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Case 06-T-0650 - Application of New York Regional
Interconnect Inc. For a Certificate of Environmental
Compatibility and Public Need Pursuant to Article VII for a High
Voltage Direct Current Electric Transmission Line Running Between
National Grid's Edic Substation in the Town of Marcy, and Central
Hudson Gas & Electric's Rock Tavern Substation Located in the
Town of New Windsor

Evidentiary Hearing
3 Empire State Plaza
19th Floor
Albany, New York

March 26, 2009
9:00 a.m.

BEFORE: MICHELLE L. PHILLIPS,
Administrative Law Judge

JEFFREY STOCKHOLM,
Administrative Law Judge

1 JUDGE PHILLIPS: Good morning. If we could all come
2 to order, please. I'm calling Case 06-T-0650, Application of
3 Regional Interconnect, Inc., for a Certificate of Environmental
4 Compatibility and Public Need, Pursuant to Article VII for a High
5 Voltage Direct Current Electric Transmission Line Running Between
6 National Grid's Edic Substation and the Town of Marcy and Central
7 Hudson Gas and Electric's Rock Tavern Substation Located in the
8 Town of New Windsor.

9 I'd like to begin with appearances of counsel,
10 please.

11 MR. BISSELL: For New York Regional Interconnect,
12 the law firm of Couch White, LLP, by Leonard Singer,
13 Garrett Bissell and William McCarthy.

14 MS. COLLELA: For Communities Against Regional
15 Interconnect, the law firm of Gilberti, Stinziano, Heintz
16 & Smith, PC by John Kluscik and Brenda Collela.

17 MR. BLOW: For the Staff of the Department of Public
18 Service, Steven Blow, Assistant Counsel, and Anthony
19 Belsito, Assistant Counsel.

20 MR. MALONE: For the New York Power Authority, Mark
21 Malone and Sarah Barish-Straus.

22 MS. LEARY: For the Office of the Attorney General,
23 Maureen Leary.

24 MS. WILKINSON: For the Department of Environmental

1 Conservation, Lisa Wilkinson and William Little.

2 MR. CARDI: For the New York Independent System
3 Operator, John Cardi.

4 JUDGE PHILLIPS: Thank you. Are there any other
5 appearances?

6 (No response.)

7 JUDGE PHILLIPS: If not, I believe -- first, are
8 there any preliminary matters before we start with Panel
9 A that need to be addressed now?

10 MS. WILKINSON: Your Honor, there was one with
11 respect to a question Judge Stockholm had regarding the
12 NYPA permits for vegetation management.

13 JUDGE PHILLIPS: I wonder if we can hold that
14 because he'll be in --

15 MS. WILKINSON: I'm sorry, your Honor.

16 JUDGE PHILLIPS: -- approximately 11 o'clock. If we
17 could wait until he shows up.

18 MS. WILKINSON: That's fine.

19 JUDGE PHILLIPS: Thank you.

20 MS. LEARY: Your Honor, this literally is
21 housekeeping. Can you repeat the day on which the entire
22 room must be cleared of all materials?

23 JUDGE PHILLIPS: I believe it's when we finish on
24 the 6th.

1 MS. LEARY: Of April.

2 JUDGE PHILLIPS: The 6th you have to take everything
3 with you. April 7th, I believe, is the session. So I
4 think you to clear out before then.

5 MS. LEARY: Thank you.

6 JUDGE PHILLIPS: Okay. We have Panel A, I think, is
7 going to be presented, and the only new member that we
8 have I believe is Mr. -- is it Nield?

9 MR. NIELD: Nield, yes.

10 JUDGE PHILLIPS: Nield. Okay. If you can please
11 stand and raise your right hand.

12 J E F F R E Y N I E L D,
13 having first been duly sworn by Judge Phillips, was examined and
14 testified as follows:

15 JUDGE PHILLIPS: Thank you. Please be seated.

16 Counsel, if you could prepare the panel.

17 DIRECT EXAMINATION

18 BY MR. BISSELL:

19 Q. Good morning. Do you have before you a document entitled
20 "The Prefiled Direct Testimony of Panel A by Christopher
21 Thompson, Richard Bucci, Stephen Wood, Laura Ernst Sims and
22 Jeffrey Nield," consisting of a cover page, four pages of written
23 questions and answers, as well as an Appendix that is eight pages
24 long, consisting of the education and work experience of the

1 panel members?

2 A. (Panel A Members) Yes.

3 Q. And do you have any corrections or modifications to make
4 to that document?

5 A. (Panel A Members) No.

6 Q. If I were to ask you the questions set forth therein
7 today, would you provide the responses as they're set forth in
8 that document?

9 A. (Panel A Members) Yes.

10 Q. Do you also have before you a document entitled "The
11 Rebuttal Testimony, Prefiled Rebuttal Testimony of Panel A" by
12 Christopher Thompson, Richard Bucci, Stephen Wood, Laura Ernst
13 Sims and Jeffrey Nield, consisting of a cover page and 56 pages
14 of questions and answers?

15 A. (Panel A Members) Yes.

16 Q. And do you have any corrections or modifications to make
17 to that document?

18 A. (Panel A Members) No.

19 Q. If I were to ask you the questions set forth therein
20 today, would you provide the answers as they are contained
21 therein?

22 A. (Panel A Members) Yes.

23 MR. BISSELL: Your Honor, I would like to request
24

1 that both the Prefiled Direct and Rebuttal Testimony of
2 Panel A be entered into the record as if given orally.

3 JUDGE PHILLIPS: The testimony will be copied into
4 the record as though given orally.

5 (The following is the Prefiled Direct Testimony and
6 Rebuttal Testimony of Panel A:)

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**Before the
New York State Public Service Commission
New York Regional Interconnect, Inc.
Case No. 06-T-0650**

NEW YORK REGIONAL INTERCONNECT INC.

Pre-filed Direct Testimony of Panel "A" Consisting of:

**Christopher Thompson
Richard Bucci
Stephen Wood
Laura Ernst
Jeffrey Nield**

On Behalf of New York Regional Interconnect Inc.

February, 2008

1 Q. PLEASE STATE YOUR NAMES AND RESPONSIBILITIES REGARDING THE
2 NEW YORK REGIONAL INTERCONNECT PROJECT.

3 A. Christopher Thompson, President, New York Regional Interconnect Inc.

4 A. Richard Bucci, Project Engineering Manager, WGI, Inc.

5 A. Stephen Wood, Project Environmental Consultant, ESS Group, Inc.

6 A. Laura Ernst, Project Environmental Consultant, ESS Group, Inc.

7 A. Jeffrey Nield, Project Environmental Consultant, ESS Group, Inc.

8
9 Q. DO YOUR RESUMES, ATTACHED HERETO AS APPENDIX A TO THIS
10 TESTIMONY, FAIRLY AND ACCURATELY REPRESENT YOUR EDUCATION
11 AND WORK EXPERIENCE?

12 A. Yes, our resumes are accurate.
13

14 Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

15 A. The purpose of our testimony is to support Exhibits 1, 2, 3 and 7 of the New York
16 Regional Interconnect's ("NYRI") Supplement to Application for a Certificate of
17 Environmental Compatibility and Public Need pursuant to Article VII of the New York
18 Public Service Law ("Application"). These Exhibits to the Application: (1) provide the
19 information required by 16 NYCRR section 86.2 regarding the Applicant (Exhibit 1); (2)
20 describe the 400 kV DC electric transmission line (the "electric transmission line") and
21 associated facilities ("Project" or "Facility") that NYRI has proposed in its Application;
22 (3) identify the location of the Project (Exhibit 2); (4) describe alternatives considered by

THOMPSON/BUCCI/WOOD/ERNST/NIELD

1 the Applicant (Exhibit 3); and (5) support the request for waivers from local laws
2 described in Exhibit 7 of the Application.

3
4 **Q. WERE YOU RESPONSIBLE FOR THE PREPARATION OF ANY SECTIONS**
5 **OF NYRI'S APPLICATION IN THIS PROCEEDING?**

6 **A.** Yes, the following exhibits to NYRI's Article VII Application were prepared by us or
7 under our direction and supervision; Exhibits 1, 2, 3, and 7. In addition, Appendices A,
8 B, part of Appendix L and Appendix S were prepared by us or under our directions and
9 supervision.

10
11 **Q. DOES EXHIBIT 2 OF THE APPLICATION ACCURATELY DESCRIBE THE**
12 **LOCATION OF THE FACILITIES THAT WILL BE PART OF THE PROJECT?**

13 **A.** Yes it does.
14

15 **Q. HAS NYRI PROVIDED MAPS AND AERIAL PHOTOGRAPHS OF THE**
16 **PROPOSED ROUTE FOR THE ELECTRIC TRANSMISSION LINE IN ITS**
17 **APPLICATION?**

18
19 **A.** Yes, maps and aerial photographs have been provided in Appendix A and B to the
20 Application. Further, a list of counties and municipalities crossed is presented in Exhibit
21 2.
22

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1 Q. DOES EXHIBIT 3 OF THE APPLICATION ACCURATELY DESCRIBE THE
2 ALTERNATIVES THAT WERE CONSIDERED BY NYRI?

3 A. Yes it does.
4

5 Q. DOES THE FACILITY AS PROPOSED MEET ALL APPLICABLE LOCAL
6 NOISE STANDARDS CONSIDERING THE STATE OF AVAILABLE
7 TECHNOLOGY AND THE NATURE AND ECONOMICS OF
8 ALTERNATIVES?

9 A. Yes it does.
10

11 Q. PLEASE DESCRIBE EXHIBIT 7 OF THE APPLICATION.

12 A. Exhibit 7 of the Application lists the local laws and ordinances that the Applicant expects
13 to be applicable to the construction and operation of the Project. It also identifies those
14 local laws and ordinances that are unduly restrictive and provides the basis upon which
15 NYRI seeks waivers of those unduly restrictive laws and ordinances.
16

17 Q. DOES EXHIBIT 7 APPROPRIATELY DESCRIBE THE BASIS UPON WHICH
18 NYRI SEEKS WAIVERS OF UNDULY RESTRICTIVE LOCAL LAWS AND
19 ORDINANCES.

20 A. Yes it does. In each case in which a waiver is sought, the local law or ordinance as
21 applied to the Project is unreasonably restrictive in view of existing technology, factors of
22 cost or economics or the needs of consumers. Each waiver request is described in detail
23 in Exhibit 7 of the Application.

THOMPSON/BUCCI/WOOD/ERNST/NIELD

1 Q. DOES THIS CONCLUDE YOUR TESTIMONY?

2 A. Yes it does.

3

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THOMPSON, Chris L., B.S.M.E, M.B.A., P. Eng. – Senior Vice President, Development, of American Consumer Industries Inc. (ACI); Senior Vice President of Colmac NYRI; Member, Board of Directors of ACI and Colmac NYRI. Over 30 years experience in engineering and management in the energy industry. Previously; President and CEO, CFO of Harris Group Inc. 1996-2003; Vice President of Industrial Development Resources 1995-1996; Senior Consultant, Operations Manager, Harris Group Inc. 1989-1995; RW Beck 1988-1989; Parsons Main 1986-1988; Stearns-Catalytic 1972-1986.

Bio of Rich Bucci

Richard M. Bucci is the Director of Electric Power Delivery Systems for Washington Group International, Inc., located in Princeton, New Jersey, where he is responsible for transmission, substations and distribution projects, covering consulting studies, engineering services and turnkey projects. He is the functional leader of Washington Group's efforts in the electric power delivery area. He has led major projects for domestic and international clients, including leading utilities and independent power developers. Recently Mr. Bucci led the Washington Group engineering team for Transmission and Substations rehabilitation and reconstruction in Northern Iraq.

Mr. Bucci is a registered professional engineer in NY and has been employed by Washington Group International and its legacy company Ebasco Services Incorporated for over 30 years, in the areas of system planning, engineering, design, procurement and construction of electric power systems. He earned an MSEE from Polytechnic University of NY and a BEE from Pratt Institute. He is a member of various industry societies and committees including the AEIC's Electric Power Apparatus Committee, and is a senior member of the IEEE Power Engineering Society. He has authored over fifteen published technical papers and articles, and is the chief editor of the McGraw-Hill/Electrical World Electric Distribution Systems Handbook.

Stephen B. Wood
Vice President and Senior Project Manager

EXPERIENCE

ESS Group, Inc. – January 2000 to Present
Years of Prior Related Experience – 22

EDUCATION

JD, Southern New England School of Law
MBA, Western New England College
BA, Biology, North Adams State College

SUMMARY OF PROJECT EXPERIENCE

Mr. Wood is a Vice President and Senior Project Manager with more than 28 years of experience in environmental licensing and permitting of energy facilities and in project management. Prior to joining ESS, he was the Director of Environmental Affairs for Commonwealth Energy System, a major electric and gas utility company in Massachusetts. Mr. Wood was responsible for directing and managing all aspects of environmental policy and programs for electric and gas operations, including: generation, transmission, and distribution functions; environmental licensing and permitting for construction and operation of gas and electric facilities; consulting services to other energy related subsidiary companies; conducting environmental studies, impact assessments, and environmental impact reports; providing regulatory interpretation and guidance; developing and implementing compliance programs; and developing and recommending environmental policies for the organization.

Mr. Wood has been responsible for managing the environmental siting and permitting of a number of power generating facilities, both fossil fuel fired and renewable wind projects and high voltage transmission facilities. Representative projects include:

- Astoria Repowering Project 1,816 MW Gas-Fired, Combined Cycle Independent Power Plant, New York.
-
- 345 kV Transmission Line, Connecticut.
-
- Cape Wind Offshore Renewable Electric Generation and 115 kV Submarine Cable Project, Sound.
-
- Environmental Licensing and Permitting 345kV Substation, and 115kV Transmission Facilities in Massachusetts.
-
- Marble River Wind Energy Project, New York.
-

PROFESSIONAL CERTIFICATIONS

- Admitted to the Massachusetts Bar – June 1996.
- Admitted to the United State District Court for Massachusetts – January 1997

AFFILIATIONS AND MEMBERSHIPS

- Advisor – Electric Power Research Institute
- Air & Water Management Association
- American Bar Association, Section of Natural Resources, Energy and Environment Law
- Boston Bar Association, Environmental Section



Laura M. Ernst
Project Manager

EXPERIENCE

ESS Group, Inc. – November 2001 to Present
 Years of Prior Related Experience – 8

EDUCATION

MA, Coastal Management, University of Rhode Island
 BA, Liberal Arts, University of Rhode Island

SUMMARY OF PROJECT EXPERIENCE

Ms. Ernst has more than ten years of experience in federal, state and local regulatory compliance, coastal and marine resource management, and fish and wildlife habitat restoration. Ms. Ernst specializes in environmental impact assessments and regulatory permitting for land development, submarine and upland transmission, and electric generating projects. She has a broad range of experience in estuarine management, water quality management, marine and coastal biology and storm water management. Technical experience includes water quality sampling, submerged aquatic vegetation monitoring, wetland and coastal feature delineation, strategic regulatory permitting; environmental resource assessments and impact analyses. Ms. Ernst has a working knowledge of federal and state environmental regulations in Rhode Island, Connecticut, and New York. She has an excellent and established working relationship with state agencies in Rhode Island and Connecticut and also with the following federal agencies: the United States Army Corps of Engineers, New England District; the U.S. Fish and Wildlife Service; the National Marine Fisheries Service and the U.S. Environmental Protection Agency. Ms. Ernst's representative experience includes the following:

Energy Facility and Linear Project Siting and Licensing

- **New York Wind Project – Upstate NY.** Regulatory specialist for a 75 MW wind project in upstate New York. The projects involve the completion of an environmental impact statement under the New York SEQR process. ESS is providing oversight for supporting studies, regulatory guidance and strategy and public involvement planning in addition to preparing the EIS.
- **Confidential Client - New York Public Service Commission Article VII Application.** Responsible for the assessment of environmental impacts for an Article VII filing for a 450 kV dc transmission project in New York State that is over 300 miles in length. The project includes a routing evaluation, the assessment of the environmental impacts for the project route, and alternatives and the preparation of the Article VII application to the New York State Public Service Commission.
- **Northeast Utilities Connecticut to Rhode Island 345kV Transmission Project, Willamantic to Putnam, CT.** Was responsible for technical investigations of hydrology, and fish and wildlife and threatened and endangered species coordination for a proposed 37-mile 345-kV transmission line in northeastern Connecticut. ESS is responsible for field investigations and project permitting under the Connecticut Siting Council, Connecticut Department of Environmental Protection (CTDEP), and U.S. Army Corps of Engineers (USACE) review processes. The project is part of the Southern New England Reinforcement Project as envisioned by ISO-NE.

- **TransÉnergie U.S., Ltd. – Cross Sound Cable Project, New Haven, Connecticut to Brookhaven (Shoreham), NY.** Served as Assistant Project Manager for environmental investigations, permitting efforts, and post-installation benthic monitoring for the installation of a 24-mile 600 MW electric and fiber optic underground and submarine cable system and associated land-based facilities in New York and Connecticut. Prepared the baseline benthic survey report for submission to the federal and state regulatory agencies as required by their respective permits.
- **Confidential Client, Submarine Replacement Cable Project, Long Island Sound, CT and NY.** Assisted the Project Manager with the pre-installation benthic environmental impact assessment for an 11-mile, 300 MW Alternating Current (AC) submarine cable that will replace an existing seven electric transmission cables connecting existing power stations in Connecticut and Long Island. ESS is managing marine surveys, environmental impact evaluations, and regulatory permitting, including the New York Article VII, Connecticut Siting Council, and ACOE review processes.

Environmental Assessments and Permitting

- **Tockwotton Home Site Development – Environmental Permitting, Engineering and Site Remediation, Assisted Living Development, East Providence, RI.** Regulatory Specialist for development of Tockwotton Home's new 130,000 square foot facility. The facility will be the first to be accessed from Waterfront Drive, which will be the main thoroughfare through the East Providence Waterfront Special Development District. Prepared and filed local, state, and federal permits for City of East Providence, Rhode Island Coastal Resources Management Council, Rhode Island Department of Environmental Management and Army Corps of Engineers. Project included a public access component and salt marsh mitigation plan as part of a revetment designed to protect Waterfront Drive.
- **Confidential Client – Brownfield Residential Development, Environmental Permitting, Engineering and Site Remediation, East Providence, RI.** Regulatory Specialist for development of a 120-unit luxury condominium building on a former industrial Site on the east bank of the Seekonk River. The project is among the first to be developed through the City of East Providence's newly formed Waterfront Special Development District Commission. Prepared and filed local, state and federal permit applications for City of East Providence, Rhode Island Coastal Resources Management Council, Rhode Island Department of Environmental Management and Army Corps of Engineers. Project included a public access component and revetment design.

Starwood Tiverton LLC, The Villages on Mount Hope Bay, Tiverton, RI. Project Manager and Regulatory Specialist for Phase III, IV and V waterfront permitting. The Villages on Mount Hope Bay Project is a mixed-use redevelopment of a 98-acre waterfront site formerly utilized as a bulk fuel oil storage facility. Project components include 60 residential buildings housing 290 units, a waterfront "village" consisting of an inn and other commercial and retail buildings, dockage facilities for transient commercial and recreational vessels, a mooring area, and a public waterfront park. Permits prepared and filed with Rhode Island Coastal Resources Management Council, Rhode Island Department of Environmental Management, and Rhode Island Department of Transportation.

- **Newport Housewrights – Residential Development Permitting, Various Coastal RI Locations.** Project Manager and Regulatory Specialist for environmental permitting of high-end residential coastal development projects that include Rhode Island Coastal Resources

Management Council Permits and RIDEM Rhode Island Pollutant Discharge Elimination Permits. Projects included vegetated buffer plans, desalinization systems and variance requests.

- **O'Neill Properties – Environmental Permitting and Engineering, Melville Marina and Mixed Use Development, Portsmouth, RI.** Regulatory Specialist for the environmental permitting and civil engineering for a proposed marina and associated mixed-use development. Completed due diligence of permit status and conditions of previous approvals for project. Participated in regulatory outreach with Rhode Island Department of Environmental Management (RIDEM) and Coastal Resource Management Council (CRMC).
- **Naval Station Newport Security Barrier Environmental Planning Study, Newport, RI.** ESS is a subconsultant to Science Applications International Corporation to complete an Environmental Planning Study in preparation for an Environmental Assessment as required by the National Environmental Policy Act in support of a project to address the Navy's identified need for enhanced security at the Naval War College, Newport, Rhode Island. ESS is completing assessments of existing conditions and anticipated impacts from three security barrier alternatives for air quality, cultural and historic resources, recreational activities, navigation, noise, and social and economic conditions. ESS is also completing the conceptual engineering designs for the three security barrier alternatives: a rubble mound break wall, port security barrier, and Dunlop barrier. Serves as the project coordinator at ESS and facilitates staff and resources to accomplish project tasks in addition to technical review and research to complete the project.
- **RC Rose Island Hotel Company, LLC - Environmental Impact Assessment and Environmental management Plan, Rose Island Resort, Rose Island, The Bahamas.** Task manager for the Natural Hazard Preparedness and Response Plan as part of preparation of the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) for the proposed Rose Island Resort.
- **Walker's Farm Salt Marsh Restoration, Barrington, RI.** Provide project management, technical services, project facilitation, outreach, permit preparation, and coordination for the Walker's Farm salt marsh restoration project in Barrington, Rhode Island. The Walker's Farm restoration project involves a partnership of local, state, and federal government agencies, non-governmental organizations, and private sector businesses working to return historic salt marsh conditions to a 45-acre site that was altered by a number of roads and dam structures that restrict salt water entering the marsh.

Jeffrey A. Nield
Project Scientist

EXPERIENCE

ESS Group, Inc. – October 2007 to Present
Years of Prior Related Experience - 14

EDUCATION

MA, Environmental Studies, Brown University, Providence, RI 1999
BS, Environmental Sciences, Union College, Schenectady, NY 1992

SUMMARY OF PROJECT EXPERIENCE

Mr. Nield has over 14 years of natural resource management, regulatory, and environmental policy experience. He is a trained scientist with expertise in fish and wildlife and water resources. He also has practical experience in environmental policymaking and government. His public and private sector professional roles have dealt primarily with the management of water resources on many scales. Within this broad field, his areas of expertise are many and diverse. He has conducted ecological and watershed assessments on power and water projects at home and abroad. Across the country, Mr. Nield he has been involved in regional water supply management projects where questions of sustainability and the balance between threatened ecological resources, economic development and public welfare have been paramount. In New England, Mr. Nield has focused his practice on coastal resource management issues and questions pertaining to land development and freshwater resources. Capable of wearing many hats, Mr. Nield has served as project manager, scientist, and facilitator for many state and federal agency clients as well as private clients in the energy and land development sectors. Mr. Nield's recent project experience includes:

- **New York Regional Interconnect – High Voltage DC Transmission Line - New York.** Mr. Nield serves in the role of project scientist and routing expert in support of the preparation of an Article VII filing to the New York Public Service Commission for a 450 kV dc transmission project in New York State that is over 190 miles in length. The project includes a routing evaluation, the assessment of the environmental impacts for the project route and alternatives, a public participation program and the preparation of the Article VII application to the NYSPSC. Mr. Nield is providing expert testimony in the Article VII proceedings.
- **Confidential Client. Southington Peaker Installation. Southington, CT.** Mr. Nield was responsible for assessing environmental site constraints at the proposed site of a new combined cycle generator. Work involved review of land use regulations, environmental and physical site constraints to establish the project's potential regulatory issues.
- **BG North America. Lake Road Generating Company Unit 4 Addition. Killingly, Connecticut.** Mr. Nield was responsible for assessing site constraints as the proposed site of a new combined cycle generator at the Lake Road Facility. Work involved review of site constraints and an existing forest management plan to establish the project's potential regulatory issues. He was responsible for developing the *Petition for Declaratory Ruling* to the Connecticut Siting Council.

- **Cape Wind Associates, LLC - Renewable Energy Project, Nantucket Sound, Massachusetts.** Served as Project Scientist and reviewer of environmental assessments and regulatory permitting for a proposed renewable electric generating facility involving installation of 130 offshore wind turbine generators with a potential to generate 454 MW in Nantucket Sound, Massachusetts. The proposed wind park is sited on Horseshoe Shoal, and will interconnect with the regional power grid through an AC submarine cable system between the wind park and the southern shore of Cape Cod.
- **Alabama Power Company. Coosa and Warrior FERC Re-licensing. Birmingham, Alabama.** Mr. Nield served as a coordinator on a multi-disciplinary project team working on this effort to file a license for these hydroelectric projects in Alabama. He was responsible for organizing and facilitating stakeholder input from state and federal partners and other interests. His work contributed to the overall licensing strategy for these projects.
- **USDA Natural Resource Conservation Service – Rhode Island Office. Dyerville Dam and Paragon Mills Dam Removal, Providence, Rhode Island.** Mr. Nield was responsible for designing and overseeing a comprehensive investigation of wetlands and sediment issues pertaining to the removal of two dams on the Woonasquatucket River in Providence, RI. Work included wetlands delineation, land and river surveying, sediment sampling and water quality analysis. Working with engineers, he helped develop conceptual designs for post-removal river restoration alternatives including stream channel restoration, bank stabilization, and fish passage. Lastly, he was solely responsible for coordinating applications for Rhode Island water quality certifications and freshwater wetlands permits (CWA Sections 401 and 404), which included the facilitation of meetings between the clients and state regulatory agents.
- **California Bay Delta Authority Ecosystem Restoration Program, Adaptive Management Program Team (AMPT). Sacramento, California.** Mr. Nield served as the AMPT's meeting facilitator and policy analyst during the development of the Delta Regional Ecosystem Restoration Implementation Plan (DRERIP). This science-driven process involved the creation of a restoration action vetting process to prioritize plan implementation. Work included the development of a decision support system to help scientists evaluate restoration actions based on actual natural resource goals and other performance indicators.
- **Alabama Clean Water Partnership. Basin Management Plans for the Alabama, Chattahoochee, Chipola, and Tombigbee Rivers. Montgomery, Alabama.** Mr. Nield completed analyses of existing water quality and land use data with the help of GIS to develop comprehensive best management practices for these four major river basins in Alabama, Georgia, and Mississippi. Development of the plans involved close coordination with representatives from the forest, farming, aquaculture, development industries to draft industry-specific recommendations. Work included investigations pertaining to critical habitat designations for several endangered aquatic species, regional water supply shortages, and impaired waters.

**Before the
New York State Public Service Commission
New York Regional Interconnect, Inc.**

Case No. 06-T-0650

NEW YORK REGIONAL INTERCONNECT INC.

Rebuttal Testimony of "Panel A" Consisting of:

**Christopher Thompson
Richard Bucci
Stephen Wood
Laura Ernst
Jeffrey Nield**

On Behalf of New York Regional Interconnect Inc.

