. BLOW: No, your Honor.

MR. CARLEY: No, your Honor.

JUDGE MOYNIHAN: Okay. They're in the record then.

MR. SINGER: Thank you.

JUDGE MOYNIHAN: All right. Then let me go off the record for a second.

(There was a discussion held off the record.)

JUDGE MOYNIHAN: We're back on the

record.

Then as we just discussed off the record, we'll adjourn without date. And if need be, we'll reconvene at some future date to have cross-examination of the witnesses and prefiling and receipt of Staff and Intervenor's direct testimony.

With that, we're in adjournment.

HEARING CONCLUDED