March 2, 2009

1 **I. INTRODUCTION**

2 **Q. PLEASE STATE YOUR NAMES, RESPONSIBILITIES REGARDING**
3 **THE NYRI PROJECT AND COMPANY AFFILIATION.**

4 A. Christopher Thompson, President, New York Regional Interconnect Inc.

5 A. Richard Bucci, Project Engineering Manager, Washington Group
6 International, Inc.

7 A. Stephen Wood, Project Environmental Consultant, ESS Group, Inc.

8 A. Laura Ernst Sims, Project Environmental Consultant, ESS Group, Inc.

9 A. Jeffrey Nield, Project Environmental Consultant, ESS Group, Inc.

10

11 **Q. ARE YOU THE SAME INDIVIDUALS THAT PROVIDED THE**
12 **DIRECT TESTIMONY FOR NYRI WITNESS PANEL A THAT WAS**
13 **INCLUDED IN APPENDIX I OF NYRI'S APPLICATION?**

14 A. Yes.

15

16 **Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?**

17 A. Our testimony rebuts the direct testimony filed by other parties to this
18 proceeding related to Project costs, the location of NYRI's Proposed Route,
19 routing alternatives, and local legal requirements.

20

21 **II. PROJECT COSTS**

22 **Q. ON PAGES 18-19 OF HIS DIRECT TESTIMONY, DPS STAFF**
23 **WITNESS BARRY STATES THAT HE DOES NOT AGREE WITH**

1 **NYRI'S BELIEF THAT A REASONABLE EXPECTATION FOR NYRI**
2 **SENIOR DEBT WOULD BE 5.5%. IS MR. BARRY'S POSITION**
3 **VALID?**

4 A. No. DPS Staff states that for the month of November 2008, the "Mergent
5 Bond Record" cost of debt was 8.98% and 7.60% for BBB rated and A rated
6 utilities. In addition, DPS Staff states that recently, RG&E issued 25-year
7 First Mortgage Bonds that carried a rate of 8.0%. While DPS Staff witness
8 Barry states that "[i]t appears that the Applicant's discussions with financial
9 institutions were held before the onset of the current financial crises" DPS
10 Staff witness Barry's selection of November 2008 rates was at or near the peak
11 of the crisis. As reported by Bloomberg Corporation, on February 10, 2009,
12 rates have already subsided to 5.69% for 30 year "A" rated Corporate Utility,
13 while 30 year Treasuries are at 3.58% resulting in a spread of 211 basis points
14 (see Exhibit_Panel A-1).

15 Transmission projects are generally better credits (with lower borrowing costs)
16 compared to integrated utilities because the latter are rated as "corporate"
17 credits. Project finance ratings have more covenants and structural bootstraps
18 that contribute to safer credits for debt investors. Typical covenants or features
19 would include:

- 20 • Restrictions on non-regulated business activities
- 21 • Compliance with rating agency special purpose entity criteria

- 1 • Non consolidation legal opinions (that the debt issuer won't be
- 2 substantively consolidated into a bankruptcy proceeding at the
- 3 parent company level)
- 4 • Equity lock up tests (dividend distribution traps)
- 5 • Additional indebtedness tests
- 6 • Independent Directors on the board to support creditor matters
- 7 • Reserves
- 8 • Tranching/Subordination
- 9 • Standstill provisions should an event of default occur (creditors
- 10 agree to a workout period prior to filing for bankruptcy protection)

11 While limited, there is some publicly traded debt from Project Finance
12 Transmission Projects. The attached table summarizes the three we found. The
13 yields and spreads are consistent with those proposed by NYRI.

14

15 **Q. ON PAGE 6 OF HIS DIRECT TESTIMONY, DPS STAFF WITNESS**
16 **QUIMBY STATES THAT GIVEN THE CURRENT ECONOMIC CRISIS**
17 **AND THE EXTENSIVE AMOUNT OF WORK REQUIRED FOR THE**
18 **PROPOSED NYRI PROJECT, IT IS UNLIKELY THAT NYRI WILL BE**
19 **ABLE TO NEGOTIATE A FIXED PRICE CONTRACT TO**
20 **CONSTRUCT THE TRANSMISSION LINE AND THE SUBSTATIONS.**
21 **IS THIS CORRECT?**

1 A. No, it is not. Given the current economic crisis it is more likely that NYRI will
2 be able to negotiate fixed price contracts. In an economic downturn as work
3 becomes scarce, contractors are more willing to negotiate fixed price contracts
4 than during times when work is plentiful. Further, the amount of work required
5 is not relevant to whether it is performed on a fixed price basis. The more
6 relevant issue is the specificity of the scope of work details, that is, the more
7 detailed specificity in the scope of work, the more likely it is to be able to
8 negotiate a fixed price contract. Also, other project specific contract terms may
9 influence the ability to negotiate a fixed price contract.

10

11 **III. NYRI'S PROPOSED ROUTE**

12 **Q. IS IT REASONABLE TO IDENTIFY EQUIPMENT AND MATERIAL**
13 **LAYDOWN AREAS DURING THE EM&CP PHASE?**

14 A. The most reasonable time to identify equipment and material laydown areas is
15 during development of the EM&CP. Equipment and material laydown areas are
16 typically located around proposed structure locations and wire pulling locations
17 in order to facilitate the construction and erection of each individual structure
18 and conductor installation. As such, their locations are site specific depending
19 on the route certified, information from detailed engineering and environmental
20 surveys along the certified right of way, the design of the transmission line, any
21 site specific environmental constraints and any property owner preferences that
22 may influence the size and/or location of each area. Another input considered in
23 siting equipment and material laydown areas are any restrictions or preferences

1 for work separation and clearance distances requested by the owners/operators
2 of any existing energy and transportation infrastructure which may be adjacent
3 to the NYRI project. Since a large portion of the proposed and various alternate
4 routes under consideration in this proceeding are adjacent to existing energy and
5 transportation infrastructure these considerations could play a major role in the
6 design and construction of the NYRI project, including the location and details
7 of equipment and material laydown areas. Efforts to identify these areas
8 without this detailed site specific information would be based on conjecture
9 producing highly suspect results.

10 Further, identifying the equipment and material laydown areas during
11 development of the EM&CP is consistent with the recommended certificate
12 conditions 22 f and g contained in Exhibit 4 of DPS Staff Witness James de
13 Waal Malefyt's testimony.

14

15 **Q. IS IT REASONABLE TO DEVELOP A VEGETATION MANAGEMENT**
16 **PLAN DURING THE EM&CP PHASE?**

17 A. The most reasonable time to develop a long-range vegetation management plan
18 is during the EM&CP phase and ideally upon completion of initial clearing and
19 construction. A long-range vegetation management plan is developed around
20 site specific information along the certified right-of-way taking into account the
21 location and type of woody vegetation along the right of way, conditions
22 negotiated with the property owner, existing land uses on and adjacent to the
23 right-of-way, location of access roads, location of features such as streams,

1 wetlands, and highways, specific structure locations and conductor heights, and
2 any additional requirements of the Commission Order certifying the proposed
3 transmission line. As such a long-range Vegetation Management Plan is best
4 optimized by incorporating site specific information depending on the route
5 certified, information from detailed engineering and environmental surveys
6 along the certified right of way, coordination efforts with operators of adjacent
7 energy facilities, the design of the transmission line, and any site specific
8 environmental constraints and property owner preferences that may influence
9 the Plan. Any efforts to develop a Plan without this detailed site specific
10 information would produce meaningless results.

11 Further, scheduling the development of a long range vegetation management
12 plan for a time frame following initial clearing and construction is consistent
13 with the recommended certificate condition 72 contained in Exhibit 4 of DPS
14 Staff Witness James de Waal Malefyt's testimony.

15

16 **Q. ON PAGES 14-16 OF HIS DIRECT TESTIMONY, DPS STAFF**
17 **WITNESS DE WAAL MALEFYT DISCUSSES THE EFFECTS OF THE**
18 **NYRI TRANSMISSION LINE ON SCOUT CAMPS. ARE THESE**
19 **CONCLUSIONS ACCURATE?**

20 **A.** Mr. de Waal Malefyt's description is generally accurate. NYRI provided
21 information on three scout camps in response to DPS-70 (see Exhibit_Panel
22 A-2). However, NYRI has only had general discussions with the camp staff,
23 to date, and would plan to discuss additional detail on the location of the

1 facilities during the Project's detailed design should the Proposed Route be
2 certified by the Commission. DPS Staff Witness de Waal Malefyt indicates
3 that the Scout Camp in Forestburgh may experience additional visual impact;
4 however, the Proposed Route in this location is adjacent to an existing
5 overhead line and any impact would be merely incremental. Regardless,
6 NYRI agrees with the recommendation of Mr. De Waal Malefyt to provide the
7 Project greater flexibility in this area to allow for the line to be shifted as may
8 be required based on discussions with the camps.

9
10 **Q. ON PAGE 15-19 OF HIS DIRECT TESTIMONY, DPS STAFF**
11 **WITNESS DE WAAL MALEFYT DISCUSSES HOW NYRI DID NOT**
12 **ACCURATELY RESPOND TO INTERROGATORY DPS-70 ON**
13 **SCOUT CAMPS IN SULLIVAN COUNTY. IS THIS STATEMENT**
14 **ACCURATE?**

15 **A.** No. In preparing the response to the referenced interrogatory, NYRI reviewed
16 the parcel database for scout camps in Sullivan County and found three camps,
17 instead of the two for which Mr. de Waal Malefyt requested information.
18 Specifically, NYRI's review identified the Glen Spey, Ten Mile River and
19 Forestburg Scout Reservation, in the vicinity of the Proposed Route. As a
20 result of this review, in responding to DPS-70, NYRI provided not only the
21 information relating to the two requested camps, but also provided information
22 on the third camp that NYRI had identified. The figures Mr. de Waal Malefyt
23 included in his testimony are the figures NYRI prepared in response to

1 interrogatory DPS-70, depicting these camps (see Figures 1 through 3 in
2 Exhibit Malefyt-1).

3

4 **Q. ON PAGE 25 OF HIS TESTIMONY, NYSDEC WITNESS ERWAY**
5 **OPINES THAT BECAUSE OF STEEP RAILROAD BEDS IT MAY**
6 **NOT BE POSSIBLE TO BURY THE TRANSMISSION LINE IN THE**
7 **RAILROAD BED SHOULDER? IS THIS AN ISSUE?**

8 **A.** The railroad bed will obviously need to be considered in the detailed design of
9 the installation. However, based on initial reviews, this does not appear to
10 present an issue for the underground installation as present indications are that
11 there is adequate space to install within the shoulder. However, if there is
12 insufficient room in the shoulder, the line can be installed beneath the track.

13

14 **Q. DOES NYRI AGREE TO WORK WITH THE THRUWAY AUTHORITY**
15 **TO ENSURE THAT THE SUBSTANTIVE REQUIREMENTS OF ITS**
16 **PERMITS ARE MET DURING THE DETAILED DESIGN OF ANY**
17 **AREAS WHERE THE NYRI PROJECT IMPACTS AUTHORITY**
18 **FACILITIES?**

19 **A.** Yes, NYRI agrees to work with the Thruway Authority to ensure that the
20 substantive requirements of its permits are met during the detailed design of any
21 areas where the NYRI project impacts Thruway Authority facilities.

22

1 **Q. DOES NYRI AGREE TO WORK WITH THE THRUWAY AUTHORITY**
2 **DURING THE DETAILED DESIGN PHASE OF THE PROJECT TO**
3 **ENSURE THAT THE CONSTRUCTION AND OPERATION OF THE**
4 **PROJECT MINIMIZES ANY SAFETY THREAT TO THE TRAVELING**
5 **PUBLIC IN ACCORDANCE WITH AUTHORITY RULES**
6 **REGULATIONS AND REQUIREMENTS?**

7 A. Yes, NYRI agrees to work with the Thruway Authority during the detailed
8 design phase of the Project to ensure that the construction and operation of the
9 project minimizes any safety threat to the traveling public in accordance with
10 Thruway Authority rules regulations and requirements.

11

12 **Q. ARE THERE SAFETY CONCERNS ASSOCIATED WITH AN**
13 **OVERHEAD CROSSING OF THE THRUWAY THAT CANNOT BE**
14 **MITIGATED?**

15 A. No. The Marcy South transmission line crosses the Thruway overhead, which
16 shows that safety concerns with an overhead crossing can clearly be mitigated.

17

18 **Q. ARE YOU AWARE OF OTHER HIGH VOLTAGE TRANSMISSION**
19 **PROJECTS THAT CROSS HIGH USAGE LIMITED ACCESS**
20 **HIGHWAYS LIKE THE THRUWAY IN AN OVERHEAD**
21 **CONFIGURATION?**

22 A. Several examples of existing high voltage overhead crossings of the Thruway
23 include:

1 Marcy South crosses the Thruway and I-84 overhead; National Grid has an
2 overhead line crossing the Thruway at Utica; Con Ed has multiple overhead line
3 crossings of the Thruway (I-87) at Ramapo. Clearly overhead crossings have
4 not been prohibited.

5

6 **Q. ARE THERE SAFETY CONCERNS ASSOCIATED WITH AN**
7 **OVERHEAD CROSSING OF THE CANAL THAT CANNOT BE**
8 **MITIGATED?**

9 A. Safety concerns are addressed by standards such as the NESC, which NYRI will
10 comply with as stated in the application.

11

12 **Q. DOES NYRI AGREE TO MAINTAIN THE HORIZONTAL AND**
13 **VERTICAL CLEARANCES IDENTIFIED BY MR. FRAME AT PAGE**
14 **10-11 OF HIS TESTIMONY?**

15 A. The horizontal and vertical clearances identified by Mr. Frame appear to be
16 more stringent than the NESC requirements. Clearances necessary for special
17 purposes such as large trucks or other heavy equipment will be evaluated during
18 the detailed design phase. The basis for increased clearances should be
19 examined further once detailed site specific information becomes available.
20 NYRI proposes to meet with the Canal Corp during the detailed design phase of
21 the project to present clearance calculations based on site specific field and line
22 design information and application of safety standards such as the NESC.

23

1 **Q. WHAT IS NYRI'S POSITION REGARDING NYSDOT'S REQUEST**
2 **THAT NYRI OBTAIN THE PERMITS FOR ANY WORK IN THE**
3 **STATE RIGHTS-OF-WAY SET FORTH AT PAGE 9, LINE 8**
4 **THROUGH PAGE 10 LINE 13 OF MR. MARIOTTI'S TESTIMONY?**

5 A. Although it is NYRI's position, based on the advice of counsel, that section 130
6 of the Public Service Law precludes NYSDOT from requiring NYRI to obtain
7 permits from NYSDOT, NYRI agrees to a certificate condition that includes the
8 text at page 9, line 8 through page 10 line 13 of Mr. Mariotti's testimony with
9 one modification. That is that on page 10 line 11, after the word "future" the
10 following should be added: "that have been identified and provided to NYRI
11 prior to the submittal of the preliminary design." The purpose of this is to
12 clarify that the potential future projects that the preliminary design would avoid
13 conflicts with are those that were identified by NYSDOT and provided to
14 NYRI. It is not reasonable for NYRI to be required to avoid future projects that
15 it is not made aware of or to be subject to a moving target of potential future
16 projects that the design must avoid conflicts with. NYRI accepts the
17 responsibility to obtain permits from the NYSDOT because such issuance is
18 subject to the Commission's ongoing jurisdiction and because the condition
19 states that NYSDOT will not withhold or unreasonably delay or condition the
20 issuance of necessary permits or easements.

21

22 **Q. WHAT IS NYRI'S POSITION REGARDING THE TERMS THAT**
23 **NYSDOT REQUESTS TO HAVE INCLUDED IN THE EM&CP FOR**

1 **THE PROJECT SET FORTH AT PAGE 10, LINE 14 THROUGH LINE**
2 **19 OF MR. MARIOTTI'S TESTIMONY?**

3 A. NYRI agrees to a certificate condition as requested by NYSDOT. However, it
4 is not practical to provide the information identified "prior to certificate
5 issuance" and to the extent that NYSDOT is requesting such information now,
6 the request should not be approved by the Commission. There is no reason why
7 a plan for the maintenance and protection of traffic cannot be provided as part
8 of the EM&CP process.

9
10 **IV. ROUTING ALTERNATIVES**

11 **Q. DID NYRI DEVELOP ROUTING ALTERNATIVES TO ITS**
12 **PROPOSED ROUTE FOR CONSIDERATION IN THIS**
13 **PROCEEDING?**

14 A. Yes. As described in Exhibit 3 of NYRI's application, NYRI identified fifteen
15 alternate routes segments and one completely separate alternate route (i.e., the
16 Marcy South Alternate Route) for consideration in this proceeding.

17
18 **Q. DOES NYRI CONSIDER ANY OF THE ALTERNATE ROUTES IT**
19 **IDENTIFIED IN EXHIBIT 3 OF ITS APPLICATION AS VIABLE**
20 **ALTERNATES TO THE PROPOSED ROUTE?**

21 A. As stated in the response to interrogatory request DPS-96 (see Exhibit_Panel
22 A-3), NYRI considers each of the alternates identified in Exhibit 3 of its
23 application to be viable and would construct the Project on any such alternate,

1 or combination of alternates, if such alternate(s) were certified by the
2 Commission.

3

4 **Q. GIVEN THE FACTORS CITED BY MANY PARTIES TO THIS**
5 **PROCEEDING IN THEIR RESPECTIVE DIRECT TESTIMONY,**
6 **WOULD NYRI CONSTRUCT THE PROJECT ALONG THE MARCY**
7 **SOUTH ALTERNATE ROUTE IF SUCH ROUTE WERE CERTIFIED**
8 **BY THE COMMISSION?**

9 A. Yes.

10

11 **Q. ON PAGE 32 OF HIS DIRECT TESTIMONY, DPS STAFF WITNESS**
12 **DE WAAL MALEFYT STATES THAT THE TRANSMISSION ROUTE**
13 **WITH THE LEAST ENVIRONMENTAL IMPACT AND THE**
14 **GREATEST ELECTRICAL SYSTEM BENEFIT IS THE**
15 **UNDERGROUND NEW YORK THRUWAY ROUTE FROM UTICA**
16 **TO NEW YORK CITY PROPOSED BY CARL. IS THIS AN**
17 **ACCURATE ASSERTION?**

18 A. In making this assertion, Mr. de Waal Malefyt fails to consider the cost or
19 reliability concerns associated with an underground line of this length.
20 Moreover, Mr. de Waal Malefyt does not even acknowledge any of the
21 environmental impacts associated with the undergrounding of the line or the
22 fact that the line would deliver power at a different location than the Project
23 and, thus is effectively a different project.

1

2 **Q. ON PAGE 56 OF HIS DIRECT TESTIMONY, DPS STAFF WITNESS**
3 **DE WAAL MALEFYT STATES OTHER ELECTRIC SYSTEM**
4 **ALTERNATIVES ARE ELECTRICALLY AND ECONOMICALLY**
5 **PREFERABLE AND HAVE LESS ENVIRONMENTAL IMPACTS**
6 **THAN NYRI'S PROPOSED TRANSMISSION FACILITY. DO YOU**
7 **AGREE WITH THIS ASSERTION?**

8 **A.** Not completely. Nothing in Mr. de Waal Malefyt's testimony supports the
9 contention that there are alternatives that are electrically and economically
10 preferable with less environmental impacts than NYRI's proposed Project.
11 For example, Mr. de Waal Malefyt contends an underground route within the
12 New York Thruway from Utica to New York City will have "the least"
13 environmental impact and the greatest electrical system benefit. However, this
14 assertion is made without presenting any information or other supporting data
15 with regard to environmental impacts (e.g., wetlands, streams and river
16 crossings, etc.) and does not address the cost, reliability or technology
17 constraints of an underground line of this length.

18 With respect to the alternative of converting one circuit of the existing Marcy
19 South line from AC to DC, Mr. de Waal Malefyt fails to describe the impacts
20 associated with the addition of converter stations at the northern and southern
21 ends, which do not exist today. Moreover, DPS Staff Witness de Waal
22 Malefyt does not acknowledge that this AC line to DC conversion would not
23 result in the addition of 1200 megawatts of additional transfer capability, as is

1 the case with the Project. Rather such a conversion would result in something
2 less than an additional 1200 MW of transfer capability due to the loss of the
3 transfer capability associated with the 345kV AC circuit that would be
4 replaced. Accordingly, such a conversion would not provide equivalent
5 benefits, in regards to increased transfer capability, as the Project.

6 With respect to the deviations Mr. de Waal Malefyt suggests to NYRI's
7 Marcy South Alternate Route, it is likely that both environmental impacts and
8 project costs would be less if these deviations were utilized and constructed in
9 an overhead configuration because they would not require completely new
10 ROW segments as is the case for some of areas along the NYRI Marcy South
11 Alternate Route where NYRI proposed to deviate from the existing Marcy
12 South line, but, rather, would require only incremental clearing adjacent to
13 Marcy South. However, to the extent that DPS Staff's recommended
14 deviations to NYRI's Marcy South Alternate Route would require
15 underground construction, the same cannot be said, as such construction would
16 have additional cost and reliability impacts. With respect to concerns
17 regarding additional cost, please refer to the cost estimates that NYRI provided
18 to the parties to this proceeding as required under the December 22, 2008
19 Procedural Ruling in this proceeding (see Exhibit_Panel A-4).

20

21 **Q. ON PAGES 19-24 OF HIS DIRECT TESTIMONY, DPS STAFF**
22 **WITNESS DAVIS PROPOSES A NUMBER OF LOCATIONS WHERE**

1 **THE LINE SHOULD BE CONSTRUCTED UNDERGROUND. WHAT**
2 **IS THE BASIS HE CITES FOR THESE PROPOSALS?**

3 A. Mr. Davis indicates that the basis is to minimize adverse visual, cultural and
4 community character impacts. However, he has not considered the cost
5 implications of this additional undergrounding, the environmental impacts or
6 potential reliability issues. Furthermore, Mr. Davis does not offer any support
7 for his contention that the Project would be visible in the areas of concern, the
8 impact of this visibility on community character, nor does he identify what
9 cultural resources he is concerned with.

10

11 **Q. ON PG. 16 OF HIS DIRECT TESTIMONY, DPS STAFF WITNESS**
12 **DAVIS STATES THAT WITH ADDITIONAL MITIGATION, SUCH AS**
13 **UNDERGROUND PLACEMENT OF CERTAIN ROUTING**
14 **SEGMENTS, AN ADDITIONAL CIRCUIT COULD BE INSTALLED**
15 **ALONG THAT ALIGNMENT AND ADDRESS THE FINDINGS**
16 **REQUIRED BY ARTICLE VII FOR IMPACTS ON SCENIC,**
17 **CULTURAL, RECREATIONAL, PARKLAND AND RIVER CORRIDOR**
18 **RESOURCES TRAVERSED BY THE ROUTE. HOW DO YOU**
19 **RESPOND TO THIS ASSERTION?**

20 A. Installing the transmission line underground in certain routing segments as
21 suggested by DPS Staff Witness Davis results in the introduction of multiple
22 short segments of underground scattered throughout the predominantly
23 overhead segment of the transmission line. As explained in our response to

1 CARI-190, additional undergrounding would be expected to result in
2 significantly increased costs depending on the number of additional
3 underground segments, the length of the segments, and their location. Also, as
4 additional underground segments are added, a decrease in reliability would be
5 expected due to an increase in the number of transitions and cable joints from
6 overhead to underground (introducing additional components into the circuit at
7 each transition, which increases the probability of a circuit failure), and more
8 complex relaying for system protection and control. Therefore, introducing
9 multiple short segments of underground installation into the proposed project as
10 suggested by Mr. Davis is not recommended.

11

12 **Q. PLEASE EXPLAIN WHY THE RELAYING FOR SYSTEM**
13 **PROTECTION AND CONTROL WILL BE MORE COMPLEX.**

14 A. The relaying will be more complex because the protection philosophy and
15 resulting logic will be designed to differentiate between underground and
16 overhead faults, and also to identify the segmental location of underground
17 faults. The reason for the need to differentiate is that, although overhead faults
18 tend to be transient in nature with immediate restoration, underground cable
19 faults are always considered to be permanent due to the failure of insulating
20 medium, requiring a longer outage to locate the fault and establish cable
21 conditions and repair requirements. Hence, the greater the number of
22 underground segments, the more differentiating requirements with a
23 corresponding increase in the complexity of the protection logic. Further,

1 depending on the number, length, and location of underground segments it may
2 be impossible to accurately differentiate between overhead and underground
3 line segments resulting in the need to treat all faults as permanent. The greater
4 the number of miles where a fault must be treated as permanent, the less reliable
5 the transmission line.

6
7 **Q. ON PAGE 19-25 OF HIS DIRECT TESTIMONY, DPS STAFF WITNESS**
8 **DAVIS ADDRESSES ADDITIONAL UNDERGROUNDS SECTIONS**
9 **THAT ARE BEING PROPOSED BY DPS STAFF. WHAT ARE YOUR**
10 **CONCERNS WITH THESE ADDITIONAL UNDERGROUND**
11 **SECTIONS?**

12 **A.** Mr. Davis is suggesting adding over 68 miles of additional underground
13 construction along the proposed route. This significant amount of additional
14 undergrounding of the proposed HVDC system would add nearly \$700 million
15 to the cost of the project, which would be cost prohibitive.

16
17 **Q. PLEASE RESPOND TO DPS STAFF WITNESS SCHROM'S**
18 **STATEMENT ON PAGE 5 OF HIS DIRECT TESTIMONY THAT**
19 **NYRI'S HVDC LINE DOES NOT PROVIDE SYSTEM BENEFITS**
20 **OVER AC LINES.**

21 **A.** Mr. Schrom lists selected system benefits of HVDC lines over AC lines that
22 predominantly apply to interconnecting asynchronous AC power systems.
23 While Mr. Schrom acknowledges the power flow controllability and bi-

1 directional flow ability benefits, which are significant benefits also provided by
2 NYRI's HVDC line, there are other system benefits that Mr. Schrom failed to
3 identify and which also apply to the proposed project. For example, the ability
4 to move large amounts of power over long distances more cost effectively and
5 more efficiently (less losses) than AC lines; no increase in system short circuit
6 currents; faster system restoration time and reduced system oscillations
7 following a system disturbance; less corona, audible noise and radio noise;
8 shorter support structures and fewer conductors; and no induced voltages and
9 currents in parallel metallic objects. Exhibit E-4 of NYRI's application
10 identifies other key project-specific reliability and economic benefits.

11 In addition, Mr. Schrom did not mention the significant benefit that the NYRI
12 line increases the New York west to east transfer capability by approximately
13 1200 MW. Finally, the SRIS demonstrates that a sudden loss of the NYRI
14 HVDC line would not impact continued operation of the AC system.
15 Therefore NYRI's proposed HVDC line clearly would provide system benefits
16 over AC lines.

17
18 **Q. ON PAGE 17 OF HIS DIRECT TESTIMONY, DPS STAFF WITNESS**
19 **SCHROM STATES THAT CHANGING ONE OF THE TWO NYPA**
20 **MARCY SOUTH CIRCUITS TO HVDC WOULD LIKELY BE A**
21 **BETTER PROJECT THAN NYRI'S TRANSMISSION LINE BECAUSE**
22 **OF LOWER COSTS AND LESS ENVIRONMENTAL IMPACTS. IS**
23 **THIS ASSERTION CORRECT?**

1 A. Mr. Schrom's suggested project replaces an existing circuit with a circuit of
2 approximately the same capacity, while the NYRI project adds a new 1200 MW
3 circuit, thus significantly increasing the transmission system capacity. On the
4 surface, changing one of the two Marcy South AC circuits to HVDC as
5 suggested by Mr. Schrom would be expected to result in less costs and less
6 environmental impacts than the NYRI project. However, no comparable
7 detailed environmental study of this conversion project has been undertaken,
8 nor has a cost estimate of the conversion project been prepared. Further, Mr.
9 Schrom has not identified any system, reliability or economic benefits
10 associated with the proposed conversion project and thus does not address one
11 of the key components of an evaluation for a proposed project. Without
12 identification and comparison of the benefits of the two projects, Mr. Schrom's
13 statement that the conversion project "would likely be a better project than that
14 proposed by NYRI" is without merit.

15

16 **Q. ON PAGE 34 OF HIS DIRECT TESTIMONY, NYSDEC WITNESS**
17 **JACOBSON STATES THAT THE APPLICATION CONTAINS**
18 **LIMITED ROUTING OPTIONS. DO YOU AGREE?**

19 A. No. As evidenced in Exhibit 3 of NYRI's application, NYRI investigated
20 many alternate routes prior to developing the Proposed Route. NYRI
21 investigated the NYS&W and the NS railroad properties under lease from
22 Utica to the Rock Tavern area to determine if the Project routing could be
23 further optimized. This assessment identified the Marcy South Alternate

1 Route, which is entirely separate from the Proposed Route; the assessment also
2 identifies sixteen alternate route segments that depart from the Proposed
3 Route. These alternate routes were evaluated for potential incremental
4 benefits for the Project and the areas through which it travels as described in
5 Exhibit 3 and Appendix S.

6
7 **Q. ON PAGE 14 OF HIS DIRECT TESTIMONY, NYSDEC WITNESS**
8 **DEPRIEST SUGGESTS THAT AVOIDANCE OF SIGNIFICANT**
9 **HABITAT IS THE ONLY METHOD FOR ENSURING THERE ARE**
10 **NO ADVERSE EFFECTS TO THAT HABITAT. DID NYRI**
11 **CONSIDER VARIOUS ALTERNATES TO AVOID POTENTIAL**
12 **IMPACTS?**

13 **A.** Yes. As stated in the response to the preceding question, NYRI assessed the
14 NYS&W and the NS railroad properties under lease from Utica to the Rock
15 Tavern area to determine if the Project routing could be further optimized.
16 These alternate routes were evaluated for potential incremental benefits for the
17 Project and the areas through which it travels, including avoidance or
18 minimization of impacts to environmental resources and the avoidance of and
19 need to take structures such as residences. Each of the sixteen alternate route
20 segments are discussed individually in Sections 3.3.2 through 3.3.16 in Exhibit
21 3 and Appendix L of the Article VII Application. One such alternate,
22 Alternate D, was proposed to avoid the Nine Mile Swamp.

23

1 **Q. ON PAGE 3 OF HIS DIRECT TESTIMONY, NYSDEC WITNESS**
2 **DRUMM SUGGESTS THAT NYRI SHOULD CONSIDER**
3 **REALIGNMENT OPTIONS TO REDUCE THE NEW UTILITY**
4 **CORRIDORS (ALONG THE NYRI PROPOSED ROUTE AND MARCY**
5 **SOUTH ALTERNATE ROUTE). HAS NYRI ALREADY**
6 **CONSIDERED REALIGNMENT OPTIONS?**

7 **A.** Yes. As noted in the response to the preceding question, NYRI identified
8 fifteen alternate routes segments and one completely separate alternate route
9 (i.e., the Marcy South Alternate Route) for consideration in this proceeding.

10

11 **Q. ON PAGE 7 OF HIS DIRECT TESTIMONY, CARI WITNESS**
12 **LAFLEUR STATES THAT THE NYRI PROJECT COULD HAVE**
13 **SUBSTANTIALLY GREATER IMPACTS ON SURFACE WATERS**
14 **THAN WOULD THE CARI MARCY SOUTH BURIED CABLE**
15 **ALTERNATIVE. HOW DO YOU RESPOND TO THIS ASSERTION?**

16 **A.** Mr. LaFleur does not provide adequate quantitative and spatial analyses to
17 support the assertion that NYRI could have substantially greater impacts on
18 surface waters than would the CARI Marcy South buried cable alternative.
19 The only quantitative comparison presented by Mr. LaFleur to support his
20 claim regarding surface water impacts is based on the number of miles NYRI
21 crosses through greenfield areas (i.e., 42 miles) versus the number of miles
22 CARI Marcy South buried cable alternative crosses through greenfield areas
23 (i.e., 27.2 miles). His testimony, specifically Exhibit RCL-3, assumes that

1 these greenfield crossing distances equate proportionately to surface water
2 impacts, which he does not support with data or analysis.

3 Based on the Mr. LaFleur's testimony, there is no way to substantiate whether
4 the CARI Marcy South buried cable alternative impacts to surface waters
5 would be greater or lesser than the potential impacts to surface waters from
6 NYRI's Proposed Route. In Section 4.12 of Exhibit 4 of NYRI's application,
7 NYRI provides information on the name, number, type and location of stream
8 crossings associated with the Proposed Route; Mr. LaFleur provides no such
9 information for the CARI Marcy South buried cable alternative. Furthermore,
10 it would appear from Mr. LaFleur's testimony that he misunderstands the
11 likely impacts to surface waters from the CARI Marcy South buried
12 alternative stream crossings because they would be accomplished by open
13 trench and HDD. For example, open trench method of stream crossings can
14 increase the potential for surface water impacts as compared to the potential
15 impacts associated with spanning a stream with an overhead transmission line,
16 as is possible with the overhead portions of the Project.

17 CARI Witness LaFleur does not present details regarding proposed measures
18 to minimize impacts from the CARI Marcy South buried cable alternative.
19 Whereas, Section 4.11.2 of NYRI's application states that measures to
20 minimize potential Project effects to physical resources, such as erosion of
21 soils and sedimentation of nearby water resource areas, will be fully described
22 in an Erosion an Sedimentation Control and Storm Water Pollution Prevention
23 Plan (SWPPP) to be provided as part of the EM&CP. This plan will

1 incorporate applicable best management practices (BMPs) from the NYSDEC
2 Technical and Operational Guidance Series (TOGS) for erosion control and
3 stormwater management during construction. Appendix C of NYRI's
4 application also provides additional information with respect to Erosion and
5 Sedimentation Control practices.

6 Potential impacts from the Project will be directly related to the location and
7 construction methodologies employed for each discrete Project structure.
8 Exact construction locations will be developed during the detailed engineering
9 phase of the Project. This will include construction methodologies to be
10 employed at each location. As this information is developed, site surveys will
11 be conducted to determine the potential for site-specific impacts. Based on the
12 site surveys, plans will be developed to mitigate any potential impacts.
13 Detailed mitigation techniques and site-specific plans will be included in the
14 EM&CP. This will include all necessary coordination and consultation with
15 the appropriate local, state, and federal regulatory agencies.

16 As explained in NYRI's response to interrogatory request DEC-7 (see
17 Exhibit Panel A-5), Section 4.12.3 of Exhibit 4 of NYRI's application
18 provides, to the extent possible at this stage of the Project, a summary of the
19 potential environmental effects to surface waterbodies (including streams) and
20 potential measures that could be used to mitigate post construction impacts.
21 Section 3.3 of Appendix C of NYRI's application also provides a discussion of
22 potential mitigation measures. The EM&CP and Vegetation Management

1 Plan will outline site-specific surface waterbody protection and mitigation
2 measures that will be used during and after the Project's construction phase.
3

4 **Q. CARI WITNESS LAFLEUR STATES ON PAGES 12-13 OF HIS**
5 **DIRECT TESTIMONY THAT NYRI'S PROPOSED OVERHEAD**
6 **TRANSMISSION ROUTES HAVE MORE POTENTIAL IMPACTS TO**
7 **GROUNDWATER AQUIFERS THAN CARI'S MARCY SOUTH**
8 **BURIED CABLE ALTERNATIVE ROUTE? DO YOU HAVE A**
9 **RESPONSE?**

10 A. The fact that CARI's Marcy South buried cable alternative route runs for
11 approximately 18 miles underground through the watershed of New York
12 City's public water supply underscores the very high inherent risk to
13 groundwater aquifers along this route. With the exception of NYRI's Marcy
14 South Alternate Route, the overhead transmission routes proposed by NYRI
15 do not cross the City of New York's Watershed. Furthermore, NYRI's Marcy
16 South Alternate Route has less potential impact to groundwater aquifers than
17 CARI's Marcy South buried cable alternative route in the New York City
18 Watershed area. As discussed in Section 4.12.3.2 of Exhibit 4 and Appendix
19 C of its application, NYRI anticipates no impacts to aquifers as a result of
20 transmission structure foundation installations because these foundations will
21 be installed at depths well above the aquifers.
22

1 **Q. CARI WITNESS LAFLEUR STATES ON PAGES 18-20 OF HIS**
2 **DIRECT TESTIMONY THAT THE NYRI PROPOSED OVERHEAD**
3 **TRANSMISSION ROUTES HAVE SUBSTANTIALLY GREATER**
4 **IMPACTS ON PRESENT AND FUTURE LAND USE THAN THE CARI**
5 **MARCY SOUTH BURIED CABLE ALTERNATIVE. WHAT IS YOUR**
6 **RESPONSE?**

7 **A. With the exception of 41.8 miles (approximately 22% of the total length of the**
8 **Proposed Route), NYRI proposes to locate the Project within or parallel to**
9 **existing gas pipeline or electric transmission ROWs and within existing**
10 **railroad properties. The CARI Marcy South buried cable alternative will cross**
11 **27.2 miles of undisturbed land (approximately 15% of the total length of**
12 **CARI's Marcy South buried cable alternative), and will occupy existing**
13 **electric transmission ROWs for the remainder of its approximate total 183 mile**
14 **length. In contrast to Mr. LaFleur's assertion, NYRI will have negligible**
15 **impacts to present and future land use because it will parallel or exist within**
16 **existing utility ROWs for 78% of its length.**

17

18 **Q. CARI WITNESS LAFLEUR INDICATES ON PAGES 29-32 OF HIS**
19 **DIRECT TESTIMONY THAT THE NYRI PROPOSED OVERHEAD**
20 **TRANSMISSION ROUTES HAVE SUBSTANTIALLY GREATER**
21 **IMPACTS ON TRAFFIC THAN THE CARI MARCY SOUTH BURIED**
22 **CABLE ALTERNATIVE. DO YOU AGREE WITH THIS CLAIM?**

1 A. No. As Mr. LaFleur admits, the NYRI and CARI routes would most likely
2 have comparable impacts to traffic from the movement of equipment and
3 materials during construction. However, it is important to note that Mr.
4 LaFleur fails to provide details regarding the impact of the number of road
5 crossings (i.e., 224) associated with CARI's Marcy South buried cable
6 alternative. In contrast, NYRI has proposed to schedule deliveries of
7 oversized equipment during traffic off-peak hours and coordinate with the
8 New York State Department of Transportation to avoid and minimize impacts
9 to traffic. The utilization of existing access roads and railways will also help
10 to mitigate impacts to traffic during construction, operation, and maintenance,
11 as discussed in Exhibit E-6 of NYRI's application.

12
13 **Q. CARI WITNESS LAFLEUR INDICATED ON PAGE 32 OF HIS**
14 **DIRECT TESTIMONY THAT THE NYRI PROPOSED OVERHEAD**
15 **TRANSMISSION ROUTES HAVE SUBSTANTIALLY GREATER**
16 **IMPACTS DURING DECOMMISSION THAN THE CARI MARCY**
17 **SOUTH BURIED CABLE ALTERNATIVE. WHAT IS YOUR**
18 **RESPONSE TO THIS STATEMENT?**

19 A. Article VII does not require an applicant to provide details regarding the
20 decommissioning of a proposed electrical transmission line. The lack of such
21 a requirement is entirely rational when considering that, with proper
22 maintenance and continued public need, an electrical transmission line could
23 remain in service indefinitely. Conceptually, however, one would expect far

1 fewer impacts from the removal of overhead facilities versus digging up a
2 completely underground facility.

3
4 **Q. ON PAGE 40 OF HIS DIRECT TESTIMONY, CARI WITNESS**
5 **LAFLEUR STATES THAT IN COMPARISON, THE POTENTIAL**
6 **ENVIRONMENTAL IMPACTS ASSOCIATED WITH CARI'S MARCY**
7 **SOUTH BURIED CABLE ALTERNATIVE ARE FAR LESS THAN**
8 **THOSE POTENTIAL ENVIRONMENTAL IMPACTS ASSOCIATED**
9 **WITH NYRI'S PROPOSED OVERHEAD ROUTE. HE ALSO STATES**
10 **THAT NEITHER OF NYRI'S PROPOSED ROUTES REPRESENT**
11 **THE MINIMUM ADVERSE ENVIRONMENTAL IMPACTS, TAKING**
12 **INTO CONSIDERATION CARI'S MARCY SOUTH BURIED CABLE**
13 **ALTERNATIVE AND OTHER RELEVANT CONSIDERATIONS.**
14 **HOW DO YOU RESPOND TO THIS QUESTION?**

15 **A.** Mr. LaFleur fails to provide adequate quantitative and spatial analyses to
16 support these statements. Moreover, the severity of environmental impacts
17 associated with transmission line projects, underground or overhead, depends
18 entirely on the location, design and construction methodology and timing (i.e.,
19 seasonality) of the activity and potential impact in question. Avoidance and
20 minimization of environmental impacts can be achieved through mitigation.
21 Exhibit 4 and Appendices C, E, G, K, L, M, O, and Q of NYRI's application
22 examine the full breadth of anticipated environmental effects and present
23 mitigation measures for the Proposed Route, and the Marcy South Alternate

1 Route, to the maximum extent possible at this stage in the proceeding.
2 Moreover, NYRI provides a substantial amount of information regarding
3 avoidance and mitigation measures to be further developed and employed after
4 the route certification has been granted by the Commission. In contrast, Mr.
5 LaFleur presents very little information regarding environmental impacts and
6 absolutely no details regarding proposed measures to minimize impacts from
7 the CARI Marcy South buried cable alternative.

8
9 **Q. IS CARI WITNESS LANZALOTTA CORRECT IN STATING ON PAGE**
10 **9 OF HIS DIRECT TESTIMONY THAT USING “RELATIVELY**
11 **NEWER, BUT PROVEN HVDC TECHNOLOGY” CARI’S MARCY-**
12 **SOUTH ALL-UNDERGROUND ALTERNATIVE COULD BE**
13 **CONSTRUCTED FOR A COST WITHIN \$150 MILLION OF THE**
14 **COST OF NYRI’S PROPOSED LINE?**

15 **A.** No, he is not. The HVDC technology identified by Mr. Lanzalotta, currently
16 referred to as “HVDC Light” is not a suitable technology for this project.
17 HVDC Light technology has only been proven (installed and operated) at a
18 maximum voltage of +/- 150 kV and power capacity of about 350 MW.
19 Therefore to obtain an equivalently rated HVDC System, one would need to
20 install three or more complete HVDC Light Systems, including three converter
21 stations at each end and a total of at least six cables (assuming no spare cable),
22 i.e., two cables for each 350 MW HVDC System. Therefore, if HVDC Light
23 were used, the correct estimated cost for a 1200 MW HVDC project would be

1 approximately two to three times the cost estimated by Mr. Lanzalotta or in the
2 range of approximately \$4.5 billion to \$6.8 billion.

3

4 **Q. PLEASE ELABORATE ON WHY "HVDC LIGHT" TECHNOLOGY IS**
5 **NOT A REASONABLE ALTERNATIVE TO THE NYRI PROJECT**

6 A. First, as stated above, the HVDC Light technology is not commercially proven
7 at power voltage and power levels above about +/- 150 kV and 350 MW,
8 respectively. Please refer to Exhibit_Panel A-6 for a comparison of HVDC
9 Classic to HVDC Light.

10 Based on all known HVDC Light projects, including the projects listed in CARI
11 responses to Interrogatories NYRI-10, 104 and 118 to CARI (included in
12 Exhibit_Panel A-7) and Exhibit JHS-2 Appendix 1 and 2, there are no projects
13 in commercial operation at the voltage and power rating required for the NYRI
14 project. In fact the underground projects indentified as in commercial operation
15 are at voltages of 150kV and below with power ratings up to 350 MW, and all
16 except one are less than 100km in length.

17 In response to NYRI-105 to CARI (included in Exhibit_Panel A-8) CARI
18 acknowledges that there are no installations operating at 1200 MW. The CARI
19 basis for claiming HVDC Light is a proven technology for the NYRI project is
20 that the manufacturer, ABB, is marketing the product. While it appears that a
21 320kV cable has been type tested, that is, tested in the laboratory, there is no
22 evidence that a 320kV cable of the cross sectional size required for the NYRI
23 project has been type tested.

1 To achieve the necessary power transfer utilizing HVDC Light at the
2 commercially proven voltage and MW levels of 150kV and 350 MW would
3 require three converter stations at each end of the line, and six cables (three sets
4 of two). As stated above, the cost of such a configuration would substantially
5 increase the underground cost estimate prepared by Mr. Lanzalotta (refer to our
6 response above).

7 Second, the CARI proposed HVDC Light cannot operate at 50% capacity for
8 loss of a pole since it is a monopole system. In order to operate at 50% power a
9 bipole configuration, requiring twice the number of converters would be
10 required.

11

12 **Q. ON PAGE 8 OF HIS DIRECT TESTIMONY, CARI WITNESS SHAFER**
13 **STATES THAT IT IS COMMON PRACTICE TO BUILD BURIED**
14 **CABLE POWER TRANSMISSION LINES. IS THIS AN ACCURATE**
15 **ASSERTION?**

16 **A.** No, it is not an accurate assertion. While buried cable power transmission lines
17 do exist, it is far from common practice; especially at the power transfer levels
18 and high voltage required for the NYRI project.

19 According to a 2006 study evaluating the feasibility of undergrounding
20 transmission lines in Virginia, Evaluation of Underground Electric
21 Transmission Lines in Virginia, Report of the Joint Legislative Audit and
22 Review Commission to the Governor and the General Assembly of Virginia,
23 December 2006:

1 "While underground distribution lines are fairly common
2 in the United States, the use of underground lines for
3 higher-voltage transmission purposes is infrequent.
4 Underground lines constitute a small proportion of
5 transmission lines in Virginia and throughout the United
6 States. Although Europe is cited as having more
7 widespread use of undergrounding, it is still by far the
8 exception rather than the rule in European power
9 systems.

10 Overhead transmission lines are generally seen as the
11 affordable industry standard by power companies, such
12 as Dominion Virginia Power (Dominion) -- the only
13 utility in Virginia that has underground lines. In contrast,
14 underground lines are seen by Dominion and the State
15 Corporation Commission (SCC) as more costly and as
16 more complex to install, operate, and repair. However,
17 underground lines are sometimes installed because there
18 are situations in which overhead lines are impractical or
19 infeasible.

20 More specifically, some sources have indicated that there
21 are about 200,000 miles of overhead transmission lines
22 in the United States and about 5,000 to 8,000 miles of
23 underground transmission (including underwater). These
24 sources, then, suggest that underground transmission
25 constitutes about 2.5 to 3.8 percent of the transmission
26 mileage. However, at least one of these sources indicates
27 that the figures include 69 kV lines and above as
28 "transmission." Another source, considering the
29 question in 2005, focused on transmission systems with
30 voltages of 230 kV and above. This source estimated that
31 there are about 160,000 miles of overhead line and about
32 750 to 1,000 miles of underground line at these voltages.
33 Thus, at the higher voltages, the percent of underground
34 line is about 0.5 to 0.6 percent of the total."
35

36 **Q. ON PAGE 13 OF EXHIBIT RRA-2 OF HIS DIRECT TESTIMONY,**
37 **CARI WITNESS AUSTRIA STATES THAT IN RECENT WORK BY**
38 **ROSS, WELCH AND WILLIS OF ABB, THE OUTAGE FREQUENCY**
39 **FOR NEW OVERHEAD LINE IS GIVEN AS 0.045 PER YEAR AND**
40 **FOR NEW UNDERGROUND CABLES AS 0.0005 PER YEAR AND**

1 **THAT THEREFORE, THE RATIO OF THE OUTAGE FREQUENCY**
 2 **FOR OVERHEAD LINES WITH RESPECT TO UNDERGROUND**
 3 **CABLES IS 90. DO YOU AGREE?**

4 A. No. First, the testimony of witness Austria incorrectly lists the outage
 5 frequency for new underground cables as reported in the work by Ross, Welch
 6 and Willis of ABB (Ref 1) as .0005 per year while the referenced paper
 7 actually reports .005 per year as shown in the excerpted Table 1, below:

Component	λ_{new}	λ_{real}	λ_{old}
Substation Transformer (ST)	.003	.02	.15
Distribution Transformer (DT)	.0007	.005	.037
Overhead Line (OH)	.042	.2	.96
Underground Cable (UG)	.005	.02	.082
Circuit Breaker (BR)	.0009	.0066	.049
Switch (SW)	.007	.05	.37

8 **Table 1: Initial Component Failure Rates**

9 Ref 1: Ross, Welch and Willis, Sensitivity of System Reliability to Component
 10 Aging in Metropolitan, Urban, and Rural Areas, IEEE Paper 0-7803-7285-
 11 9/01, Dated 2001.

12 Therefore the ratio of outage frequency reported for overhead line versus
 13 underground cable is 8.4, not 90. In addition, these statistics are not directly
 14 applicable because, as stated in the paper, they are for distribution system
 15 lines. Also, the citing of this data is misleading because it does not address
 16 total unavailability, which incorporates the time to repair a faulted line. A
 17 much more applicable reference is provided in Exhibit_Panel A-9, attached,
 18 American Electric Power (AEP) Report, Important Factors Affecting

1 Underground Placement of Transmission Facilities, which provides the
 2 following statistics for high voltage transmission lines on page 2:

Table 1 – Typical Reliability Statistics for 138 kV HPFF Cable and 138 kV Overhead Lines

	Overhead	Underground
Forced outage rate (outages/yr./mi.)	0.005	0.00165
Mean repair time (days)	0.375	21
Mean time between failures (yr.)	200	606
Unavailability (hours/year)	0.045	0.832

3
 4 Note that although the failure rate (i.e., forced outage rate) for underground
 5 lines is lower than for overhead lines, the unavailability of underground lines
 6 is reported to be 18.5 times higher than that of overhead lines. This is due to
 7 the much higher mean time to repair an underground line fault, as shown in the
 8 table.

9 There is much less reliability data for HVDC lines specifically, due to much
 10 less operating experience. However NYRI cited in its response to interrogatory
 11 CARI-79 (Exhibit_Panel A-10) UK National Grid statistics indicating a ratio
 12 of 27 to 51 times higher unavailability for HVDC cables versus overhead
 13 HVDC lines.

14 CARI also seems to confuse the outage times to restore an underground line
 15 after a fault versus an overhead line, with fault clearing times. Reliance on
 16 fault clearing times ignores the much longer time to locate and repair an
 17 underground line fault than an overhead line fault.

1 When comparing the reliability of overhead versus underground transmission
2 lines the best metric is availability; and published industry data clearly
3 indicates that the availability of overhead transmission lines is significantly
4 higher than that for underground transmission lines.

5
6 **Q. ON PAGES 13-14 OF EXHIBIT RRA-2 OF HIS DIRECT TESTIMONY,**
7 **CARI WITNESS AUSTRIA STATES THAT ALTHOUGH THE**
8 **DURATION OF OUTAGES FOR UNDERGROUND CABLES IS**
9 **LONGER THAT THAT OF OVERHEAD LINES, THE FREQUENCY**
10 **AT WHICH SUCH OUTAGES OCCUR IS MUCH HIGHER FOR**
11 **OVERHEAD LINES THAT IT IS FOR UNDERGROUND CABLES.**
12 **HOW DO YOU RESPOND TO THIS ASSERTION?**

13 **A.** As stated in our response above, the outage frequency statistic taken alone is
14 misleading. When the outage frequency is combined with outage duration,
15 underground transmission cables have a much higher unavailability time than
16 overhead transmission lines.

17
18 **Q. ON PAGE 14 OF EXHIBIT RRA-2 OF HIS DIRECT TESTIMONY,**
19 **CARI WITNESS AUSTRIA STATES THAT THAT PROBABILITY**
20 **THAT AN OVERHEAD LINE IS NOT AVAILABLE IS ABOUT 5**
21 **TIMES GREATER THAN THAT OF UNDERGROUND CABLES AND**
22 **THAT UNDERGROUND CABLES ARE MORE RELIABLE THAN**
23 **OVERHEAD LINES. IS THIS AN ACCURATE ASSERTION?**

1 A. No, it is not. The assertion that an overhead line is unavailable more than an
2 underground line is not accurate as explained above in our response. In fact,
3 the exact opposite is true; overhead transmission lines have a higher
4 availability than underground transmission lines. In addition, we explained
5 above that the CARI Underground Alternative is using an unproven
6 technology in this 1200MW application. There is no previously installed
7 HVDC Light operating at this capacity. This, considered together with the fact
8 that underground cables are less reliable than overhead, demonstrate very
9 strongly that the CARI proposed Alternative would be a less reliable option.

10

11 **Q. ON PAGE 9 OF WITNESS SHAFER'S TESTIMONY HE ASSERTS**
12 **THAT THE DESIGN OF THE HVDC LIGHT CABLES COULD**
13 **ACCOMMODATE THE CURRENT AND VOLTAGE CAPACITY**
14 **CONTEMPLATED IN THE NYRI PROJECT. HOW DO YOU**
15 **RESPOND TO THIS?**

16 A. Although the cable manufacturer has performed laboratory testing close to the
17 capacity required by the NYRI proposed project, no such cable has been
18 installed and operated in commercial use (see our responses above). Therefore
19 it is not a proven capability and such first-of-a-kind use is an undue risk.

20

21 **Q. PLEASE RESPOND TO WITNESS SHAFER'S TESTIMONY ON**
22 **PAGES 10 AND 11 WHERE HE ASSERTS THAT BURIED CABLE**
23 **CONSTRUCTION IS A WELL-ESTABLISHED TECHNOLOGY THAT**

1 **SHARES SIMILAR CONSTRUCTION ELEMENTS AND METHODS**
2 **WITH THE TECHNIQUES USED FOR CONSTRUCTION OF OTHER**
3 **UTILITIES, SUCH AS GAS LINES, VOICE AND DATA**
4 **COMMUNICATION LINES, WATER SUPPLY AND DRAINAGE**
5 **SYSTEMS.**

6 A. Mr. Shafer's testimony does not consider the significant differences between
7 the sensitivity of high voltage cable integrity to the various construction
8 methods used compared to the other underground equipment cited such as
9 pipes, which are much stronger, and communication lines, which operate
10 under virtually no voltage stress. Due to the high voltage dielectric stresses
11 present in high voltage cable, slight nicks caused during construction, or small
12 inconsistencies in the application of splices, and other environmental effects
13 present in an underground installation can have severely detrimental effect on
14 the cable insulation properties, which, when combined with the severe and
15 constant stress of the high dielectric force on the cable, are much more prone
16 to cause a breakdown in the cable ability to withstand such stress, resulting in
17 a cable fault. These installation effects are known to be some of the most
18 challenging aspects to design and operation of cable at higher voltages, and
19 one of the main reasons why the use of a new cable design unproven in field
20 applications is so risky. Even proven cable designs cannot be safely installed
21 by pipe installers, and typically require handling only by experienced cable
22 installers, which also increases the labor cost versus pipe or low voltage
23 communication cable installation.

1

2 **Q. ON PAGE 5 OF HIS DIRECT TESTIMONY, DPS STAFF WITNESS**
3 **QUIMBY STATES THAT THE ESTIMATE OF THE COST OF**
4 **THRUWAY BURIED CABLE ALTERNATIVE FROM UTICA TO OAK**
5 **POINT RAIL YARDS IN NEW YORK CITY IS \$3 BILLION. IS THIS**
6 **ESTIMATE REASONABLE?**

7 A. No, it is not. The Staff estimate of \$3 billion for the Thruway alternative
8 utilized costs from NYRI's workpapers, which are not directly applicable to the
9 Thruway alternative due to, for example, different construction and
10 transportation methods and durations that would need to be utilized. As stated
11 by Mr. Quimby, the Staff estimate of \$3 billion is low because it does not
12 account for the large ravine crossings, the crossing of the Hudson River, and the
13 cutting of hard rock along the Thruway. The trenching of the hard rock along
14 the Thruway along the southern portion would be extremely difficult and time-
15 consuming. These are only a few of the many potential differences not
16 accounted for in the Staff estimate. NYRI's estimate for an all underground
17 alternative is about twice as much as the hybrid overhead-underground design
18 along the proposed route, and is about 5.5 times more expensive than the hybrid
19 overhead-underground design when the costs of the converter stations, which
20 are the same for each alternative, are excluded.

21

22 **Q. PLEASE EXPLAIN WHY ALTERNATE MS-A WHICH**
23 **CONTEMPLATES PLACEMENT OF THE LINE UNDERNEATH AN**

1 **UPLAND DISPOSAL SITE WOULD NOT ADVERSELY IMPACT ANY**
2 **CONSTRUCTION ACTIVITIES BY HEAVY EQUIPMENT**
3 **INCLUDING EXCAVATION OF THE SITE USING BULLDOZERS**
4 **AND TRACK MOUNTED EXCAVATORS.**

5 A. In general the safe construction methods that will be applied on the project are
6 described in the Application.

7 Designing and constructing the proposed underground transmission line under
8 an Upland Disposal Site would involve selection of the appropriate design and
9 construction methods to ensure the transmission line is not damaged by
10 activities in the UDS and to ensure workers in the UDS can safely perform their
11 tasks.

12 While detailed site specific information along Alternate MS-A has not been
13 developed, design and construction methods exist and are well understood for
14 placing an underground transmission line underneath active construction sites
15 and other areas where the transmission line may be subject to damage or where
16 safety concerns for workers working over buried cable exist (navigable rivers
17 and harbors, streets in major cities and industrial plant or electric generation
18 sites).

19

20 **Q. PLEASE RESPOND TO EACH OF THE CONCERNS AND**
21 **CONDITIONS LISTED BY NYPA WITNESS CLINE ON PAGE 2 OF**
22 **HIS TESTIMONY.**

1 A. NYRI will design each bus span crossing to ensure that NESC clearance
2 requirements are met and the Marcy South transmission line will not be 'sag
3 limited' and the winter thermal rating is not compromised. While it's not clear
4 at this time that an additional 8-10 feet of clearance will be required as indicated
5 by witness Cline, during development of the EM&CP, NYRI will review the
6 proposed design with NYPA to demonstrate that NESC clearance requirements
7 have been met and that the winter thermal rating of the line is not compromised.
8 NYRI will ensure that its design (including the location of its dead end
9 structures) meets NESC horizontal and vertical clearance requirements to the
10 Marcy South conductors under NESC heavy wind blow out conditions. NYRI
11 will review its proposed design with NYPA during development of the
12 EM&CP.
13 NYRI agrees to locate its bus span crossing a minimum of 75 feet from the
14 base of NYPA's structure to ensure that NYPA has sufficient room to
15 maneuver equipment around its structure.
16 NYRI acknowledges that there may be times when the NYRI transmission line
17 must be removed from service to ensure NYPA worker safety during
18 maintenance of the Marcy South transmission line and that the coordination of
19 scheduling of such outages is necessary. NYRI will follow the NYISO process
20 for requesting and scheduling line outages.
21 NYRI acknowledges that during construction of the bus spans, the Marcy
22 South lines may need to be removed from service for limited amounts of time
23 to ensure worker safety. NYRI also acknowledges that scheduling such an

1 outage needs to be coordinated. NYRI will follow the NYISO process for
2 requesting line outages. NYRI expects the number and duration of any such
3 outages can be minimized with appropriate scheduling of the construction
4 activities that are driving the requirement for the outage.

5 As indicated on figure E-2.2.1.1 in Exhibit E-2 of NYRI's application, the
6 NYPA transmission lines entering Edic Substation from the west do not cross
7 through the converter yard, but pass on the north side of the converter yard.
8 They do, however, cross the property to be acquired by NYRI.

9

10 **Q. CAN THE NYRI FACILITY BE CONSTRUCTED SO THAT IT DOES**
11 **NOT INTERFERE WITH THE OPERATION AND MAINTENANCE OF**
12 **MARCY SOUTH?**

13 **A.** Construction of the bus span crossings is likely to require Marcy South to be
14 removed from service for limited amounts of time. NYRI will follow NYISO
15 process to request scheduled outages. NYRI will mitigate interference by
16 scheduling construction activities that require an outage at all bus span
17 crossings concurrently. In addition, mitigation of interference will occur
18 through scheduling during light load periods such as nights and weekends.

19

20 **Q. WILL THE NYRI FACILITY BE DESIGNED AND OPERATED SO**
21 **THAT IT DOES NOT INTERFERE WITH THE OPERATION AND**
22 **MAINTENANCE OF MARCY SOUTH?**

1 A. Yes. Adequate clearances, access, and development of operating procedures
2 will be coordinated with NYPA and NYISO during the detailed design phase so
3 that undue impact on Marcy South will not occur. By undue impact we mean
4 impacts that do not occur on similar existing parallel transmission lines with
5 overlapping shared rights of way. Sharing of a Right-of-Way implies both
6 parties must work together to minimize any impact to either party. This is a
7 common practice among utilities to minimize land required for transmission
8 corridors and in fact NYPA and National Grid share the first few miles of
9 Marcy South Right-of-Way east of the Marcy-Edic Area.

10

11 **Q. PLEASE RESPOND TO MR. CLINE'S STATEMENT AT PAGE 6 OF**
12 **HIS TESTIMONY ABOUT WORKER PROTECTION PROCEDURES**

13 A. Worker safety is of paramount importance. Worker protection procedures will
14 be developed not only with NYPA, but with all other utilities affected by the
15 NYRI project construction and operation. Coordination with system operators
16 and temporary removal of automatic reclosing on relays are examples of
17 standard safety procedures incorporated in operating procedures to ensure
18 worker safety.

19

20 **Q. PLEASE COMMENT ON NYPA WITNESS O'CONNOR'S CLAIMS**
21 **ON PAGE 3 OF HIS DIRECT TESTIMONY THAT THERE ARE**
22 **RESTRICTIONS ON NYPA'S ABILITY TO GRANT EASEMENTS TO**

1 **THIRD PARTIES TO USE THE PROPERTY ON WHICH MARCY**
2 **SOUTH IS LOCATED.**

3 A. If the Commission were to certify the Marcy South Alternate Route, NYRI
4 would expect to work with NYPA and the landowners along NYPA's ROW so
5 that the easements necessary for the Project could overlap with NYPA's
6 Marcy South property. Such cooperation would be in the best interest of the
7 State and affected landowners because it would reduce the amount of property
8 that would be needed for the Project. However, if NYPA is unable to, or
9 simply refuses to, allow the use of its land rights for this purpose, NYRI would
10 extend its right-of-way such that it would be adjacent and parallel to Marcy
11 South, but not overlap with NYPA's land rights.

12

13 **Q. WOULD TAKING ONE OF THE EXISTING MARCY SOUTH AC**
14 **CIRCUITS OUT OF SERVICE AND REPLACING IT WITH A DC**
15 **CIRCUIT PROVIDE THE SAME BENEFITS AS NYRI'S FACILITY?**

16 A. In general adding a new line that provides additional transmission capacity
17 would be of more benefit than replacing an existing circuit. Therefore, it is
18 unlikely that converting one of the Marcy South Lines from AC to DC would
19 provide the same system benefits as the proposed NYRI line, but similar studies
20 as performed by NYRI would have to be done to compare the benefits of a
21 Marcy South AC-to-DC circuit replacement.

22

1 Q. AT PAGE 3-4 OF HIS TESTIMONY MR. BURTON DISCUSSES
2 ADVANTAGES TO INTRODUCING AN HVDC CIRCUIT WITHIN AN
3 AC NETWORK. WOULD THESE ADVANTAGES APPLY TO NYRI'S
4 PROPOSAL?

5 A. Yes, each of the advantages cited by Mr. Burton would apply to NYRI's
6 proposed HVDC project. The NYRI project interconnects to the underlying
7 HVAC transmission system at each terminal, Edic substation in the North and
8 Rock Tavern Substation in the South, and thus becomes integral within the New
9 York State bulk AC power system.

10

11 The following addresses each advantage cited by Mr. Burton and discusses
12 why each applies to the NYRI Project:

13 First, as stated in Exhibit E-1 of NYRI's application, the NYRI transmission
14 line is a bi-polar system and will be designed to operate as two independent
15 electrical poles. As such, the outage of one pole will not affect the operation of
16 the other pole and when one pole is out of service the remaining active pole
17 will operate in a monopolar configuration at 50% of the rated power flow.

18

19 Second, since the NYRI transmission line is an addition to the New York State
20 bulk power system, the power flow from upstate to downstate is increased by
21 1200 MW as clearly indicated in the SRIS. This is more benefit than can be
22 gained by replacing an existing AC circuit with a DC circuit of about the same

1 power rating, as would be the case in replacing one of the Marcy South
2 circuits.

3

4 Third, the precise controllability of power flows on an HVDC transmission line
5 is a well-known advantage of the technology and applies to the NYRI project.

6

7 Fourth, as demonstrated in the SRIS, no AC circuit breaker short circuit
8 interrupting ratings were exceeded as a result of the NYRI transmission line.

9

10 Fifth, as demonstrated in the SRIS, the NYRI project does not adversely affect
11 the New York State bulk power system's ability to meet stability performance
12 criteria. Further, the NYRI project increases the transfer limits of the Total
13 East, UPNY-SENY and Volney East interfaces.

14

15 Lastly, as indicated in the SRIS, the NYRI project improves system voltage
16 performance during contingencies in Southeastern New York, further
17 demonstrating that the project fully intends to integrate the HVDC controls
18 with the existing AC network control system, to enable NYISO Operations to
19 take full advantage of the HVDC system's capability, to the benefit of the NY
20 Control Area.

21

1 **Q. IS MR. BURTON CORRECT THAT NYRI'S PROJECT WOULD NOT**
2 **REALIZE THE BENEFITS THAT MR. BURTON IDENTIFIES IN HIS**
3 **TESTIMONY?**

4 **A. No, Mr. Burton is not correct. As we have just explained, the NYRI project**
5 **realizes each of the benefits Mr. Burton identified in his testimony.**
6

7 **IV. LOCAL ORDINACES**

8 **Q. ON PAGE 19 OF HIS DIRECT TESTIMONY, DPS STAFF WITNESS**
9 **POWELL RECOMMENDS THAT NYRI UNDERTAKE A**
10 **PRECONSTRUCTION ASSESSMENT MEASURING THE AMBIENT**
11 **SOUND LEVELS AT EACH CONVERTER STATION COMBINED**
12 **WITH THE EQUIPMENT SOUND LEVEL INFORMATION AND**
13 **PROPOSED CONVERTER STATION DESIGN AND NECESSARY**
14 **ACOUSTICAL MITIGATION TO DEMONSTRATE THAT STATION**
15 **OPERATION WILL NOT RESULT IN SOUNDS LEVELS THAT ARE**
16 **SUFFICIENT TO PRODUCE COMPLAINTS. WHAT IS YOUR**
17 **RESPONSE TO THIS RECOMMENDATION?**

18 **A. A preconstruction noise monitoring program at the converter station locations**
19 **will be an element of the design and installation process for noise mitigation**
20 **measures at the converter station locations.**
21

22 **Q. IN EXHIBIT POWELL-3 OF THIS DIRECT TESTIMONY, DPS**
23 **STAFF WITNESS POWELL OUTLINES A SERIES OF CONDITIONS**

1 **FOR THE CERTIFICATED ROUTE. HAVE YOU REVIEWED**
2 **THESE PROPOSED CONDITIONS?**

3 A. Yes. The conditions presented are consistent with information provided by
4 NYRI in its application and represent reasonable environmental management
5 and construction practices that NYRI would implement for the installation of
6 the transmission line along the certified route.

7

8 **Q. DOES NYRI AGREE WITH THE RECOMMENDATIONS AND**
9 **RATIONALE OF DPS STAFF WITNESS POWELL SET FORTH IN**
10 **EXHIBIT POWELL-1 REGARDING NYRI'S REQUESTS FOR**
11 **WAIVERS FROM LOCAL REQUIREMENTS FOR THE**
12 **MUNICIPALITIES TRAVERSED BY THE PROPOSED ROUTE?**

13 A. Yes.

14

15 **Q. DID NYRI IDENTIFY APPLICABLE LOCAL REQUIREMENTS AND**
16 **REQUEST WAIVERS FROM SUCH REQUIREMENTS FOR THE**
17 **MUNICIPALITIES TRAVERSED BY NYRI'S MARCY SOUTH**
18 **ALTERNATE ROUTE?**

19 A. Yes, in accordance with the requirements of the December 22, 2008
20 Procedural Ruling in this proceeding, NYRI, on January 23, 2009, provided
21 the parties to this proceeding the information required by 16 NYCRR § 86.8
22 for all the municipalities traversed by NYRI's Marcy South Alternate Route,
23 except for the Town of Hamden (Delaware County) and the Town of

1 Columbia (Herkimer County) (see Exhibit_Panel A-11). With respect to these
2 two municipalities, NYRI was unable to provide the information required by
3 16 NYCRR § 86.8 at such time because NYRI had not yet received copies of
4 the local laws from such municipalities. However, NYRI is now in receipt of
5 the local laws from these municipalities and will provide the information
6 required by 16 NYCRR § 86.8 with respect to the same to the parties to this
7 proceeding on or before March 4, 2009.

8
9 **Q. DID THE REQUEST FOR WAIVERS FROM LOCAL**
10 **REQUIREMENTS PROVIDED IN EXHIBIT_PANEL A-11 UTILIZE**
11 **THE SAME RATIONALE AS THE SIMILAR REQUESTS PROVIDED**
12 **IN EXHIBIT 7 OF NYRI'S APPLICATION WITH RESPECT TO THE**
13 **PROPOSED ROUTE?**

14 **A. Yes.**

15
16 **Q. GIVEN THE SIMILAR RATIONALE FOR THE WAIVER REQUESTS**
17 **SET FORTH IN EXHIBIT_PANEL A-11 WITH RESPECT TO NYRI'S**
18 **MARCY SOUTH ALTERNATE ROUTE AND EXHIBIT 7 OF NYRI'S**
19 **APPLICATION WITH RESPECT TO THE PROPOSED ROUTE,**
20 **SHOULD THE COMMISSION GRANT THE WAIVER REQUESTS**
21 **WITH RESPECT TO NYRI'S MARCY SOUTH ALTERNATE ROUTE**
22 **IN THE EVENT SUCH ROUTE IS CERTIFIED BY THE**
23 **COMMISSION?**

1 A. Yes. Given the similarity between the requests for the Proposed Route and
2 NYRI's Marcy South Alternate Route, the rationale presented by DPS Staff
3 Witness Powell in Exhibit Powell-1 for recommending approval of NYRI's
4 waiver requests with respect to the Proposed Route is equally applicable to
5 NYRI's waiver requests for its Marcy South Alternate Route. Accordingly,
6 for similar reasons expressed in Exhibit Powell-1, the Commission should
7 approve NYRI's waiver requests with respect to its Marcy South Alternate
8 Route in the event such route is certified by the Commission.

9
10 **Q. ON PAGE 3 OF HIS DIRECT TESTIMONY, TOWN OF BETHEL**
11 **WITNESS STURM INDICATES THAT CHAPTER 220 (FORMERLY**
12 **CHAPTER 91) AND CHAPTER 279 (FORMERLY CHAPTER 63) MAY**
13 **BE APPLICABLE TO THE PROJECT. HAVE YOU REVIEWED**
14 **THESE CODE SECTIONS FOR APPLICABILITY?**

15 A. NYRI reviewed both former Chapters 91 and 63 during development of its
16 application and found they were not applicable to the Project, as enacted at the
17 time of such review.

18
19 **Q. ON PAGES 4 - 6 OF HIS DIRECT TESTIMONY, TOWN OF BETHEL**
20 **WITNESS STURM ASSERTS THE COMMISSION SHOULD DENY**
21 **NYRI'S WAIVER REQUEST FROM TOWN CODE §178-12**
22 **REGARDING DEVELOPMENT OCCURRING WITHIN THE**

1 **FLOODPLAIN REQUIRING AN AUTHORIZED PERMIT. WHAT IS**
2 **YOUR RESPONSE TO THIS ASSERTION?**

3 A. I am informed by counsel that under section 130 of the Public Service Law,
4 the Town of Bethel would be precluded from requiring NYRI to obtain such a
5 permit.

6
7 **Q. ON PAGES 5 - 6 OF HIS DIRECT TESTIMONY, TOWN OF BETHEL**
8 **WITNESS STURM ASSERTS THAT NYRI SUBMITS NO EVIDENCE**
9 **TO SUPPORT ITS WAIVER REQUEST FROM TOWN CODE § 178-**
10 **12(F) AND IT ALSO FAILS TO ADDRESS ONE OF THE PRINCIPAL**
11 **CONCERNS OF TOWN CODE §178-12(A)(3), NAMELY ADVERSE**
12 **IMPACTS TO NEIGHBORING PROPERTY OWNERS BASED UPON**
13 **CONSTRUCTION ACTIVITIES WITHIN THE FLOODPLAIN. HOW**
14 **DO YOU RESPOND TO THESE CLAIMS?**

15 A. NYRI recognizes the purpose and importance of flood prevention regulations,
16 and the Project will comply with all applicable federal standards regarding
17 floodplains established by the Federal Emergency Management Agency
18 (FEMA). Section 4.14 of Exhibit 4 and Appendix C of NYRI's application
19 provide additional information regarding structures or work that may be
20 necessary in floodplains. NYRI has indicated that the construction in
21 floodplains, if necessary, will not increase flood levels, alter floodways or
22 create a threat to public safety with respect to flooding based on design

1 standards established by National Electric Safety Code and good engineering
2 practices.

3 Table 7.6-1 in Exhibit 7 of NYRI's application provides the justification for a
4 waiver from Town Code §178-12(F), formerly referred to as Town Code § 76-
5 12(F), and such request is supported by DPS Staff Witness Powell (see Exhibit
6 Powell-1 p. 31).

7

8 **Q. ON PAGE 9 OF THE HIS DIRECT TESTIMONY, TOWN OF BETHEL**
9 **WITNESS STURM OBJECTS TO WAIVER REQUESTS FROM ANY**
10 **OF THE REQUIREMENTS CONTAINED IN THE DISTRICT**
11 **SCHEDULE OF REGULATIONS. WHAT IS YOUR RESPONSE TO**
12 **HIS OBJECTIONS?**

13 **A.** NYRI has requested waiver of requirements such as side yard and lot size
14 requirements of each district established in §345-10 and Schedule of District
15 Regulations of the Town of Bethel Zoning Code. Table 7.6-1 in Exhibit 7 of
16 NYRI's application provides the justification for a waiver from such
17 requirements, and such request is supported by DPS Staff Witness Powell (see
18 Exhibit Powell-1 pp. 31-32).

19 NYRI does not need to explicitly seek a waiver from the code provisions
20 requiring site plan and special permit approval because I am informed by
21 counsel that under section 130 of the Public Service Law, the Town of Bethel
22 would be precluded from requiring NYRI to obtain such a permit.

23

1 **Q. ON PAGE 10 OF HIS DIRECT TESTIMONY, TOWN OF BETHEL**
2 **WITNESS STURM OBJECTS TO A WAIVER REQUEST FROM**
3 **FORMER TOWN CODE §130-16 OR CURRENT §345-17 REQUIRING**
4 **THE APPLICANT TO SUBMIT A LANDSCAPE PLAN. HOW DO**
5 **YOU RESPOND TO HIS OBJECTIONS?**

6 **A. Table 7.6-1 in Exhibit 7 of NYRI's application provides the justification for a**
7 **waiver from Town Code §345-17, formerly referred to as Town Code § 130-**
8 **16, and such request is supported by DPS Staff Witness Powell (see Exhibit**
9 **Powell-1 p. 31).**

10

11 **Q. ON PAGE 12 OF HIS DIRECT TESTIMONY, TOWN OF BETHEL**
12 **WITNESS STURM ASSERTS THAT A WAIVER REQUEST FROM**
13 **TOWN CODE §345-22(D) SHOULD BE DENIED BECAUSE IT**
14 **WOULD EXTEND TO NYRI AN UNFETTERED RIGHT TO MAKE**
15 **NOISE. THE APPLICANT SHOULD OBTAIN A PERMIT IF IT**
16 **DESIRES TO ENGAGE IN ACTIVITIES DURING TIMES OTHER**
17 **THAN THOSE IDENTIFIED IN THE TOWN CODE. WHAT IS YOUR**
18 **RESPONSE TO THIS ASSERTION?**

19 **A. Table 7.6-1 in Exhibit 7 of NYRI's application provides the justification for a**
20 **waiver from Town Code §130-21(D) or current §345-22(D), formerly referred**
21 **to as Town Code § 130-21(D), and such request is supported by DPS Staff**
22 **Witness Powell (see Exhibit Powell-1 p. 32).**

23

1 Q. ON PAGE 3 OF HIS DIRECT TESTIMONY TOWN OF BETHEL
2 WITNESS STURM INDICATES THAT THE TOWN CODE HAS
3 RECENTLY UNDERGONE RENUMBERING OF ITS SECTIONS.
4 DOES NYRI INTEND THAT THE WAIVER REQUEST SET FOR IN
5 TABLE 7.6-1 IN EXHIBIT 7 OF NYRI'S APPLICATION TO APPLY
6 EQUALLY TO THE APPLICABLE RENUMBERED PROVISIONS OF
7 THE TOWN CODE?

8 A. Yes.

9
10 Q. DO YOU AGREE WITH TOWN OF HIGHLAND WITNESS
11 PALECEK'S ASSERTION THAT NYRI IS SEEKING TO AVOID THE
12 CONSEQUENCES OF NOT FOLLOWING THE TERMS OF THE
13 PERMIT FOR CONSTRUCTION IN THE FLOODPLAIN AND
14 SEEKING NOT TO BE SUBJECT TO A STOP WORK ORDER AND
15 PENALTIES?

16 A. No. NYRI recognizes the purpose and importance of flood prevention
17 regulations, and the project will comply with all applicable federal standards
18 established by FEMA. Section 4.14 of Exhibit 4 and Appendix C of NYRI's
19 application provide additional information regarding structures or work that
20 may be necessary in floodplains. NYRI has indicated that the construction in
21 the floodplain will not increase flood levels, alter floodways or create a threat
22 to public safety with respect to flooding based on design standards established
23 by National Electric Safety Code and good engineering practices.

1

2 NYRI did not pursue a waiver from Code §70-12(A) because I am informed
3 by counsel that under section 130 of the Public Service Law, the Town of
4 Highland would be precluded from requiring NYRI to obtain such a permit.

5 With respect to stop work orders, Table 7.6-1 in Exhibit 7 of NYRI's
6 application provides the justification for a waiver from Town Code §70-12(F),
7 and the request for such waiver is supported by DPS Staff Witness Powell (see
8 Exhibit Powell-1 p. 38).

9

10 **Q. DO YOU AGREE WITH TOWN OF HIGHLAND WITNESS**
11 **PALECEK'S ASSERTION THAT NYRI PROVIDES NO**
12 **JUSTIFICATION FOR ITS WAIVER REQUEST REGARDING TOWN**
13 **CODE §115-03?**

14 **A.** No. Table 7.6-1 in Exhibit 7 of NYRI's application provides the justification
15 for a waiver from Town Code §115-03, and the request for such waiver is
16 supported by DPS Staff Witness Powell (see Exhibit Powell-1 p. 38).

17

18 **Q. PLEASE RESPOND TO TOWN OF HIGHLAND WITNESS**
19 **PALECEK'S ARGUMENT THAT NYRI IS NOT ENTITLED TO A**
20 **WAIVER FROM CODE §190-29 CONCERNING OUTDOOR**
21 **DAYTIME AND NIGHTTIME SOUND LEVELS.**

1 A. Table 7.6-1 in Exhibit 7 of NYRI's application provides the justification for a
2 waiver from Town Code §190-29, and the request for such waiver is supported
3 by DPS Staff Witness Powell (see Exhibit Powell-1 p. 38).

4
5 **Q. PLEASE RESPOND TO THE TOWN OF HIGHLAND WITNESS**
6 **PALECEK'S ARGUMENT NYRI IS NOT ENTITLED TO A WAIVER**
7 **FROM CODE §190-33 REGARDING ALLOWING THE CODE**
8 **ENFORCEMENT OFFICER TO ISSUE A STOP WORK ORDER**
9 **WHEN APPROPRIATE.**

10 A. Table 7.6-1 in Exhibit 7 of NYRI's application provides the justification for a
11 waiver from Town Code §190-33, and the request for such waiver is supported
12 by DPS Staff Witness Powell (see Exhibit Powell-1 p. 38).

13
14 **Q. ON PAGES 7 - 8 OF HER DIRECT TESTIMONY, TOWN OF**
15 **HIGHLAND WITNESS PALECEK OBJECTS TO GRANTING A**
16 **WAIVER FROM BULK REGULATIONS AS THEY PERTAIN TO**
17 **MAXIMUM HEIGHTS IN R-2 DISTRICTS. HOW DO YOU RESPOND**
18 **TO THIS OBJECTION?**

19 A. Table 7.6-1 in Exhibit 7 of NYRI's application provides the justification for a
20 waiver from Town Code §190 Bulk Regulations, and the request for such
21 waiver is supported by DPS Staff Witness Powell (see Exhibit Powell-1 p. 38).

22

23

1 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?**

2 **A. Yes.**

3 J:\DATA\Client4 11825-12199\12010\Rebuttal\DraftTestimony\Panel A Rebuttal - 022809.doc

1 BY MR. BISSELL:

2 Q. With respect to the Rebuttal Testimony for Panel A, this
3 Rebuttal Testimony also included 11 Exhibits entitled Exhibit
4 Panel A-1 through Exhibit Panel A-11; is that correct?

5 A. (Panel A Members) Yes.

6 Q. Exhibit Panel A-1 consists of a single page entitled
7 "Transmission Project Finance," correct?

8 A. (Panel A Members) Yes.

9 Q. Exhibit Panel A-2 consists of five pages containing the
10 Response by NYRI to DPS 70, including three figures that were
11 attached to that Response, correct?

12 A. (Panel A Members) Yes.

13 Q. Exhibit Panel A-3 consists of a single page containing
14 the Response by NYRI to DPS 96, correct?

15 A. (Panel A Members) Yes.

16 Q. Exhibit Panel A-4 consists of two pages setting forth the
17 cost estimates prepared by NYRI for DPS Staff regarding DPS
18 Staff's proposed alternates to Marcy South Alternate Route,
19 correct?

20 A. (Panel A Members) Yes.

21 Q. Exhibit Panel A-5 consists of a single page containing
22 the Response by NYRI to DEC 7, correct?

23 A. (Panel A Members) Yes.

24 Q. Exhibit Panel A-6 consists of four pages providing a

1 comparison of HVDC Classic to HVDC Light, correct?

2 A. (Panel A Members) Yes.

3 Q. Exhibit Panel A-7 consists of four pages containing the
4 Responses of Communities Against Regional Interconnect to NYRI
5 10, NYRI 104 and NYRI 118, correct?

6 A. (Panel A Members) Yes.

7 Q. Exhibit Panel A-8 consists of a single page containing
8 the Response of Communities Against Regional Interconnect to NYRI
9 105, correct?

10 A. (Panel A Members) Yes.

11 Q. Exhibit Panel A-9 consists of six pages containing your
12 report entitled "Important Factors Affecting Underground
13 Placement of Transmission Facilities," correct?

14 A. (Panel A Members) Yes.

15 Q. Exhibit Panel A-10 consists of three pages containing the
16 Response of NYRI to CARI 79, correct?

17 A. (Panel A Members) Yes.

18 Q. And Exhibit Panel A-11 consists of 424 pages containing
19 the information required by 16 NYCRR, Section 86.8 regarding the
20 Marcy South Alternate as was required to be submitted by NYRI in
21 accordance with the December 22nd, 2008 Procedural Rule; is that
22 correct?

23 A. (Panel A Members) Yes.

24 Q. And this also contains the same information with regard

1 to the Town of Columbia in Herkimer County and the Town of Hamden
2 in Delaware County, which were provided to the parties on March
3 4th, 2009; is that correct?

4 A. (Panel A Members) Yes.

5 MR. BISSELL: For the record, your Honor, an amended
6 Exhibit Panel A-11 was provided to the Secretary and to all
7 parties. It was amended to contain the information for the Town
8 of Hamden and the Town of Columbia on March 10th, 2009.

9 JUDGE PHILLIPS: Okay. And that amended exhibit was
10 what was provided to the court reporter?

11 MR. BISSELL: That is correct. Your Honor, I would
12 like to request Panel A-1 through Exhibit Panel A-11,
13 which were marked this morning as Exhibits 212 through
14 Exhibit 222 be marked for identification in the record.

15 JUDGE PHILLIPS: The exhibits have been so marked.

16 (Exhibit Numbers 212 through 222 were marked for
17 identification.)

18 JUDGE PHILLIPS: And just I'll run through it really
19 quickly to make sure everyone else has it. A-1 has been
20 marked as 212, A-2 213, A-3 214, A-4 215, A-5 216, A-6
21 217, A-7 218, A-8 219, A-9 220, A-10 221 and A-11 is 222.

22 MR. BISSELL: Your Honor, the panel is available for
23 cross-examination.

24 JUDGE PHILLIPS: Thank you. I should have stated

1 explicitly. I think it's clear to everyone here, but
2 just in case it's not, I did not swear in all of the
3 panel members because the prior, the other panel members
4 were priorly sworn in, and they are still under oath. So
5 I'm just reminding them that and explaining why, at
6 least, I swore in Mr. Nield.

7 Also, I noticed that counsel for DOT came in, and
8 would you like to do an appearance.

9 MS. HINTZ: Donna Hintz for DOT.

10 JUDGE PHILLIPS: Thank you. With that, I believe
11 we're going to begin the cross-examination with CARI?

12 MS. COLLELA: Yes, your Honor. I have a few
13 questions first, and then I'm going to turn it over to
14 Mr. Kluscik.

15 CROSS-EXAMINATION

16 BY MS. COLLELA:

17 Q. Good morning, panel.

18 A. (Panel A Members) Good morning.

19 Q. We're going to start by turning to Page 22 of your
20 Rebuttal Testimony. Are you with me?

21 A. (Mr. Wood) Yes.

22 Q. This is where you began your discussion of CARI witness,
23 Mr. LaFleur's testimony, correct?

24 A. (Mr. Wood) Yes.

1 A. (Mr. Nield) Yes.

2 Q. And on Page 22, you discuss Mr. LaFleur's testimony
3 regarding impacts to surface waters. And you point out the fact
4 that he did not do a quantitative analysis as far as identifying
5 the number of streams and rivers crossed by CARI's Marcy South's
6 Buried Cable Alternative; is that correct? I believe that
7 discussion goes on to the next page.

8 A. (Ms. Ernst Sims) Yes.

9 MR. BLOW: Your Honor, I believe the witnesses need
10 to use the mics.

11 JUDGE PHILLIPS: Can you just make sure your mics
12 are on and make sure they are close to you when you
13 speak?

14 MR. WOOD: Yes, we will.

15 Q. Did you identify the number of streams and rivers
16 potentially crossed by CARI's Marcy South Buried Cable
17 Alternative?

18 A. (Mr. Wood) No, we did not.

19 Q. Okay. If I told you that our consultant, Mr. LaFleur,
20 did actually quantify those potential stream and river crossings
21 for the CARI Marcy South Buried Cable Alternative and determined
22 that it would potentially cross 99 rivers and streams at a total
23 of 102 crossing locations, would that sound about right to you?

24 A. (Mr. Wood) We don't know. It could be right. We just

1 don't know.

2 Q. Do you recall from the Application materials the number
3 of stream and river crossings, the stream and river potential
4 crossings by NYRI's Proposed Route? And I can point you to a
5 section.

6 A. (Mr. Wood) We'd have to look it up, but we do have it.

7 Q. I believe that's in Exhibit 4, Section 4.12.2.1.

8 A. (Ms. Ernst Sims) A hundred and nineteen.

9 Q. That's 119 streams and rivers potentially crossed by the
10 Proposed Route?

11 A. (Ms. Ernst Sims) Individual streams and rivers.

12 Q. For a total of how many crossing locations?

13 A. (Ms. Ernst Sims) Two hundred and thirty.

14 Q. Okay. So just on a quantitative basis, if we compared,
15 and assuming our consultant's numbers are correct, if we compare
16 the potential crossings by CARI's Marcy South Buried Route at 99
17 individual streams and rivers for a 102 total crossing locations
18 and the potential crossings by NYRI's Proposed Route at 119
19 individual rivers and streams and a total of 230 total crossing
20 locations, wouldn't you agree that CARI's Marcy South Buried
21 Route has less potential for stream and river crossings?

22 MR. BISSELL: Your Honor, I object. There's been no
23 authentication in the record that Mr. LaFleur's quantification of
24 the number of streams crossed has been verified. The witnesses

1 did identify earlier when that was asked of them they did not
2 know and we need to check those numbers.

3 MS. COLLELA: Yes, your Honor. I was asking them to
4 assume that was correct, those numbers were correct.

5 JUDGE PHILLIPS: So you're stating it as
6 hypothetically?

7 MS. COLLELA: Yes.

8 JUDGE PHILLIPS: Okay. Then I'll allow it.

9 A. (Mr. Wood) Could you just repeat that? I'm sorry.

10 Q. Okay. Assuming our witness LaFleur, Mr. LaFleur's
11 numbers are correct on the potential crossings of streams and
12 rivers by CARI's Marcy South Buried Cable Alternative at 99
13 individual rivers and streams, 402 total crossing locations,
14 wouldn't you agree that that presents less potential stream
15 crossings than NYRI's Proposed Route?

16 A. (Mr. Wood) In total numbers, it does. There are fewer
17 streams in total numbers.

18 Q. Okay. Thank you. Now, let's turn to Page 23, if you're
19 not already there, of your Rebuttal Testimony.

20 A. (Mr. Wood) Could we just -- I would just like to follow
21 to another question. You asked total number of streams, and
22 there are fewer streams. However, they are all crossed
23 underground. Those are all underground crossings on the CARI
24 Route, and the majority of the crossings on the NYRI Route are

1 overhead crossings. I'd just like to make that distinction.

2 Q. Okay. We're going to get to that, too. So are you at
3 Page 23 of your Rebuttal Testimony?

4 A. (Mr. Wood) We are, yes.

5 Q. Starting at Line 13, you stated that you compared the
6 potential impacts from stream crossings using open trench, the
7 open trench method versus crossing the streams by overhead
8 spanning; is that correct?

9 A. (Ms. Ernst Sims) Maybe if you could just read it
10 specifically, I don't know if that --

11 Q. Okay. I'll read it for you. On Line 13 you say, "The
12 open trench method of stream crossings can increase the potential
13 for surface water impacts as compared to the potential impacts
14 associated with spanning a stream with an overhead transmission
15 line."

16 A. (Mr. Wood) Right, that's correct.

17 Q. So for this comparison here, you were assuming open
18 trench method for stream crossings instead of HDD?

19 A. (Mr. Wood) Yes, that's correct.

20 Q. Okay. And you were assuming overhead spanning as the
21 other --

22 A. (Mr. Wood) -- as the other comparison.

23 Q. -- as the other better comparison. Okay. Isn't it true
24 that NYRI's Route is not entirely an overhead route?

1 A. (Mr. Wood) Yes, that's correct.

2 Q. And there are some proposed underground crossings for
3 streams?

4 A. (Mr. Wood) That's correct.

5 Q. And I believe we made it pretty clear in his testimony,
6 but I'll just have you affirm it again, that for some of those
7 streams that are considered protected, a certain level, that
8 being those designated CT and higher, you've proposed crossing by
9 HDD?

10 A. (Mr. Wood) Yes, that's correct.

11 Q. But for the remainder of those underground stream
12 crossings, they would be primarily done by open-cut trench
13 method?

14 A. (Mr. Wood) Yes, that is correct or overhead.

15 Q. No. I'm talking about underground.

16 A. (Mr. Wood) For underground, yes.

17 Q. Okay. Do you know the number of streams that you
18 proposed to cross by open trench method? If I told you I went
19 ahead and counted them, could I give you the number and see if
20 you think that sounds right?

21 A. (Mr. Wood) Yes, sure.

22 Q. There are 24 total underground crossings. And first, let
23 me just confirm, is a stream that's designated C, would that be
24 considered below a CT classification?

1 A. (Ms. Ernst Sims) Yes.

2 Q. Okay. Then for the total of 24 underground crossings, I
3 count 13 stream crossings that would be considered below CT
4 designation. Does that sound right?

5 A. (Ms. Ernst Sims) Yes.

6 Q. Okay. So more than half of your underground stream
7 crossings are going to be done using the open-cut trench method;
8 is that correct?

9 A. (Mr. Wood) Yes.

10 Q. Okay. And for the NYRI Marcy South Alternative Route,
11 you haven't determined which streams you're going to cross
12 underground versus overhead; have you?

13 MR. BISSELL: Your Honor, may I approach the
14 witnesses and provide them the Appendix L fee
15 calculation, which includes the Marcy South comparison?

16 JUDGE PHILLIPS: Yes.

17 A. (Mr. Wood) Give us a moment just to get there. We don't
18 have an exact number, but it would be less than ten.

19 Q. And what are you basing that on?

20 A. (Mr. Wood) Based on Table 2 -- Appendix L, Table 2.7.1-1.

21 Q. Okay. That's Table 2.7.1-1, "Rivers and Streams Crossed
22 and Parallel by the Marcy South Alternate Route"?

23 A. That's correct.

24 Q. Is there a column in that table that indicates whether

1 your crossing is going to be underground or overhead?

2 A. (Mr. Wood) The only underground section on the Marcy
3 South Alternate Route is the first 7.7 miles. That's what we
4 based that on. The rest of the route is an overhead route.

5 Q. So you're counting the stream crossings in that section
6 when you come up with the Number 10?

7 A. (Mr. Wood) Yes, yes.

8 A. (Ms. Ernst Sims) Ten, maximum would be ten.

9 Q. Okay. All right. Let's go back to your discussion about
10 the potential impacts associated with spanning a stream. That's
11 on Page 23 of your Rebuttal Testimony. So there are potential
12 impacts associated, even when you span a stream overhead as far
13 as potential impacts to surface waters; is that correct?

14 A. (Ms. Ernst Sims) Can you be more specific?

15 Q. Okay. Sure. In the Application materials in Exhibit 4,
16 Section 4.12.3.1, you state that NYRI's Route has the potential
17 to parallel streams and rivers. In fact, the Proposed Route
18 parallels as adjacent to streams and rivers for a good portion of
19 the route; isn't it?

20 A. (Mr. Wood) I don't know what you mean by "a good
21 portion," but there are streams adjacent to it, yes. Could we
22 just clarify? Are we talking about the Alternate, Marcy South
23 Alternate or the Proposed?

24 Q. The Proposed Route.

1 A. (Mr. Wood) Thank you.

2 Q. In Section 4.12.3.1, you state that the Proposed Route
3 follows Sauquoit Creek for a distance of approximately 18 miles;
4 is that correct? That's on Page 107.

5 A. (Ms. Ernst Sims) Yes.

6 Q. And you further state that the Proposed Route follows the
7 Sangerfield River for an approximate distance of 12 miles; is
8 that correct?

9 A. (Ms. Ernst Sims) Yes.

10 Q. You also state that the Proposed Route follows the
11 Shenango River for a distance of 16 miles; is that correct?

12 A. (Ms. Ernst Sims) Yes.

13 Q. And you further state that it parallels the Shawangunk
14 Hill for approximately five miles; is that correct?

15 A. (Ms. Ernst Sims) Yes.

16 Q. On Page 110, third paragraph, you state that sections of
17 the Project that parallel streams can create temporary
18 construction-related quality impacts, correct?

19 A. (Ms. Ernst Sims) Yes.

20 Q. And you state that the Project's structures found in
21 those areas require certain foundations to be installed, correct?

22 A. (Ms. Ernst Sims) Well, we just state that the typical
23 project structures found in these areas that are within -- maybe
24 you can just restate your statement.

1 Q. Well, let me just rephrase. I'll ask you a different
2 question. So in these areas that parallel or are adjacent to
3 rivers and streams, and I think there are more than the ones we
4 just went over, but in these areas where they are parallel or
5 adjacent to rivers and streams, there will be Project structures
6 that need to be installed for the overhead route, correct?

7 A. (Ms. Ernst Sims) Yes.

8 Q. And foundations will need to be installed, correct?

9 A. (Ms. Ernst Sims) Yes.

10 Q. And for those foundations, there will have to be clearing
11 and grubbing of the area where the foundation will be installed,
12 correct?

13 A. (Ms. Ernst Sims) Yes, but I think we need to clarify.
14 This paragraph is talking about on the railroad. So it would be
15 within the railroad corridor. So those areas are typically
16 already cleared where the foundation would go.

17 Q. But there would be other areas off the railroad
18 potentially adjacent to, parallel to rivers and streams where
19 foundations will need to be installed?

20 A. (Mr. Wood) Yes, there could be.

21 Q. Okay. And would you agree that when you install these
22 locations in these areas and you have to clear and grub, that
23 this will increase the potential for sediment runoff in locations
24 near these streams?

1 A. (Ms. Ernst Sims) Well, when structures have to be located
2 in those types of areas, best management practices will be
3 designed to mitigate potential impacts.

4 Q. Well, that's not my question. My question is, will there
5 be potential impacts for sediment runoff?

6 A. (Ms. Ernst Sims) It would depend on the site. It depends
7 on the amount of vegetation. It depends on the soil. It depends
8 on the slope. All of those factors would have to be taken into
9 consideration.

10 Q. So you're saying it's not a potential impact?

11 A. (Ms. Ernst Sims) No, I'm not saying that, but I think
12 that it depends on all of those factors, and you would need to
13 look at all of those factors in order to make that judgment. I
14 think there's potential for soil erosion and sediment when you
15 dig into the ground. But that's -- you know, you'd have to look
16 at all of those factors to determine whether or not that's going
17 to have an effect on the waterbody.

18 Q. Okay. In these locations where you're installing
19 structures in areas adjacent to parallel streams and rivers,
20 there is the possibility that you will have to install pile
21 foundation that requires excavation?

22 A. (Mr. Bucci) I don't understand what you mean by "that
23 requires excavation." You mean, different -- that excavation --

24 Q. Meaning you have to drill a hole.

1 A. (Mr. Bucci) Well, every foundation you have to dig.

2 Q. Okay. And then for those that have a pile foundation,
3 you have to dig a hole down into the ground, correct?

4 A. (Mr. Bucci) Not necessarily, no. Piles are often driven
5 in without digging a hole. The pile is driven into the soil
6 without digging.

7 Q. And what about caissons? When you have to install
8 caissons, does that require a hole?

9 A. (Mr. Bucci) For example, with a monopole caisson that we
10 spoke about in previous testimony, yes.

11 Q. So there is the potential when you're installing these
12 foundations for what's called soil spoils -- is that correct?

13 A. (Mr. Wood) Well, yes. The soil is removed from the
14 location where the foundation is going to be installed.

15 Q. Okay. And that creates another potential impact for
16 sediment runoff to the nearby streams and rivers, correct?

17 A. (Mr. Wood) Well, if not properly managed, it could.

18 Q. Okay. On the next page, if you're still on Exhibit 4,
19 Page 111 at the top of the page, you say -- are you there?

20 A. (Mr. Wood) Yes, yes.

21 Q. You say, "Due to the proximity of the Proposed Route to
22 surface waters, it's anticipated that some Project structures
23 will be located in the areas of shallow groundwater and in areas
24 of surface and subsurface water runoff into streams." Is that

1 correct?

2 A. (Mr. Wood) That's correct.

3 Q. So that presents another potential impact for streams;
4 does it not?

5 A. (Mr. Wood) Yes, potential.

6 Q. Okay. Also, you've testified previously in this
7 proceeding that for your overhead route on the Proposed Route,
8 you will, there will be clearing of vegetation that's required.
9 And depending on the location, it could vary from 100 feet to 150
10 feet, correct?

11 A. (Mr. Wood) In some locations it might be less than that.
12 Fifty feet we talked in certain underground -- but generally,
13 yes.

14 Q. I'm talking just about the overhead portion.

15 A. (Mr. Wood) Yes.

16 Q. And would you agree that in clearing of the vegetation,
17 you would also, you would be disturbing vegetation and soil and
18 therefore, also creating a potential impact to separate nearby
19 surface waters?

20 A. (Mr. Wood) Well, not necessarily. I think we talked
21 about selective clearing in areas adjacent to streams or
22 wetlands. So the possibility of soil disturbance would be
23 greatly reduced in those areas.

24 Q. But there's still the potential impact for that, correct?

1 A. (Mr. Wood) Yeah, I suppose there could be.

2 Q. Now, let's turn to Page 25 of your Rebuttal Testimony,
3 and at lines 16 through 21 you state that, "NYRI's Marcy South
4 Alternate Route has less potential impact to groundwater aquifers
5 than CARI's Marcy South Buried Cable Alternative Route because
6 the transmission structure foundations for NYRI's Route will be
7 installed at depths below/above the aquifers. Is that a fair
8 characterization of your testimony?

9 A. (Mr. Wood) Yes, that's what it says.

10 Q. Have you identified all the groundwater aquifers within
11 the vicinity of NYRI's Marcy South Route?

12 JUDGE PHILLIPS: I'm sorry. I just want to clarify.
13 When you asked that previous question, I understood that
14 portion of the testimony to be limited to the New York
15 City watershed area. Could the witness -- did you notice
16 that when you were asking the question, counsel, and then
17 when the witness -- I'll start with you first. I'm
18 sorry.

19 MS. COLLELA: Yes, I did notice that, but I was
20 asking a broader question first.

21 JUDGE PHILLIPS: So you're going beyond the
22 watershed?

23 MS. COLLELA: Yes, I am.

24 JUDGE PHILLIPS: Okay. And did the witness

1 understand that we're talking about an area broader than
2 the watershed when you answered?

3 MS. ERNST SIMS: Yes.

4 JUDGE PHILLIPS: Okay. Great.

5 A. (Ms. Ernst Sims) We did identify that the Marcy South
6 Alternative Route does not cross any federally designated
7 sole-source aquifers. It does enter the New York City watershed
8 for approximately 18 miles, and it does traverse or run adjacent
9 to aquifers that are sole-source or are the source aquifer for a
10 small public drinking water supply.

11 Q. Okay. And did you identify those other aquifers that are
12 sources for drinking water supply systems?

13 A. (Ms. Ernst Sims) On Page 30 of Appendix L in Section
14 2.6.2 --

15 Q. I'm there.

16 A. (Ms. Ernst Sims) The Clinton Street Ball Park sole-source
17 aquifer in the Town of Afton in Broome County.

18 Q. So there you're referring to the Proposed Route, correct?

19 A. (Ms. Ernst Sims) Oh, sorry. Forgive me here. Yeah, I'm
20 sorry. That was a mistake. It doesn't cross any EPA designated
21 sole-source aquifers as I mentioned before, and we don't mention
22 any of the other ones specifically in the text.

23 Q. So you identified that the route does transverse or run
24 adjacent to other aquifers, but you don't specifically identify

1 which ones those are or where they are?

2 A. (Ms. Ernst Sims) No.

3 Q. Okay. And since you brought up the Proposed Route, I was
4 going to go there anyway, I had the same questions with respect
5 to the Proposed Route. Did you identify all groundwater aquifers
6 that would be traversed or adjacent to the Proposed Route?

7 A. (Ms. Ernst Sims) It's just the same one I just mentioned,
8 the Clinton Street Ball Park sole-source aquifer.

9 Q. Okay. So you do note that the Proposed Route, I think
10 that's on Page 30 of Appendix L, Section 2.6.2, you do note that
11 that route also traverses or runs adjacent to other aquifers that
12 is the source for small public drinking water supply streams, but
13 you didn't identify those specifically; is that correct?

14 A. (Ms. Ernst Sims) For the Marcy South Alternate Route?

15 Q. No. I'm asking about the Proposed Route.

16 A. (Ms. Ernst Sims) No.

17 Q. Okay. So in your statement in your Rebuttal Testimony
18 where you state that, "NYRI anticipates," and this is on Page 25,
19 Line 19, "NYRI anticipates no impact to aquifers as a result of
20 transmission structure foundation installations because these
21 foundations will be installed at depths well above of the
22 aquifers." How were you able to make that statement if you
23 didn't identify those aquifers?

24 A. (Mr. Wood) Well, I think we did identify the aquifers. I

1 think the question was we didn't identify them by name. They
2 were relatively small, you know, aquifers.

3 Q. Okay.

4 A. (Mr. Wood) That was what we based the statement on.

5 Q. So did you identify how deep those aquifers were below
6 the ground surface?

7 A. (Mr. Wood) Could you state the question again? I'm
8 sorry.

9 Q. You just stated that you did identify those other
10 aquifers, those smaller aquifers. You just didn't identify them
11 by name. And I asked you if you had investigated and found out
12 what the depth of those aquifers are below the ground surface.

13 A. (Mr. Wood) No, not specifically.

14 Q. Were you able to ascertain their depth, you know, a range
15 of depths for those aquifers?

16 A. (Mr. Wood) No.

17 Q. Okay. There was testimony provided previously, and I
18 think this question kind of goes to Mr. Bucci, and we got into it
19 a little bit earlier about the pile foundations and caisson
20 foundations that would go deep into the ground at approximately a
21 depth of 40 feet, maybe deeper; is that correct?

22 A. (Mr. Bucci) Yes.

23 Q. Okay. And I'll direct this to the whole panel. Are you
24 familiar with the testimony of CARI witnesses Mr. LaFleur and Mr.

1 Shaffer where they discuss the depth of any trenching, you know,
2 the trench for any trenching that would be done for CARI's Buried
3 Cable Alternatives?

4 A. (Mr. Bucci) Yes, I'm aware of their discussion about the
5 trenches, about their proposed trenches or CARI's proposed
6 trenches.

7 Q. And do you recall it's proposed that the trench, for any
8 trenching that would be done, the trench would be at a depth of
9 five feet?

10 A. (Mr. Bucci) I don't recall a specific number right
11 offhand, but five feet is actually the depth that we show for our
12 trenches also. So it seems like a reasonable depth. They
13 haven't verified that the CARI proposed depth works for that
14 particular design or anything.

15 Q. Okay. So the 40-foot depth for some of the foundations
16 for NYRI's transmission structures would be quite a bit deeper
17 than the five-foot trench that's proposed by CARI for its
18 proposed alternatives; isn't that right?

19 A. (Mr. Bucci) Yes.

20 CROSS-EXAMINATION

21 BY MR. KLUSCIK:

22 Q. Okay. At Page 5 of Panel A's Rebuttal Testimony, there
23 is a statement that reads, "NYRI's Marcy South Alternative Route
24 has less potential impact to groundwater aquifers than CARI's

1 Marcy South Buried Cable Alternative Route in the New York City
2 watershed area." Is it your position that a five-foot deep
3 trench would have greater potential for impact to the aquifers
4 than a 40-foot penetration into the earth?

5 A. (Mr. Wood) Yes, I think it is, based on the overall
6 length of the trench, the entire 18 miles through the watershed,
7 if that's what we're talking about, which I think it is in this
8 question, versus individual pole foundations.

9 Q. You know the number of pole penetrations?

10 JUDGE PHILLIPS: Do you mean --

11 MR. BISSELL: Just for clarification, is that within
12 the New York City watershed, or are you talking the
13 entire Marcy South Alternate?

14 MR. KLUSCIK: Yes, the watershed.

15 JUDGE PHILLIPS: Okay.

16 A. (Mr. Bucci) Well, you start with the number of
17 structures, which we've discussed in previous testimony,
18 approximately seven structures per mile. So 126 as estimated for
19 number of structures, each one requiring a foundation, but not
20 requiring -- each one doesn't require a pile type foundation.
21 Some of them will be spread footing. In fact, as long as the
22 soil is sufficient, that's the type that you use. You only go to
23 pile foundation if the soil is found to be not capable of
24 supporting, you know, the structures without the additional

1 support that you would achieve with a pile.

2 Q. Have you done any soil surveys in the watershed area?

3 A. (Mr. Bucci) No.

4 Q. So you don't know what the characteristics of the soil
5 are through the route in the watershed?

6 A. (Mr. Bucci) Yes, that's what I'm saying. You asked me
7 how many piles would be driven. I couldn't tell you because we
8 haven't done that specific investigation. All I can say is that
9 if the first choice is to use spread footing type, unless the
10 soil was found not to be suitable --

11 Q. I think I asked you whether you knew how many
12 penetrations there would be, and if I understand you correctly,
13 your answer is you don't know.

14 A. (Mr. Bucci) By "penetration" do you mean pile?

15 Q. Pile or caisson. Penetration is 40 feet deep or more
16 into the earth.

17 A. (Mr. Bucci) No caissons because we're in the open area
18 with lattice structures, so with the pile type foundation, if we
19 were to go to a pile type. Caissons were used for the monopoles.

20 MR. KLUSCIK: Thank you, Mr. Bucci.

21 MR. SINGER: Your Honor, I understand that you're
22 going to allow different attorneys to question witnesses
23 from the same party, but I didn't understand that to mean
24 that we're going to go back and forth on the same

1 subject. So, you know, I think it's somewhat unfair to
2 have someone jump in and ask a question. I think we
3 ought to keep it to the subject matter.

4 MR. KLUSCIK: Your Honor, I don't think there's any
5 question that there's a continuity of subject matter here
6 in the line of questioning, and if Mr. Singer is
7 suggesting the difference between voices somehow disturbs
8 the witnesses, I'd like him to say that directly if
9 that's his problem.

10 MS. LEARY: Your Honor, if I might --

11 JUDGE PHILLIPS: Ms. Leary has a comment also.

12 MS. LEARY: I'm hearing two voices between, on
13 NYRI's side as well. So I'm sure Mr. Singer would agree
14 that Mr. Bissell is highly capable of dealing with that
15 question. So I'm hearing two here and two voices here.
16 So what's good for the goose is good for the gander.

17 MR. SINGER: Well, I would agree with that that Mr.
18 Bissell is highly capable, but I didn't think that we
19 were going to allow one attorney to jump in and start
20 asking questions while another attorney is conducting
21 their cross-examinations.

22 MR. KLUSCIK: Your Honor, I've also observed that
23 the answers are coming from one, two, three, four, five
24 panelists.

1 MR. SINGER: Well, it's a witness panel. It's not a
2 questioning panel.

3 JUDGE PHILLIPS: Yeah, that's not an adequate
4 comparison, but I think there has been some bouncing
5 around before, and I think as long as it doesn't become
6 disruptive, I'm going to continue to allow it. And I
7 think, at least right now, it didn't seem to be
8 disruptive, but if it gets to that point, I'll reconsider
9 it.

10 MS. COLLELA: Your Honor, I think I'm going to take
11 back over now, and I don't have a whole lot more, and
12 then I'll turn it over to Mr. Kluscik entirely.

13 JUDGE PHILLIPS: Don't let him steal your mic again.

14 MS. COLLELA: Yeah, I don't think I will.

15 CROSS-EXAMINATION

16 BY MS. COLLELA:

17 Q. Actually, this whole conversation brought up a question I
18 was going to ask about later, so I might as well get to it right
19 now. Can you clarify for me, because I'm a little confused,
20 based on the testimony that was provided previously at this
21 hearing, I thought that the testimony from you, Mr. Bucci, was
22 that along the Marcy South Alternate Route, NYRI was going to try
23 to match the existing structures to the greatest extent possible
24 and that the structures along of the existing, the NYPA

1 structures along the existing Marcy South Route are primarily
2 monopole. Was that correct?

3 A. (Mr. Bucci) It's a long route. So primarily, it doesn't
4 necessarily mean that -- it's not necessarily what we were just
5 talking about. Yes, I made the statement that we were going to
6 try to match the NYPA structures along the Marcy South Route. If
7 that's the route we were using, we would try to match the
8 structures.

9 Q. Okay. So you're saying now that the NYPA structures
10 along the existing Marcy South Route are not primarily monopole?

11 A. (Mr. Bucci) No. It's a long route. Primarily, it does
12 not necessarily mean that the structures in this specific area
13 are of one type or another. That's what I'm saying. I'm not
14 aware of what the exact structure types are in this area for
15 NYPA.

16 Q. So wherever NYPA has a lattice tower, you're going to
17 match the lattice tower, and wherever NYPA has a monopole, you're
18 going to match with a monopole?

19 A. (Mr. Bucci) We are going to try to match, you know,
20 taking all other issues into consideration, we will attempt to
21 match the structures the best we can.

22 Q. Okay. So in the New York City watershed area, we were
23 just talking about the structures that you were proposing for
24 that area, the Marcy South Alternate Route. Are you proposing

1 lattice towers for that area or monopoles?

2 A. (Mr. Bucci) Can you just repeat that, please.

3 Q. In the portion of the Marcy South Alternate Route that
4 transverses the New York City watershed area, are you proposing
5 to use lattice structures or monopole structures?

6 A. (Mr. Bucci) Along the Marcy South Alternate Route, we are
7 proposing to match the NYPA structures as much as possible.

8 Q. Okay. Have you determined what that means for the New
9 York City watershed area, which structures you're going to use in
10 that area?

11 A. (Mr. Bucci) We're not totally familiar with the, you
12 know, at this point specific structures at specific locations.
13 So, no, I haven't.

14 Q. Do you recall responding to an Interrogatory Response, I
15 mean, to an Interrogatory served by CARI, and it is CARI 396?

16 A. (Mr. Bucci) Do you have that one?

17 MR. BISSELL: Your Honor, could counsel please show
18 a copy of that to the witness.

19 MS. COLLELA: Sure. Your Honor, I might as well
20 mark this for identification for trying to get it into
21 the record.

22 JUDGE PHILLIPS: Okay. If you could provide copies
23 to everyone, please. A one-page document identified as
24 CARI 396 has been marked for identification as Exhibit

1 223, and I believe you were going to establish a
2 foundation.

3 MS. COLLELA: Yes, your Honor.

4 (Exhibit Number 223 was marked for identification.)

5 Q. Is this a Response that you prepared to an Interrogatory
6 from CARI?

7 A. (Mr. Bucci) Yes, we prepared this one.

8 Q. Okay. Thank you. And can you look at your Response, the
9 first sentence there?

10 A. (Mr. Bucci) On A or B?

11 Q. I'm sorry. On Item B you say, "Approximately 114 lattice
12 towers and one monopole tower, New York Station 74, would be
13 constructed to the New York public water supply area in
14 connection with the NYRI Marcy South Alternative." Is that
15 correct?

16 A. (Mr. Bucci) Yes, and after giving that approximate number
17 of towers, we say that, "Final structure number and location will
18 be developed during the detail design stage of the Project."

19 Q. Okay. But you have made some preliminary determination
20 of the type of structures that you're going to put in that you're
21 proposing for the watershed area portion of the --

22 A. (Mr. Bucci) We have an approximate number.

23 Q. Okay. Now, are the NYPA facilities in that area also
24 lattice towers?

1 A. (Mr. Bucci) I'm not sure.

2 Q. Okay. So you can't say for sure that these towers will
3 match the existing NYPA facilities?

4 A. (Mr. Bucci) I can't say for sure that was the intent in
5 laying this out, but I can't say for sure.

6 Q. Okay. Can you turn to Page 26 of your Rebuttal
7 Testimony, please? Are you there?

8 A. (Mr. Bucci) Yes.

9 Q. Okay. At Line 10 you state, "The CARI Marcy South Buried
10 Cable Alternative will cross 27.2 miles of undisturbed land and
11 will occupy," I'm skipping the parenthetical, "and will occupy
12 existing electric transmission right of ways for the room" -- I
13 think that's supposed to be "remainder of its approximate total
14 183-mile length." Is that a correct statement?

15 A. (Mr. Nield) The 27.2 miles of NYRI's Marcy South Route is
16 incorrect, I believe.

17 Q. I'm sorry. Can you restate that?

18 A. (Mr. Nield) I believe in this, in our Rebuttal Testimony,
19 this 27.2 miles was associated with CARI's Route as opposed to
20 NYRI's Route.

21 Q. That's what you say there, but is that correct?

22 A. (Mr. Nield) No.

23 Q. Okay. So there needs to be a correction there, right?

24 A. (Mr. Nield) Yes.

1 Q. You're actually referring to the NYRI Marcy South Route;
2 is that correct?

3 A. (Mr. Nield) Just so we're on the same page, which page
4 are you looking at again?

5 Q. Page 26, Line 10.

6 A. (Mr. Nield) Correct. On Line 10 where the word -- Line
7 10's first full sentence where it says, "The CARI Marcy South
8 Buried Cable Alternative will cross 27.2 miles," in fact, the
9 NYRI Marcy South Alternative cross 27.2 miles of greenfield.

10 Q. Thank you.

11 JUDGE PHILLIPS: I'm sorry. Could you just read the
12 sentence as it should appear corrected then, because I'm
13 not clear how many changes are being made there. Should
14 it read, "The NYRI Marcy South Alternative Buried Cable
15 Alternative will cross, and then change "undisturbed" to
16 "greenfield"? That's what I'm trying to understand.
17 What's the correct sentence?

18 MR. NIELD: Well, your Honor, this Rebuttal as
19 prepared by this panel was based on a misinterpretation
20 of LaFleur's testimony where we misinterpreted his claim
21 about the 27.2 miles of undisturbed land. So, in fact,
22 the 27.2 miles does not relate to the CARI Marcy South
23 Buried Cable Alternative.

24 JUDGE PHILLIPS: I did get that much. But how -- I

1 think you were restating the sentences; was that correct?

2 MR. NIELD: Well, she was asking which portion I
3 would correct, I believe, of the statement.

4 JUDGE PHILLIPS: Okay. And can you just tell me
5 again which portion you would correct?

6 MR. NIELD: Well, that entire sentence beginning on
7 Page 26, Line 10, the sentence beginning, "The CARI Marcy
8 South Buried Cable Alternative." That statement, that
9 entire sentence is incorrect.

10 JUDGE PHILLIPS: So we cross it out and replace it
11 with what, or do we just cross it out? That's what I'm
12 trying to understand.

13 MR. NIELD: Oh, I see. Are you asking me to create
14 a new sentence and insert it there?

15 JUDGE PHILLIPS: I thought that's what you were
16 indicating before, and I was just trying to make sure I
17 wrote it down correctly. If you weren't, then I'm sorry.
18 But I thought you said CARI would change to NYRI. Then
19 you said "greenfield," but I wasn't sure where to put
20 greenfield.

21 MR. NIELD: Give me one moment, and I'll read the
22 sentence again and then try and clarify it.

23 MS. COLLELA: Your Honor, I may be able to clear it
24 up with just a couple of questions, rather than trying to

1 correct the testimony.

2 JUDGE PHILLIPS: Okay. Here, I'll withdraw my
3 questions, and I'll wait for the clarification.

4 MS. COLLELA: Okay.

5 Q. You state here that the CARI Marcy South Buried Cable
6 Alternative will cross 27.2 miles of undisturbed land, and that
7 is incorrect; is that right?

8 A. (Mr. Nield) Yes, that is incorrect.

9 Q. It's actually the NYRI Marcy South Alternative, which is
10 overhead, that will cross 27.2 miles of undisturbed land; is that
11 right?

12 A. (Mr. Nield) In the Application, we do not use
13 "undisturbed land." We refer to the 27.2-mile crossing of
14 greenfield.

15 Q. Okay. So it is actually the NYRI Marcy South Overhead
16 Alternative that crosses 27.2 miles of greenfield?

17 A. (Mr. Nield) Correct.

18 Q. On that same page of your Rebuttal Testimony, at Page 14,
19 you state that, "NYRI will have negligible impacts to present and
20 future land use, because it will parallel or exist within
21 existing utility right of ways for 78 percent of its length,
22 correct?

23 A. (Mr. Nield) Yes.

24 Q. And are you familiar with Mr. LaFleur's testimony and

1 attached reports where he states that, "CARI's Buried Cable
2 Alternatives are proposed to be located entirely within existing
3 utility right of ways?

4 A. (Ms. Ernst Sims) Can you refer to the page and line
5 number?

6 Q. Sure. If you want to look at his testimony at Page 3 and
7 then also his Exhibit RCL-3 at Page 1 and Page 7.

8 A. (Ms. Ernst Sims) I don't see it on Page 3.

9 Q. Okay. I'll give you a line number. If you look at
10 starting at Line 12 and proceeding through Line 17, and that's on
11 Page 3 of his testimony. This is his Direct Testimony, not his
12 Rebuttal Testimony.

13 A. (Mr. Nield) Yes, I see that reference.

14 Q. Okay. So CARI's Buried Cable Alternatives are proposed
15 to be located 100 percent within existing utility right of ways.
16 Is that a fair statement?

17 A. (Mr. Nield) According to LaFleur's testimony, yes.

18 Q. Okay. So would you agree that, assuming all other things
19 equal, that CARI's Buried Cable Alternatives, which are proposed
20 to be located 100 percent within existing utility right of ways,
21 would have less potential impacts to present and future land uses
22 than NYRI's Route that is proposed to be located within existing
23 utility right of ways for 78 percent of its route?

24 A. (Mr. Nield) Would you mind clarifying all of the things

1 that we are considering equal?

2 Q. I'm saying aside from any other considerations, if you're
3 just looking at the percentage of the route that's located within
4 existing utility right of way.

5 A. (Mr. Nield) Are you asking me if 78 percent of NYRI is
6 less than 100 percent of the CARI underground alternative?

7 Q. Let me start over. You state in your Rebuttal Testimony
8 that, "NYRI's Route would have negligible impacts on present and
9 future land uses because 78 percent of its route would be located
10 within existing utility right of ways." And you just agreed with
11 me that CARI's Routes would be located 100 percent within
12 existing utility right of ways. So my question is, assuming all
13 else is equal, wouldn't you agree that CARI's Alternative Routes
14 would have even less potential for impacts to future and present
15 land uses on that basis?

16 A. (Mr. Nield) I can't make that assumption.

17 Q. What assumption is that?

18 A. (Mr. Nield) That all else is created equal, as according
19 to your question.

20 Q. Okay. I'm just going to move on. Will you turn to Page
21 27 of your Rebuttal Testimony, please. At Line 4 you state that,
22 "Mr. LaFleur fails to provide details regarding the impact of the
23 number of road crossings, i.e. 224 associated with CARI's Marcy
24 South Buried Cable Alternative." And your i.e. 224 there is

1 referring to the potential road crossings by NYRI's Route; is
2 that correct? I just want to clarify. When I was saying NYRI's
3 Route, I meant the Proposed Route.

4 A. (Mr. Nield) The 224 number is a number cited from
5 LaFleur's Direct Testimony, and it's on Page 30, Line 14 and 15,
6 and it refers to his testimony stating 24 crossing locations on
7 the NYRI Marcy South Alternative Route.

8 Q. Okay. And was that -- that was a correct statement that
9 NYRI's Marcy South Alternate Route has 224 route crossing
10 locations?

11 A. (Mr. Nield) If you want to take a moment, we can verify
12 that exactly.

13 Q. I can give you a page number, Appendix L.

14 A. (Mr. Nield) Thank you.

15 Q. That would be -- I'm sorry. When I say Appendix L, I'm
16 referring to Exhibit 26 in this hearing. If you go to Section
17 2.1.3 of Appendix L, Pages 10 through 11 -- I'm sorry. I didn't
18 realize I required you to do math.

19 A. (Mr. Nield) So looking at Appendix L, Section 2.1.3
20 "Traffic at Road Crossings," in review of the total number of
21 roads and crossings, the total number for Marcy South is 224 road
22 crossings.

23 Q. Okay. And I'm sorry to ask you to do this, but what
24 would be the total road crossings for the Proposed Route? I

1 don't think you have to go anywhere but to the first paragraph of
2 that same page.

3 A. (Mr. Nield) I think we can get that faster.

4 MS. COLLELA: Your Honor, this is my last line of
5 questioning, just to let you know if you were looking for
6 a breaking point.

7 JUDGE PHILLIPS: Okay.

8 A. (Mr. Nield) Thank you for your patience. Two hundred and
9 fifty-one road crossings for the Proposed Route.

10 Q. Okay. And did you identify the number of road crossings
11 for CARI's Marcy South Buried Cable Alternative?

12 A. (Mr. Nield) No.

13 Q. And if I told you that our consultant, Mr. LaFleur, did
14 identify the potential number of road crossings by CARI's finding
15 potentially 194 total roads and 201 total road crossings, would
16 that sound about right to you?

17 A. (Mr. Nield) I have his testimony in front of you. If you
18 give me a page reference, I'll verify that.

19 Q. I can't reference a particular page at this moment, but
20 if I --

21 A. (Mr. Nield) Well, to answer your question then, yes, it
22 sound realistic.

23 Q. Okay. And you would agree that that is the smaller
24 amount than the road crossings by either the NYRI's Proposed

1 Route or the Marcy South Alternative?

2 A. (Mr. Nield) It is a smaller number.

3 Q. Assuming that's a correct number?

4 A. (Mr. Nield) Yes.

5 MS. COLLELA: That's all I have.

6 A. (Mr. Wood) I would just -- just to follow up, I just
7 would add that those 201 are all underground crossings.
8 Many, as opposed to the NYRI proposed and NYRI Marcy
9 South Alternate, would have overhead crossings. So there
10 is a difference even though the numbers are somewhat
11 higher.

12 MS. COLLELA: Okay. That's all I have.

13 JUDGE PHILLIPS: Thank you. I think we will go
14 ahead and take a break. We'll be back at 11:10, and
15 we'll start up with Staff. Thank you.

16 (A brief recess was taken.)

17 JUDGE PHILLIPS: Let's go back on the record. We're
18 going to continue with questioning from CARI.

19 MR. KLUSCIK: Thank you, your Honor.

20 CROSS-EXAMINATION

21 BY MR. KLUSCIK:

22 Q. Good morning, Panel A.

23 A. (Panel A Members) Good morning.

24 Q. Hi, Mr. Bucci. I think Mr. Bucci is my favorite witness.

1 In your Rebuttal at Page 16 and 17, you take issue with DPS
2 witness Davis' suggestion that to add what you describe as
3 multiple short segments of underground cable scattered throughout
4 the predominately overhead segment of the proposed NYRI line
5 would create a problem; is that correct?

6 A. (Mr. Bucci) Would -- yes, would be a problem.

7 Q. You indicate that, as additional segments are added, a
8 decrease in reliability would be expected due to an increase in
9 the number of transitions, among other things; is that correct?

10 A. (Mr. Bucci) Yes, that's what he's saying.

11 Q. That wouldn't happen if the line was all underground;
12 would it?

13 A. (Mr. Bucci) What wouldn't happen if the line was all
14 underground?

15 Q. The decrease in reliability associated with the increase
16 in number of transitions.

17 A. (Mr. Bucci) There wouldn't be overhead to underground
18 transitions. However, there would be splices, which are similar
19 to transitions in that the splices introduce transitions you have
20 in termination of the cable, which is disruption in the
21 manufactured part of the cable come in and manually splice the
22 cable onto a terminal structure or a pothead. In the case of an
23 all-underground cable, you're going to have multiple splices
24 clear out there along the route which introduce a similar kind of

1 reliability concern.

2 Q. That's very, very interesting and very instructive. But
3 my question was, would you have transitions in an all-underground
4 line?

5 A. (Mr. Bucci) Transition stations?

6 Q. Transition stations in the way that your testimony
7 indicates they become detrimental to reliability?

8 A. (Mr. Bucci) Well, yes. The detriment to reliability is
9 the discontinuity in the cable caused by the need to transition
10 to a different, to transition to the pothead when it comes above
11 ground, and in the cable splice there's continuity --

12 Q. Mr. Bucci, I'm going to ask you to answer the question
13 I've asked. I'm not asking about cable splices. I'm asking
14 about transitions.

15 JUDGE PHILLIPS: I think he is trying to answer the
16 question that you've asked, and my understanding of what
17 he's saying is that, and maybe I shouldn't say this, but
18 I understand him to say that there may not be a
19 distinction the way you're saying it, between a
20 transition of a splice, but I want him to finish his
21 answer before you interject, because I think he is trying
22 to answer your question.

23 MR. BUCCI: Yes, your Honor. I'm trying to say that
24 the major cause of the decrease in reliability due to

1 multiple transitions is the discontinuity caused by the
2 cable having to be spliced onto a terminal structure, and
3 that is the same or similar to two pieces of cable being
4 spliced together in order to make a continuous
5 underground. So I'm saying the source of the change in
6 reliability is comparable.

7 Q. Is a splice the same thing as a transition?

8 A. (Mr. Bucci) The splice is the same thing as the part of
9 the transmission or the transition where the cable is spliced to
10 the pothead or terminated on the pothead. It's a similar
11 installation.

12 Q. I gather you've designed underground cable installations?

13 A. (Mr. Bucci) Yes.

14 Q. And you've constructed them?

15 A. (Mr. Bucci) I didn't do the pulley myself, but I was
16 responsible for the contractor.

17 Q. You've had a supervisory capacity related to construction
18 of underground cable systems?

19 A. (Mr. Bucci) Yes, oversight supervisory management.

20 Q. And you understand underground cable operation and
21 performance?

22 A. (Mr. Bucci) Yes.

23 Q. Can you describe briefly, to the extent that you haven't
24 already, a cable joint?

1 A. (Mr. Bucci) Yes. There's two types of joints generally
2 for -- and I'll concentrate on soldered dielectric or
3 cross-linked polyethylene cable, because -- I'll concentrate on
4 that because that's the type that's proposed by the CARI
5 Alternative. Is that okay to talk about that type of --

6 Q. Let's talk about what we might refer to as --

7 A. (Mr. Bucci) Or just in general, is what I'm saying, just
8 in general?

9 Q. -- Classical HVDC cable joints.

10 A. (Mr. Bucci) And the question was, again, the difference
11 between a -- I'm sorry.

12 Q. The question was, can you briefly describe what a splice
13 is?

14 A. (Mr. Bucci) Right. The cables, the length of the cable
15 is limited in part due to the size of the reels that the cable is
16 on. So you do have to join individual pieces of cable together
17 in order to get a continuous length, and the splice is where
18 that's done. The way that is done is an attempt as much as
19 possible to replicate the insulation that's been manufactured
20 onto the cable, onto the conductor. At the joint it's basically
21 wrapped with, in simple terms cake, or material that's very
22 similar to the insulation, similar or the same to the insulation
23 that's manufactured onto the cable to try to replicate the
24 continuous process that you achieve at the manufacturing

1 facility. So that's basically what it is. And it's a, you know,
2 it's a highly skilled and trained technique whereby the skilled
3 technicians will wrap the cable in such a way as to, basically as
4 much as possible replicate continuous --

5 Q. So with respect to a -- and are such cable joints
6 occasionally referred to as splices?

7 A. (Mr. Bucci) Yes.

8 Q. With respect to a cable joint for mass impregnated
9 non-draining cable and the splice and its attempt to replicate
10 the insulation of the cable, would be a paper wrap. Would that
11 be fair?

12 A. (Mr. Bucci) That would be fair.

13 Q. And with respect to a cable joint for cables using
14 cross-linked polyethylene insulation, the cable joint would
15 attempt to replicate that insulation using the cross-linked
16 polyethylene material; is that correct?

17 A. (Mr. Bucci) That's basically correct.

18 Q. Do you have an opinion on the use, on the useful life of
19 underground transmission cable?

20 A. (Mr. Bucci) Yes. Although it does vary with the -- or
21 let's say -- okay. I'll preface that under the all things being
22 equal, which I learned from you yesterday, so the proper design,
23 proper application, the underground cable, you know, is really
24 not acknowledged within the industry to, you know, with any

1 degree of, let's say agreement among experts, to -- it's usually
2 considered 20- to 30-year life.

3 Q. And is that opinion based on your understanding of what
4 type of cable is currently installed?

5 A. (Mr. Bucci) Correct.

6 Q. Currently in commercial service?

7 A. (Mr. Bucci) Not only what type is in commercial service
8 but also, well, what type is available. It's even less of a
9 lifetime prediction if the cable hasn't been used yet to know how
10 it's going to hold up. That's one of the factors that's taken
11 into consideration.

12 Q. And would I be correct then in assuming that -- well, let
13 me back up. Is it your understanding that there is in commercial
14 service today some length of low pressure fluid-filled cable?

15 A. (Mr. Bucci) Yes, there is some life.

16 Q. And is there in service today some length of mass
17 impregnated cable that might be fairly described as paper
18 wrapped, paper insulation?

19 A. (Mr. Bucci) Well, I wouldn't described it as limited to
20 saying paper wrap. It's mass impregnated paper wrap. The paper
21 by itself wouldn't be suitable. But the cable system is mass
22 impregnated cable system, paper, which is the same material
23 that's used in transformers or any other type of insulation, or
24 on a conductor is used, yes.

1 Q. So would it be fair to say that your opinion with respect
2 to the useful life of underground cable is based on your
3 understanding of performance in service of those two types of
4 cables?

5 A. (Mr. Bucci) No, many more types of cable than that. You
6 mentioned low pressure fluid-filled, which I don't believe is
7 anywhere in the Application here. I don't know why you
8 specifically mentioned that one, but that's one type of cable
9 that's available. There's pipe type cable, which we spoke about
10 yesterday with all the technology. There's the MIMS cable,
11 that's mass impregnated as we were discussing. There's
12 cross-linked polyethylene. There's other types of synthetic
13 rubber cable cables. There's, if we go way back, there's
14 fiberglass insulated cables. So it's a general, it's a
15 generalization based on performance of underground cable to date
16 used in the industry.

17 Q. Would you agree that those types of cable that you've
18 just inventoried for us all have differing performance
19 characteristics in terms of their useful life -- let me rephrase
20 the question. Would you agree that they have all different
21 anticipated useful life?

22 A. (Mr. Bucci) No, I would not.

23 Q. So your expectation would be that their useful life would
24 be the same regardless of the type of insulation?

1 A. (Mr. Bucci) I would say they would be similar in the
2 range of 20 to 30 years as a typical -- and by the way, if the
3 cable is well taken care of and in a good environment and not
4 loaded heavily, it could last a hundred years.

5 Q. Thank you, Mr. Bucci. Bucci?

6 A. (Mr. Bucci) Bucci is fine, yes.

7 Q. Do properly installed cable joints sometimes fail so as
8 to cause a fault?

9 A. (Mr. Bucci) Proper installation -- anything can fail, but
10 the probability of failure is greatly reduced if the joint is
11 installed -- did you say joints? I'm sorry.

12 Q. Yes.

13 A. (Mr. Bucci) If a joint is formed and installed properly,
14 but the environment also, you could have a very good cable splice
15 put in the wrong environment, corrosive environment, something
16 like that, and the whole application would have to be done
17 properly.

18 Q. But assuming a properly installed cable joint in a
19 suitable environment, in an environment compatible with the type
20 of insulation, let's say --

21 A. (Mr. Bucci) Right.

22 Q. -- would those cable joints nonetheless sometimes fail?

23 A. (Mr. Bucci) Sure.

24 Q. And what would cause such failure?

1 A. (Mr. Bucci) The manufacturing of the dielectric material,
2 for example, if that was the type, it could have, it could have
3 not been manufactured to the proper quality or sufficient
4 quality, expected quality.

5 Q. Considering this single cable joint and assuming it was
6 properly installed in an appropriate, in an environment
7 appropriate for the type of insulation, how often would you
8 expect that that single cable joint would fail, say in a one-year
9 period?

10 A. (Mr. Bucci) Okay. Well, that's a whole area of
11 probability of cable failures in there. There's lots of
12 statistics. There's quite a bit of failure rates statistics
13 provided in testimony already and in Rebuttal Testimony and some
14 sort of reference. So the numbers are all over the place on
15 that.

16 Q. Let me try to make it easy for you. Would you expect a
17 single properly installed and appropriately placed cable joint to
18 fail within a year?

19 A. (Mr. Bucci) There's a probability that it could, sure.
20 But the probability of failure is highest on initial
21 installation. You know, after that year, it probably goes down
22 because we know that the manufacturing defects are not there.
23 The manufacturing defects, if they are there, will show up, tend
24 to show up earlier in the life.

1 Q. So there is some possibility that the splice would fail
2 within the first year. Would you characterize that possibility
3 as low or high?

4 A. (Mr. Bucci) I would say, in general, the failure
5 probability of underground cable failing is low. Now, that's --
6 it doesn't characterize the seriousness of the failure, and I'm
7 not comparing it to any other kind of cable or conductors
8 overhead, but you know, the failure probability of -- to put it
9 in context, the failure probability of any high voltage
10 electrical equipment properly installed and properly
11 manufactured, I mean that we use in the utility industry, is
12 low.

13 Q. Would you say it's very low?

14 A. (Mr. Bucci) Well, we have a reliable electric
15 transmission system out there. So, yes, it's generally low.

16 Q. Would you agree that the typical forced outage rates for
17 underground transmission lines are lower than for overhead lines?

18 A. (Mr. Bucci) Yes.

19 Q. And would you agree that outages on underground
20 transmission lines, when they occur, are primarily due to
21 excavation which disturbs the underground cable?

22 A. (Mr. Bucci) No, I wouldn't -- I don't know that that's
23 the major cause.

24 Q. Would you take issue then with Exhibit Panel A-9, at Page

1 3 of 6, the first paragraph.

2 MR. KLUSCIK: I believe that was introduced and
3 given a number this morning.

4 JUDGE PHILLIPS: Yes, it's been marked for
5 identification as 220, but it's Rebuttal Panel A-9.

6 A. (Mr. Bucci) Certainly it's significant -- for underground
7 cables it is a significant cause. Exhibit A-9.

8 Q. A-9, Page 2, Paragraph 2.

9 A. (Mr. Bucci) Paragraph 2, "Evaluating the Pros and Cons of
10 Underground Transmission"?

11 Q. I'll see if I can --

12 A. (Mr. Bucci) Oh, this is A-8. A-9 you said?

13 Q. A-9 which is the American Electric Power Paper.

14 A. (Mr. Bucci) Yeah, okay. The second paragraph on the
15 second page?

16 Q. Yes. The heading is "Evaluating the Pros and Cons."

17 A. (Mr. Bucci) All right. I have it.

18 Q. Would you read the first sentence, please?

19 A. (Mr. Bucci) "Beyond the aesthetic value of
20 underground transmission lines, typical forced outage rates
21 are lower" --

22 Q. I'm sorry. I'm sorry to interrupt you. I jumped from
23 A-9 on Page 3 to A-9 on Page 2, which you've already answered. So
24 let me direct your question to or your attention to A-9, Page 3

1 at Paragraph 1, and I apologize for that.

2 A. (Mr. Bucci) By Page 3?

3 Q. You'll find the paragraph headed in italics "Reliability
4 Issues."

5 A. (Mr. Bucci) Yes. This paper says that outages on
6 underground transmission cables are primarily caused by diggings.

7 Q. Thank you. Do you agree with that?

8 A. (Mr. Bucci) I don't have issues with it. Like I said,
9 it's a significant cause. What I said was, I couldn't personally
10 tell you that that's the case. The opinion of this paper, I
11 don't have issue with it that it's a significant cause. I
12 wouldn't be surprised. I would take issue if it talked about a
13 certain, you know, insulation type. For example, you know, if I
14 knew it was problematic, I would say, Well, that typical
15 insulation type, I would take issue. But I have no reason to
16 take issue with this statement in general.

17 Q. Thank you, Mr. Bucci.

18 JUDGE STOCKHOLM: Mr. Kluscik, just one second if I
19 could.

20 MR. KLUSCIK: Yes.

21 JUDGE STOCKHOLM: On that Page 3 that you just had
22 your attention called to, Paragraph 4 indicates that it's
23 relatively common to design underground circuits with 100
24 percent redundancy because of the difficulties of repairs

1 or maintenance. Is that something that NYRI plans to do
2 in the underground sections?

3 MR. BUCCI: Yes. The NYRI circuit has redundancy in
4 the sense that if one cable fails, the NYRI system can
5 operate at 50 percent power continuously with only one
6 cable, with the other cable still in operation.

7 JUDGE STOCKHOLM: Is that how you would define 100
8 percent redundancy? Is that what this paper means?

9 MR. BUCCI: Actually, well, strictly speaking, 100
10 percent redundancy would mean another fully capable 1,000
11 megawatt circuit or a 1,200 megawatt circuit because
12 that's the total rating of the circuit. NYRI is
13 considering it but doesn't have specific plans. We
14 didn't show that as our proposed one, but it's something
15 that you consider during final design, installing a 100
16 percent redundant cable in case you have a cable failure
17 in an underground portion in order that you can put the
18 system back in service. That's often considered during
19 the final design.

20 JUDGE STOCKHOLM: Just out of curiosity, when that's
21 done, are both cables placed in the same trench, or are
22 they separated in some way?

23 MR. BUCCI: They are placed in the same trench, but
24 within that trench they are separated by distance

1 throughout the heat dissipation.

2 JUDGE STOCKHOLM: Thank you.

3 BY MR. KLUSCIK:

4 Q. If I might just follow up on the Judge's questions, do I
5 understand correctly that such a proposal for redundancy is
6 nowhere to be found in NYRI's Application as it currently stands
7 before the Commission; is that correct?

8 A. (Mr. Bucci) No, not strictly correct, because in the data
9 that we provided on cost estimate, we indicated the assumptions
10 being made, and one of those was for a redundant cable. So we
11 were conservative on that part of the cost estimate for the
12 reasons that I mentioned.

13 Q. So the cost estimates reflect redundancy at all proposed
14 underground locations; is that correct?

15 A. (Mr. Bucci) The underground portion, yeah, the reflux,
16 yes.

17 MR. BLOW: Your Honor.

18 JUDGE PHILLIPS: Yes.

19 MR. BLOW: It would seem to DPS Staff that if the
20 Company were going to propose that, it needs to propose
21 100 percent redundancy during the certification process
22 and not at the EM&CP stage, because if the certificate
23 specifically says X number of cables, that's the number
24 that gets authorized, and you'd need a certificate

1 amendment to change the number of cables.

2 MR. BUCCI: If I could, could I explain the --

3 MR. BLOW: Also engineering design etcetera,
4 etcetera.

5 JUDGE STOCKHOLM: Go ahead, Mr. Bucci.

6 MR. BUCCI: Yes, the number of cables would be the
7 same. What we would do if we were going to put 100
8 percent redundant cable in is, right now we have in the
9 trench three cables, two primary conductors and a return
10 conductor. A return conductor is not fully rated because
11 normally it doesn't carry current. To go 100 percent
12 redundant, we would make the return cable a fully rated
13 circuit cable. It would not change the dimensions of the
14 trench or any other aspects of the Project other than it
15 would be a different cable type for the return conductor.

16 JUDGE STOCKHOLM: Would it still, in normal
17 operation, still act as a return?

18 MR. BUCCI: Absolutely, yes, sir.

19 MR. BLOW: Nevertheless, we would strongly suggest
20 that if that's going to be a proposal, that it be made
21 during the certification proceeding.

22 JUDGE STOCKHOLM: Your request is duly noted, Mr.
23 Blow. Thank you. Mr. Kluscik.

24 MR. KLUSCIK: Thank you, your Honor.

1 Q. In your Rebuttal Testimony at Page 38, you suggest that
2 DPS witness Quimby's \$3 billion estimate for an underground
3 Thruway alternative is low because it does not account for large
4 ravine crossings; is that correct?

5 A. (Mr. Bucci) I'm sorry --

6 MR. BISSELL: Your Honor, I object. That's a
7 mischaracterization of actually what's stated with
8 respect to the cost differential. The sentence where Mr.
9 Kluscik left off does go on to state that it also
10 includes failure to account for the crossing of the
11 Hudson River, as well as cutting apart rock along the
12 Thruway, not just ravine crossings.

13 MR. KLUSCIK: If Mr. Bissell will have patience, I
14 will get there, your Honor.

15 JUDGE STOCKHOLM: Yes, we all need patience. Why
16 don't you begin again.

17 Q. At Page 38 of your Rebuttal Testimony, you indicate that
18 Mr. Quimby's estimate of \$3 billion for an underground Thruway
19 alternative is low because it does not account for the large
20 ravine crossings, among other things; is that correct?

21 A. (Mr. Bucci) Yes.

22 Q. And in making that criticism, did you consider the
23 possibility that on a Thruway alternative, it might be possible
24 to attach the cable to existing ravine crossings, that is,

1 bridges used by the highway?

2 A. (Mr. Bucci) Yes.

3 Q. You did?

4 A. (Mr. Bucci) Yes. What we meant is that a ravine crossing
5 in using a bridge generally would be more expensive than
6 trenching of the cable.

7 Q. Can you explain briefly why that would be so, Mr. Bucci?
8 That strikes me as odd.

9 A. (Mr. Bucci) The materials -- you would have to design and
10 install an entire support system for the cables, which would
11 involve steel supports, fastening methods, and the installation
12 would be more labor intensive, more equipment intensive because
13 you would have to do it in such a way that you're -- you know, if
14 the cables are hanging under the bridge, for example, you would
15 be constructing from the roadway, having a crane that could reach
16 underneath or devise some other method of rigging from below. My
17 experience is that bridge crossings are avoided, because they can
18 get -- the other issue is that each bridge would have to be
19 analyzed to see if it were capable of handling the additional
20 load. It's not guaranteed that it would be, but if it's not
21 capable, then you're looking at actually reinforcing bridge to
22 carry the extra weight. Can I just go back for one very brief
23 comment about the -- I didn't realize we were done with the
24 reliability issue. In my mind, we were talking about it, and we

1 didn't really get to the --

2 JUDGE STOCKHOLM: Mr. Bucci, I appreciate your
3 effort to move us forward from a substantive prospective,
4 but procedurally, I think that's more appropriate in
5 redirect.

6 MR. BUCCI: Yes, your Honor. I forgot about that.

7 JUDGE PHILLIPS: Actually, before Mr. Kluscik
8 continues, how much does the cable weigh? You talked
9 about the weight of the cable possibly requiring
10 reinforcement of a bridge. How much does it weigh?

11 MR. BUCCI: It's difficult to recall. Cable weight
12 does vary with the construction of the cable, the size of
13 the conductor, meaning the copper portion and the
14 construction of the cable. You would, for hanging under
15 a bridge, you would also have to hang -- most likely you
16 would want to go with pipe or conduit, which also has --
17 steel conduits, they have weight. It would be difficult
18 for me to say. Cable is fairly heavy.

19 JUDGE PHILLIPS: Is there a range? I mean, I don't
20 know what that means when you say, "fairly heavy."

21 MR. BUCCI: Yeah, I'm tapping my memory cells. In
22 round numbers, you know, ten pounds per foot for an
23 individual cable would not be unusual for an individual
24 cable. It does include the conduit, the multiple cables.

1 That's a reasonable number.

2 JUDGE PHILLIPS: Okay. Thank you. Mr. Kluscik.

3 MR. BISSELL: Your Honor, just to actually clarify
4 on your last question, I actually refer the witness to
5 E-3, Section E-3.3.1.

6 JUDGE PHILLIPS: Okay.

7 MR. BUCCI: Okay. This is okay. The example of the
8 range, your Honor, as we point out on this Page 2 of,
9 let's say, Section E-3.3.1, in our discussion about power
10 cables, 345 kV AC cable underground that we propose in
11 certain sections of the route is approximately five
12 pounds per foot. DC cable that we propose is
13 approximately 22.5 pounds per foot. So that's a good
14 range.

15 JUDGE PHILLIPS: Okay. And again, that does not
16 include the conduit and the other things that you've
17 mentioned?

18 MR. BUCCI: That's correct, your Honor.

19 JUDGE PHILLIPS: Thank you. I'm sorry. Go ahead,
20 Mr. Kluscik.

21 Q. Mr. Bucci, I'm going to indulge your desire to get back
22 into reliability. Panel A Rebuttal at Page 34 contains a table
23 denominated Table 1?

24 A. (Mr. Bucci) Yes, sir.

1 Q. And does the title of that table indicate that it
2 considers HPFF cable?

3 A. (Mr. Bucci) Yes.

4 Q. And is HPFF cable high pressure fluid-filled underground
5 cable?

6 A. (Mr. Bucci) High pressure fluid-filled cable, yes.

7 Q. Can you briefly describe high pressure fluid-filled
8 cable?

9 A. (Mr. Bucci) High pressure fluid-filled cable is similar
10 to what you would think of as cable, conductor covered by an
11 insulation jacket. The unique thing about high pressure
12 fluid-filled is that it has -- the conductor is formed as a
13 hollow pathway down the middle of the cable, and oil or fluid is
14 circulated through that hollow conduit, if you will, or hollow
15 portion of the conductor to enhance the cooling, heat
16 dissipation. It's similar to the concept of the pipe type cable,
17 except in the pipe type cable, the oil is circulated around the
18 outside of the cable. In fluid-filled cable the oil is
19 circulated within the cable. But it has the same -- outside of
20 the conductor, you have the typical things that you see in the
21 cable, which is insulation and usually a jacket, similar
22 materials as other cables.

23 Q. Would you agree that high pressure fluid-filled cable is
24 a more complicated insulating system or cable system than, for

1 example, cross-linked polyethylene cable?

2 A. (Mr. Bucci) The installation system is not more
3 complicated, but the cable construction is certainly more
4 complicated because it has the oil channel in the middle.

5 Q. And would you expect that complication to be reflected in
6 the reliability statistics for that type of cable?

7 A. (Mr. Bucci) No, I wouldn't.

8 Q. So it's your testimony that the more complicated cable
9 system is no less reliable than a simple system?

10 A. (Mr. Bucci) The fact that the construction is, you know,
11 is a more sophisticated or more complex design, does not
12 contribute, does not necessarily mean that it's less reliable
13 certainly. As an example, if we take the example of diggings,
14 diggings going to cause any type of cable to fail, that's one
15 example.

16 Q. How would high pressure fluid-filled cable be spliced,
17 Mr. Bucci?

18 A. (Mr. Bucci) There is a method of splicing it, and again,
19 it's replicated as much as possible. You'd have to maintain the
20 oil flow or the oil containment capability within the splice, and
21 that could be done either -- in fact, normally with that type of
22 cable, it's actually -- the splice actually has, let's call it a
23 bypass for the oil, it's a complicated splice.

24 Q. Thank you. Table 1 indicates that the forced outage rate

1 for this type of cable is 0.00165 outages per year per mile; is
2 that correct?

3 A. (Mr. Bucci) Yes, that's correct.

4 Q. And the forced outage rate for overhead line of similar
5 kV rating is 0.0005; is that correct?

6 A. (Mr. Bucci) Yes, that's correct.

7 Q. So Line 1 of Table 1, would you agree, tells us that the
8 forced outage rate for the more complicated underground cable
9 system is only a third of that, of the forced outage rate for
10 overhead lines? Is that what Line 1 of Table 1 suggests?

11 A. (Mr. Bucci) Approximately a third.

12 Q. And would it be fair to state that relationship another
13 way by saying the forced outage rate for overhead lines is three
14 times the forced outage rate for the more complicated underground
15 cable?

16 A. (Mr. Bucci) As indicated in this -- that's what this
17 table reports, yes. However, that's not alone an indication of
18 the overall reliability of an underground versus an overhead
19 cable. You have to consider the entire table that we presented,
20 specifically the mean time to repair, the mean time to repair
21 cable. Unavailability is defined as the, or let's say
22 availability is defined as the amount of time the cable is
23 available, considering the forced outage rates and the time to
24 repair the outages. So that line, the last line of the table, in

1 that line the overhead -- the overhead line is 18.5 times more
2 available than the underground line.

3 Q. Let's continue with our exploration of Table 1. You've
4 used the term "mean," and we find that in Lines 2 and 3 of Table
5 1. Am I correct in understanding that the term "mean" indicates
6 that half of the values considered are above of the mean number,
7 and half of the values considered are below that mean number?

8 A. (Mr. Bucci) Okay. My recollection is that's the median.
9 The mean is the average.

10 Q. It's the same as the average?

11 A. (Mr. Bucci) The mean.

12 Q. And the term "mean" is used on Line 2 of Table 1 in terms
13 of repair time; is that correct?

14 A. (Mr. Bucci) Line 2 of Table 1?

15 Q. The mean repair time.

16 A. (Mr. Bucci) Mean repair time, yes.

17 Q. And it's also used in Line 3?

18 A. (Mr. Bucci) Yes.

19 Q. Now, taking Lines 2 and 3 together, am I correct in
20 understanding that the mean repair time, that is, the average
21 repair time for both overhead, for overhead cable, would be .375
22 days, less than a day, a third of a day?

23 A. (Mr. Bucci) The mean --

24 Q. The mean repair time for overhead cable .375, correct?

1 A. (Mr. Bucci) Days, yes.

2 Q. And the mean repair time in days for underground cable is
3 listed as 21?

4 A. (Mr. Bucci) Yes.

5 Q. Now, if we consider the average repair time and consider
6 with it the mean time between failures, doesn't that mean that
7 the -- no pun intended -- doesn't that indicate that the
8 frequency with which we would encounter a 21-day underground
9 repair would only occur once, or on average, once every 606
10 years?

11 A. (Mr. Bucci) I think that comes directly from Line 1.
12 It's just another way of stating what's already stated in Line 1.
13 Line 1 states, "outages per year, per mile," and Line 3 states
14 the time between failures.

15 Q. But if you take the average repair time, which is given
16 as 21 days for underground cable, and consider it together with
17 the average time between failures --

18 A. (Mr. Bucci) Oh, okay.

19 Q. -- doesn't the table tell you that you will have a
20 21-day repair every 606 years?

21 A. (Mr. Thompson) Per mile, per cable.

22 A. (Mr. Bucci) Yes. And the overhead says you'll have .375
23 days repair every 200 years. It's a statistic that we won't be
24 around to verify, but that's the way statistics are. The last

1 line, unavailability is the one that is conceptually easier to
2 understand. It's a number that compares availability. They both
3 -- by the way, I don't mean to say, as I said before, both types
4 of cables are reliable.

5 Q. Thank you. I appreciated that endorsement.

6 A. (Mr. Bucci) Well, you know, I said before that the
7 utility system, in general, if properly applied, properly rated,
8 properly manufactured following all the utility standards, is a
9 reliable system. Now, if you come in and put a cable in that's
10 not tried and true to those standards, we're in a different
11 situation. I couldn't say that that's of equal reliability.

12 Q. If you'll give me just a moment, I think I'm going to ask
13 you to look at some additional numbers.

14 JUDGE STOCKHOLM: Mr. Bucci, while counsel is
15 looking for that, you were discussing the mean time
16 between failures in terms of years, 200 years and 600
17 years I think you were talking about with counsel?

18 MR. BUCCI: Yes, your Honor.

19 JUDGE STOCKHOLM: How can -- if the mean life of the
20 cable is 50 years, does that statistic therefore mean
21 that you will have one failure every four transmission
22 lines that you put up? If you put up a new one every 50
23 years, only one of them fails and it only fails one time
24 -- I'm having a hard time wrapping my head around that.

1 MR. BUCCI: Yes. This is per mile. All of these
2 numbers are on a unit mile basis, unit length basis. In
3 fact, the unavailability is certainly on a unit length
4 without regard to distance. So if you --

5 JUDGE STOCKHOLM: Yes, that I understand. That
6 statistic I understand. What I didn't understand was
7 talking about the third line in terms of years. I mean,
8 it just sort of didn't make sense to me.

9 MR. BUCCI: It's actually the first line, one over
10 the first line, one over the forced outage rate, and
11 since the first line is given per mile, that's --

12 JUDGE STOCKHOLM: Okay. I understand. Thank you.

13 JUDGE PHILLIPS: Before we move on, I just wanted to
14 check, Mr. Thompson, did you want to add anything to
15 that? You almost looked like you did. No?

16 MR. THOMPSON: I was just going to clarify that the
17 table was per mile, per cable. So obviously, a
18 transmission line has significantly more than one mile,
19 more than one cable. So it's not like an expected
20 failure.

21 JUDGE STOCKHOLM: Understood.

22 JUDGE PHILLIPS: Okay. Mr. Kluscik.

23 MR. KLUSCIK: Your Honor, at this time I think I'm
24 going to ask that a document be identified for the

1 record. We will find the document to be labeled
2 Attachment NYRI 42, and it is CARI's attachment in
3 Response to NYRI Interrogatory or Information Request 42.
4 And it is entitled "Sensitivity of System Reliability to
5 Component Aging in Metropolitan, Urban and Rural Areas."

6 JUDGE PHILLIPS: Is this the Response to one of your
7 IRs to NYRI? Or I'm sorry.

8 MR. KLUSCIK: Yes, it is our Response to NYRI 42.

9 JUDGE PHILLIPS: Doesn't it usually have a question
10 page?

11 MR. KLUSCIK: It does, your Honor. This is the
12 attachment to the question. Is that --

13 JUDGE STOCKHOLM: That's okay. If you want to mark
14 it that way, that's your choice in the first instance.

15 MR. KLUSCIK: It is also referenced in CARI witness
16 Austria's Direct Testimony Exhibit RRA 2.

17 JUDGE STOCKHOLM: Referenced in or included in?

18 MR. KLUSCIK: Referenced in.

19 JUDGE PHILLIPS: We'll mark it for identification
20 as 224, and I am assuming you're going to establish a
21 foundation.

22 (Exhibit Number 224 was marked for identification.)

23 Q. Members of Panel A, would you please look at Page 33 of
24 your Rebuttal Testimony?

1 A. (Mr. Wood) Okay.

2 Q. Does Page 33 make reference to a work by Ross, Welch and
3 Willis of ABB?

4 A. (Mr. Bucci) Yes.

5 Q. And is that reference entitled "Sensitivity of System
6 Reliability to Component Aging in Metropolitan, Urban and Rural
7 Areas"?

8 A. (Mr. Bucci) Yes.

9 Q. And have you reviewed that document prior to your
10 appearance here today?

11 A. (Mr. Bucci) Yes, I've read it.

12 Q. And is there a table on Page 1 of that document?

13 A. (Mr. Bucci) On the first page of the paper?

14 Q. Yes.

15 A. (Mr. Bucci) Yes.

16 Q. And does that table include a line denominated "Overhead
17 Line, OH" with three columns of numbers?

18 A. (Mr. Bucci) Yes.

19 Q. And does it include a line entitled "Underground Cable"
20 with three columns of numbers?

21 A. (Mr. Bucci) Yes.

22 Q. And on the line "Underground Cable," does the first
23 column indicate for newly installed cable that the failure rate
24 for underground cable is .005?

1 A. (Mr. Bucci) Yes, it does.

2 Q. And at the line "Overhead Line for New Overhead Wire,"
3 does it indicate the failure rate is .042?

4 A. (Mr. Bucci) Yes, it does.

5 Q. Do you understand these numbers to be based on or to
6 reflect historic data from 12 systems that are installed and in
7 operation, as suggested by the paragraph immediately above the
8 table?

9 A. (Mr. Bucci) The paper does explain that, yes.

10 Q. And does the paper at Page 750 describe a predictive
11 reliability assessment tool on Pages 750 and following? Does it
12 describe ABB's performance advantage reliability assessment tool?

13 A. (Mr. Bucci) I'm just look -- I'm just hesitating because
14 of the terminology. It does show -- it does discuss component
15 aging rate curves, and it analyzes those curves for different
16 types of equipment. And then there's a paragraph on predictive
17 reliability assessment tool for distribution systems, and it does
18 use, yes, ABB's performance advantage reliability assessment
19 tool. I believe that's a term that ABB uses for one of its
20 services that it performs.

21 Q. In your Rebuttal Testimony, you indicated that CARI
22 witness Austria has incorrectly listed outage frequency figures
23 and incorrectly calculated the ratio of outage frequency; is that
24 correct?

1 A. (Mr. Bucci) I did indicate that the reference was for
2 failure rate of new underground cable was reported incorrectly by
3 Mr. Austria, .0005 as opposed to .005. And the second part of
4 your question was --

5 Q. I think you've answered my question. Thank you. Have
6 you used the ABB performance reliability assessment tool to
7 evaluate either overhead line or underground failure rates?

8 A. (Mr. Bucci) Well, this tool is for distribution systems,
9 not specifically for cable.

10 Q. My question is, have you used, have you used the
11 techniques or the methodology discussed in the paper?

12 A. (Mr. Bucci) I've used similar methodologies to look at
13 component aging and probability of failures.

14 Q. Have you applied those methodologies to the historic data
15 provided in the table on the first page of this paper?

16 A. (Mr. Bucci) I've applied it to historic data, but I'm not
17 sure right now where the data in this table exactly comes from.
18 It's just characterized as distribution systems data. So I have
19 done analysis of failure likelihoods for distribution in cables
20 in my career, yes.

21 Q. And when you have done that and applied it to historic
22 failure rates, did the application of those aging tools change
23 the failure rates? In other words, you took some raw data, and
24 you applied a methodology to it, and after the application of

1 that methodology, did the numbers change to reflect the aging
2 analysis?

3 A. (Mr. Bucci) I'm not sure I understand. Are you saying if
4 you have a historically reported figure for the failure
5 probability, .05 let's say, and then separately you do an
6 analysis on component aging to determine the likelihood of
7 failure, would you come up with a different number?

8 Q. That is the question.

9 A. Well, if both, if the historical data was good and the
10 analysis was good, I would expect to come up with a very similar
11 number. I mean, there's a lot more explanation that would be
12 needed to get into that. For example, if you're only looking at
13 component aging, that's only one out of many failure mechanisms
14 in the cable. So it could be a differences, because if you're
15 only looking at component aging versus any causes of failure --

16 Q. But if you hold all the other causes, potential causes
17 frozen, our all other things being equal scenario, and you take
18 the correct data and apply an aging analysis, doesn't the aging
19 analysis change the failure rate or have the potential to change
20 the predictive failure rate as compared with the historic
21 failure?

22 A. (Mr. Bucci) Oh, you couldn't take -- you couldn't
23 separate the historic failure rate into individual parts, how
24 much of that is due to aging, how much of that is due to

1 diggings, how much of that is due to corrosion, etcetera, all the
2 other causes of failure. You could analyze the cable just for
3 its thermal aging characteristics and predict the life, but it
4 wouldn't be comparable to data, historical data that doesn't
5 actually capture the aging piece of that.

6 Q. Well, doesn't the historic data represent the starting
7 point for the analysis, which then is further developed by use of
8 the predictive reliability tool, the aging analysis?

9 A. (Mr. Bucci) Not necessarily, no. They are not
10 necessarily related directly like that. For example, Figure 2 of
11 that Page 2 of the page paper that we're discussing, it gives a
12 profile of failure rate versus component age. You know, it's a
13 totally different type of analysis. Here, you're looking at
14 what's the likelihood of failure over different periods of life,
15 and you can see, as we discussed before, it's a high likelihood
16 of failure during the early years, and as you go out later, it
17 goes up and down and varies, and then when the cable gets really
18 old it goes up, aging.

19 Q. Well, is it all that relevant to the question of how
20 reliable either a wire or a cable is over its service life?

21 A. (Mr. Bucci) Yes. I never said it wasn't relevant. Yes,
22 that's the relevant analysis component. Aging is known to be a
23 relevant aspect of looking at the likelihood of failure.

24 Q. Would you agree that this study speaks to a sensitivity

1 of various transmission system -- I guess it's distribution in
2 this case -- distribution system components?

3 A. (Mr. Bucci) It does talk about distribution components,
4 yes.

5 Q. The sensitivity of those components to aging?

6 A. (Mr. Bucci) To aging, yes.

7 Q. Are you familiar with the acronym SAIDI, S-A-I-D-I?

8 A. (Mr. Bucci) Yes, it's a measure of distribution system.
9 It's an index used to indicate distribution system reliability.

10 Q. And are you familiar with the acronym SAIFI, S-A-I-F-I?

11 A. (Mr. Bucci) Yes, that's another index used for
12 distribution systems reliability, a gauge, if you will, a matrix,
13 that's used in looking at distribution system reliability.

14 JUDGE STOCKHOLM: Is there an inherent limitation on
15 the voltage level for those statistics? In other words,
16 are they always used only for distribution facilities.

17 MR. BUCCI: SAIDI and SAIFI are you used for
18 distribution, yes, not for transmission.

19 JUDGE STOCKHOLM: Why?

20 MR. BUCCI: The concept of component aging is used
21 equally, can be used. Did I answer your question?

22 JUDGE STOCKHOLM: No. Why aren't SAIDI and SAIFI?

23 MR. BUCCI: Because they are just acknowledged
24 industry --

1 JUDGE STOCKHOLM: They are based on measuring
2 outages over time; are they not?

3 MR. BUCCI: Yes, and typically, outages -- well, one
4 reason is, typical outages occur more frequently on local
5 distributions systems, and that's where the customer is
6 most directly affected. Cable failures or any other
7 failures of the high voltage system, if they affect
8 people, they would more likely affect entire towns or
9 cities. It's just not a system used to discuss
10 transmission reliability for that reason.

11 JUDGE STOCKHOLM: Okay. But where do you put the
12 cutoff voltage-wise between transmission and
13 distribution.

14 MR. BUCCI: Normally, that's 69 kV and below is
15 considered distribution. I correct myself on that,
16 because a 69 kV cable is considered a medium voltage.
17 Distribution voltage is normally 34 kV and below.
18 Sixty-nine cable is often called transmission. You know,
19 generally, 115 kV and above is definitely transmission
20 level.

21 JUDGE STOCKHOLM: Okay.

22 Q. I'm going to ask you to take a look at several sections
23 of the paper we have been discussing?

24 A. (Mr. Bucci) Okay.

1 Q. On Page 1 there's a paragraph below Table 1. Are you
2 with me?

3 A. (Mr. Bucci) The paragraph below Table 1, yes.

4 Q. Does the third sentence of that paragraph read, "Overhead
5 lines are the least reliable, experiencing a failure every five
6 years"?

7 A. (Mr. Bucci) Yes, least reliable. It's talking about the
8 table above, and as you can see from the numbers, it has the
9 highest land to --

10 Q. And at Page 751, in the right-hand column below Figure 3,
11 the second is last paragraph on the page, the one beginning, "In
12 rural areas." Are you with me?

13 A. (Mr. Bucci) Yes.

14 Q. Does that sentence read, "In rural areas SAIFI is most
15 sensitive to overhead lines with or without tree trimming?"

16 A. (Mr. Bucci) Yes. But this is all distribution.

17 Q. We'll get there, Mr. Bucci.

18 A. (Mr. Bucci) Okay.

19 Q. And at Page 752 in the left-hand column --

20 A. (Mr. Bucci) Yes.

21 Q. -- the second sentence, I believe it is, reads, "In rural
22 areas, SAIFI is least sensitive to underground cable." Is that
23 correct?

24 A. (Mr. Bucci) Yes.

1 Q. And the last paragraph on that page in the left-hand
2 column, does the first sentence read, "In the rural area, SAIDI
3 is most sensitivity," which I suspect is poor English, "is most
4 sensitivity to overhead lines"?

5 A. (Mr. Bucci) It does say that.

6 Q. And the next sentence reads, "In terms of repair time,
7 long spans of overhead line in rural areas are the largest
8 contributors to outage duration; is that correct?

9 A. (Mr. Bucci) Yes, it does say that.

10 Q. And the right-hand column on the same page, Page 752
11 below Table 4, does the second last sentence in that paragraph
12 read, "In rural areas, SAIDI is least sensitive to underground
13 cable and distribution transformers"?

14 A. (Mr. Bucci) Yes. It doesn't say why.

15 Q. I understand that.

16 A. (Mr. Bucci) Well, that's a big part of --

17 Q. If I may ask you the next question. You've indicated
18 that these data relate to distribution systems?

19 A. (Mr. Bucci) Yes.

20 Q. And you suggested that there's a difference between
21 distribution and transmission systems?

22 A. (Mr. Bucci) Yes.

23 Q. In light of that difference, wouldn't it be appropriate
24 to adjust the methodology used by ABB and described in this paper

1 to account for that difference when applying an aging analysis?

2 A. (Mr. Bucci) That wasn't the difference that I was
3 referring to. In fact, the aging part alone is the same
4 materials. So there's not -- the big difference between the
5 distribution and transmission is not in the material that's used
6 to construct the cable necessarily, although it's always more
7 complex with transmission cable. But they both age, and if they
8 are a polymer type of material, they age similarly. There are
9 other reasons why distribution systems, in general, fail, you
10 know, distribution components or cables fail more often than
11 transmission components.

12 MR. KLUSCIK: Your Honor, if we may have a moment to
13 consult with our consultants?

14 JUDGE PHILLIPS: Mr. Kluscik, can you just give me
15 an estimate of how much more you have, because I think we
16 have passed the two-hour mark.

17 MR. KLUSCIK: I would hope to be complete within the
18 next half hour, your Honor. These are not quite as
19 simple as the weight of concrete.

20 JUDGE PHILLIPS: Is this a good time to break then?

21 MR. KLUSCIK: Yes, this would be a good time to
22 break.

23 JUDGE PHILLIPS: All right. We're going to break
24 for lunch. We'll come back at 1:30.

1 (A luncheon recess was taken.)

2 JUDGE PHILLIPS: We can go back on the record. I
3 think before the break, we indicated we were going to
4 break before we take Mr. Stolicky's testimony and
5 exhibits. If you could please stand or raise your right
6 hand.

7 CHRISTOPHER STOLICKY,
8 having first been duly sworn by the Judge Phillips, was examined
9 and testified as follows:

10 JUDGE PHILLIPS: Thank you. Could you state your
11 name for the reporter.

12 MR. STOLICKY: Christopher R. Stolicky.

13 JUDGE PHILLIPS: You can be seated. Counsel.

14 MR. BLOW: Thank you, your Honor.

15 DIRECT EXAMINATION

16 BY MR. BLOW:

17 Q. Mr. Stolicky, you have in front of you a document
18 consisting of eight pages plus a cover that contains your
19 prepared testimony in this case, correct?

20 A. Correct.

21 Q. And if I were to ask you -- I'm sorry. Would the
22 questions and answers contained therein prepared by you or under
23 your supervision?

24 A. Yes.

1 Q. If I were to ask the questions contained in that
2 document, would your answers be the same as appear therein?

3 A. Yes.

4 Q. Do you adopt this as your sworn testimony in this
5 proceeding?

6 A. Yes.

7 Q. And you prepared an exhibit, correct?

8 A. Correct.

9 Q. Could you describe that exhibit?

10 A. The exhibit is a list of proposed conditions to be
11 included in part of the EM&CP, assuming all the recommendations
12 in my testimony were adopted.

13 MR. BLOW: And your Honor, I believe the exhibit has
14 been marked.

15 JUDGE PHILLIPS: Yes, it has been marked for
16 identification as Exhibit 225.

17 (Exhibit Number 225 was marked for identification.)

18 MR. BLOW: Thank you, your Honor. I would ask that
19 the testimony of Mr. Stolicky be copied into the record
20 as if given orally.

21 JUDGE PHILLIPS: Granted.

22 (The following is the Prefiled Testimony of
23 Christopher Stolicky:)
24

BEFORE THE
STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

In the Matter of

New York Regional Interconnect

Case 06-T-0650

January 2009

Prepared Testimony of:

Christopher R. Stolicky
Utility Engineer 3 (Safety)
Office of Electric, Gas, & Water

State of New York
Department of Public Service
Three Empire State Plaza
Albany, New York 12223-1350

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1 Q. Mr. Stolicky, would you please state your name
2 and business address.

3 A. Christopher R. Stolicky. My business address is
4 New York State Department of Public Service, 3
5 Empire State Plaza, Albany, NY 12223.

6 Q. By whom are you employed and in what capacity?

7 A. I am employed by the Department of Public
8 Service as a Utility Engineer 3 (Safety) in the
9 Safety Section of the Office of Electric, Gas, &
10 Water.

11 Q. Please summarize your education and work
12 experience.

13 A. I graduated from Union College in 2000 with a
14 Bachelors degree in Civil Engineering. I
15 received a Masters degree in Business
16 Administration from the University at Albany in
17 2005. I have been employed by the Department of
18 Public Service since January 2001. I work in
19 the Safety Section and I am familiar with
20 federal and state gas safety pipeline codes,
21 statewide risk-based safety performance
22 measures, and with the operations of the major
23 gas utilities in New York State. My other
24 duties include engineering support for the

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1 Safety Section field staff, reviewing possible
2 violations relating to 16 NYCRR Part 753 (damage
3 prevention), participating in rate proceedings
4 and negotiations, reviewing proposed pipeline
5 designs, processing petitions and waivers
6 relating to code compliance matters, and
7 reviewing proposed updates to utility operations
8 and maintenance procedures. I have also
9 participated in job rotations and work
10 assignments in the Gas Rates and Policy
11 Sections, where I worked on various rate issues
12 and in the review of utility winter gas supply
13 planning.

14 Q. Mr. Stolicky, have you previously testified in
15 an administrative proceeding?

16 A. Yes. I have testified in numerous rate and
17 merger proceedings. Most recent were those of
18 National Fuel Gas Distribution Corporation gas
19 rate case, Case 07-G-0141, the KeySpan Energy
20 Delivery companies rate and merger proceedings
21 with National Grid, PLC, Cases 06-M-0878, 06-G-
22 1185, and 06-G-1186, the Energy East Corporation
23 merger with Iberdrola, S.A., Case 07-M-0906, the
24 Niagara Mohawk Power Corporation gas rate case,

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1 Case 08-G-0609, and the Central Hudson Gas &
2 Electric gas rate case, Case 08-G-0888.

3 Q. What is the purpose of your testimony in this
4 proceeding?

5 A. The purpose of my testimony is to discuss the
6 potential impact of both the construction and
7 operation of the transmission line on existing
8 natural gas and liquid petroleum pipelines.

9 Q. Which pipelines would be impacted by the
10 proposed power line if the Commission were to
11 authorize it?

12 A. Depending on the route selected, it will greatly
13 impact the Millennium Pipeline, LLC (Millennium)
14 right-of-way, as well as cross numerous other
15 transmission and distribution pipelines.

16 Q. Please explain how construction of the
17 transmission lines could impact pipelines.

18 A. There is concern that heavy equipment and
19 vehicles could traverse over the buried
20 pipelines. If proper bridging or mitigation
21 efforts are not installed over the pipelines,
22 the weight of the equipment and vehicles could
23 damage the pipe or other associated
24 appurtenances.

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1 Second, there is the possibility that NYRI may
2 have to consider performing some blasting due to
3 rock where it is constructing facilities. If
4 the blasting is performed improperly, the
5 resulting energy wave from the blast could
6 damage the buried pipeline.

7 Q. What do you recommend about the heavy equipment
8 concern?

9 A. I recommend NYRI be required to contact and work
10 with all of the pipeline operators and comply
11 with reasonable requests to avoid potential
12 damage caused by heavy equipment.

13 Q. What do you recommend about the blasting
14 concern?

15 A. Millennium has indicated an absolute threshold
16 limit of a 300 feet no blasting zone. While
17 this may be a simple, catch all approach to
18 prevent blasting near its pipeline, it is hard
19 to randomly determine what a safe distance may
20 be. There are factors such as soil conditions,
21 the amount of explosives used, and discharge
22 techniques that vary the impact a pipeline is
23 exposed to. Millennium should have a standard
24 that addresses blasting near its pipeline. The

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1 standard should describe the allowed peak
2 particle velocity that the pipeline can be
3 subjected to. As long as NYRI can properly
4 perform its blasting in compliance with
5 Millennium's blasting standard, then it should
6 be allowed to perform blasting activities. If
7 NYRI falls out of compliance, then it should be
8 required to pursue another construction method.

9 Q. Would this also apply to other pipelines?

10 A. Yes. If NYRI will perform blasting that could
11 impact any other pipelines, it must comply with
12 the potentially impacted operator's blasting
13 procedure.

14 Q. Do you have any other comments on blasting?

15 A. Yes. If NYRI performs blasting near any
16 pipeline, the potentially impacted pipeline
17 operator should be required to perform a leakage
18 survey shortly before the blasting and then
19 afterwards to determine if any leaks occurred.
20 Since the blasting would be a result of the NYRI
21 construction activities, NYRI should be required
22 to reimburse the pipeline operator the
23 reasonable cost to perform the leakage surveys.

24 Q. Please discuss the possibility of transient

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1 current.

2 A. There is the possibility that foreign currents
3 could travel along NYRI's facilities in an
4 attempt to go to ground. This would
5 predominantly be caused by lightening strikes.
6 Since nearly every buried pipeline contains a
7 metallic path, there is a chance the current
8 could jump onto a metallic pipeline component.

9 Q. What could result if this event occurs?

10 A. At the very least, a large current would cause
11 metal loss at either the location it jumps onto
12 the metallic surface, where it leaves the
13 metallic surface, or both. The end result could
14 simply mean metal loss, a burn-through hole, or
15 a complete failure of the pipeline resulting in
16 an uncontrolled loss of product.

17 Q. What do you recommend?

18 A. I recommend NYRI evaluate all instances where
19 transient current could impact pipeline
20 facilities and institute mitigation efforts to
21 keep such an incident from occurring.

22 Q. You have mentioned transient currents, what
23 about fault currents?

24 A. If part of the NYRI system fails, whether it

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1 occurs at one pole or both conductors fall to
2 ground, it is possible that the fault current
3 from a mono pole operation could cause current
4 to flow to ground. As I discussed above, nearly
5 every pipeline contains a metallic component,
6 and the metallic surface could provide a path
7 for unwanted current to travel for many miles.
8 There is a risk the fault current could jump
9 onto the pipeline. My understanding regarding
10 direct current power lines is that they require
11 large ground beds at substations. Since
12 pipelines, by their nature, could become large
13 ground beds for stray current, I am concerned
14 that, if a fault occurs, it could jump onto the
15 pipeline or damage other appurtenances.

16 Q. What do you propose?

17 A. I recommend that NYRI perform a study that
18 analyzes all possible instances where a fault on
19 its system could impact a buried pipeline. The
20 study should be required before a certificate is
21 granted by the Commission. NYRI must then take
22 reasonable precautions to avoid a fault on its
23 system from jumping onto a buried pipeline. If
24 a fault reaches a pipeline, there is the

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1 likelihood of a catastrophic incident occurring.

2 Q. Have you prepared an exhibit containing
3 certificate conditions that reflect your
4 recommendations?

5 A. Yes. I have prepared exhibit Stolicky-1, which
6 contains certificate conditions that the
7 Commission should impose, if it decides to
8 authorize transmission facilities in this case.

9 Q. Does this conclude your testimony?

10 A. Yes.

1 MR. BLOW: The witness is available for
2 cross-examination.

3 JUDGE STOCKHOLM: Well, we have some questioning.

4 MR. BLOW: I'm sorry, your Honor, yes.

5 JUDGE STOCKHOLM: That's quite all right. Mr.
6 Stolicky, the purpose of your testimony is to discuss
7 potential impacts on natural gas and liquid petroleum
8 pipelines; is that correct?

9 MR. STOLICKY: Correct.

10 JUDGE STOCKHOLM: And one of the issues that you
11 raised in your testimony is electric current in the
12 ground that could interfere with the cathodic protection
13 on natural gas pipelines; is that correct? For example,
14 on Page 7, you're talking about on Line 8, there is a
15 risk the fault current could jump into the pipeline.

16 MR. STOLICKY: Correct.

17 JUDGE STOCKHOLM: You're talking about electricity
18 in the ground that is going to affect, and I assume that
19 your concern is that it will affect cathodic on the
20 pipeline; is that right?

21 MR. STOLICKY: My recommendations are considering
22 the entire pipeline as a whole. It could be the
23 pipeline. It the cathodic protection system. It could
24 be any metallic component on that pipeline.

1 JUDGE STOCKHOLM: Okay. Very good. One of the
2 sources of that electricity in the ground that could
3 cause that kind of damage is lightning, and you mention
4 that in your testimony; is that right?

5 MR. STOLICKY: Correct.

6 JUDGE STOCKHOLM: What other sources of electricity
7 could cause problems, and how would they occur? How
8 does the NYRI line present an electrical, a potential
9 electrical problem with regard to gas pipelines?

10 MR. STOLICKY: My understanding, being from a
11 pipeline safety prospective and not an electrical
12 engineering prospective, is that an electrical
13 transmission line could fault for whatever reason,
14 whether a wire breaks, piece of equipment fails, and that
15 current will try to take the path of least resistance and
16 go to ground, whether that be a wire that physically
17 falls and touches the ground or whether that voltage
18 travels down a pole towards the ground to whatever
19 grounding system that tower may have. Electrical
20 current, you know, wants to be grounded, and if there's a
21 metallic, a large metallic piece of something in the
22 ground, it's going to try to make its way to that path to
23 complete that circuit.

24 JUDGE STOCKHOLM: Are there, other than for lack of

1 a better term, a ground fault from a broken line or some
2 other ground fault that comes down a pole, for example,
3 are there other sources of electricity that are of
4 concern? And what I'm asking about actually is ground
5 return currents. Are you familiar with that term?

6 MR. STOLICKY: I am not an expert on the subject,
7 but I understand the concept.

8 JUDGE STOCKHOLM: The basic concept.

9 MR. STOLICKY: Yes.

10 JUDGE STOCKHOLM: Would you agree with me that for
11 the most part, these lines, all of the alternatives, are
12 proposed to be built across the countryside as opposed to
13 in an urban environment?

14 MR. STOLICKY: Yes.

15 JUDGE STOCKHOLM: Would the concerns that you
16 expressed with regard to natural gas and liquid
17 petroleum pipelines also apply to water pipelines.

18 MR. STOLICKY: If they have a metallic component,
19 yes.

20 JUDGE STOCKHOLM: Okay. Sewer pipelines?

21 MR. STOLICKY: If they have a metallic component,
22 yes.

23 JUDGE STOCKHOLM: Are you familiar with the
24 underground facilities, utilities in our sense, that is,

1 in the DPS sense, and also utilities in sort of a public
2 sense, like water pipelines and sewer pipelines, are you
3 familiar with the underground network in New York City
4 with regard to those kinds of structures generally?

5 MR. STOLICKY: Yes.

6 JUDGE STOCKHOLM: And would you agree with me that
7 they are much more frequent in New York City, for
8 example, than they would be over the path of the
9 proposed Project.

10 MR. STOLICKY: Yes.

11 JUDGE STOCKHOLM: And would that create additional
12 problems or additional issues with regard to these kinds
13 of electric currents in the ground? In other words,
14 would it be more complicated and more difficult to design
15 this facility in New York City than it is to design it
16 where it is, from the standpoint of the concerns
17 expressed in your testimony?

18 MR. STOLICKY: If you're talking about building the
19 electric line after those facilities were in place,
20 you're looking at one difficulty, whereas, if this power
21 line was already installed and then one of those
22 utilities comes along afterwards, they can design their
23 system to try to mitigate the impacts that could happen
24 from the power line.

1 JUDGE STOCKHOLM: But in New York City, my point is,
2 there's a whole bunch of facilities that we have to be
3 concerned with in New York City and relatively fewer
4 under the proposed line.

5 MR. STOLICKY: There certainly is a greater density
6 in New York City underground facility.

7 JUDGE STOCKHOLM: Okay. That's all I have. Have
8 those questions raised any questions in any of the other
9 parties' minds? Yes, Ms. Leary.

10 CROSS-EXAMINATION

11 BY MS. LEARY:

12 Q. This is just based on your general knowledge, I think,
13 because you're a pipeline risk expert it sounds like. But if you
14 have this type of energy or electricity traveling through that
15 path of least resistance on the ground and finding its
16 potentially to the Millennium pipeline or any other pipeline
17 that's got a metallic component to it, are there safety issues
18 for the public, people that would be in the area? And you can
19 assume, even if this is a rural area, you have people there, even
20 if they're just hiking through, you know, a right of way or
21 something like that, are there other safety concerns?

22 A. I do discuss this issue in my testimony.

23 Q. Are you referring to your Direct Testimony?

24 A. Yes. On Page 6 -- actually, starting at the bottom of

1 Page 5 and through Page 6, I discuss this issue.

2 Q. So you're saying that quote, and this is referring on
3 Page 6, "There is a possibility that foreign currents could
4 travel on NYRI's facility in an attempt to go to ground. This
5 would predominantly be caused by lightning strikes if nearly
6 every buried pipeline contains a metallic path."

7 A. This is regarding transiting currents, this section, yes.

8 Q. Okay. So where is the discussion of public safety
9 issues? Because I see in the next answer you get through to the
10 mean metal loss burn-through hole or a complete failure of the
11 pipeline and uncontrolled loss of product. But where are you
12 telling me in this testimony you're talking about public safety
13 issues?

14 A. If there's an uncontrollable loss of gas, it could be
15 ignited or create a potential safety risk.

16 Q. To the public?

17 A. Yes.

18 Q. I just didn't see that in your testimony, that next step,
19 and that's why I'm asking the question. Is there also a risk to
20 the public from the actual current between the time there would
21 be what I'll call a failure, to the time it reaches the
22 pipeline, if someone is sort of hiking there or otherwise; do you
23 know?

24 A. That's not a question I can answer.

1 MS. LEARY: Okay. Thank you.

2 JUDGE PHILLIPS: Did anyone else have questions that
3 were raised by Judge Stockholm's questioning? Mr.
4 Singer.

5 CROSS-EXAMINATION

6 BY MR. SINGER:

7 Q. Mr. Stolicky, would you agree with me that natural gas
8 pipelines and electric, high voltage electric transmission lines
9 exist next to each other in many areas of the state?

10 A. Yes.

11 Q. What steps are taken typically to mitigate or reduce the
12 possibility of the types of incidents that you were discussing
13 with the Judge? What's normally done to reduce that?

14 A. Are you referring to imposed magnetic fields or transient
15 currents?

16 Q. Let's start with imposed magnetic fields.

17 A. The largest or the most common practice that I'm familiar
18 with is pipelines they'll install with what they call zinc ribbon
19 next to a pipeline, which in theory would be -- it is a path of
20 lesser resistance. The pipeline would catch any currents,
21 whether it be a transient current or reduced magnetic field.
22 With that said, I have personally seen situations where an
23 induced magnetic field has been on the pipeline so strong that a
24 piece of pipe was cut out, it arced and also a magnetic so strong

1 that a three-pound hammer has been pulled out of a guy's hand and
2 stuck to the edge of the pipeline because a zinc ribbon was not
3 in place. But again, that's an AC system, and this is a DC, and
4 we're all in agreement that those are different, different
5 systems as far as of magnitude of issues.

6 Q. How are they are different?

7 A. In the magnitude of the imposed field, according to the
8 study I have seen, one is your Appendix P, try Section P,
9 Appendix D.

10 Q. I believe it's Appendix B, yes.

11 MR. SINGER: Okay. That's all I have.

12 JUDGE STOCKHOLM: Anything else for this witness?

13 (No response.) Redirect, Staff?

14 REDIRECT EXAMINATION

15 BY MR. BLOW:

16 Q. Mr. Stolicky, you were asked about, I believe, about ways
17 to, things that you've seen to minimize problems when gas and
18 electric pipelines or gas transmission lines and electric
19 transmission lines were in proximity to one another. Would one
20 of the ways to minimize associated problems be to have a
21 separation distance between the transmission lines?

22 A. Yes, that is correct.

23 Q. And what distance would you say that would typically be?

24 A. It's not a question I can give an absolute answer to. I

1 think it would depend on the type of electric facility and the
2 amount of voltage it's carrying, as well as the existing pipeline
3 in the ground, depending on the types of mitigation efforts
4 installed like a zinc ribbon or the coating on the pipeline.

5 MR. BLOW: No further questions, your Honor.

6 JUDGE STOCKHOLM: Mr. Stolicky, I see 100-foot
7 center line separation referred to in Paragraph 7 of your
8 proposed certificate conditions. That is your
9 recommendation, is it, for this particular Project?

10 MR. STOLICKY: That is a condition that my
11 understanding NYRI and Millennium worked together for and
12 that it was referencing the Millennium pipeline, and with
13 Millennium having done the necessary research and to be
14 okay with that distance, I'm in agreement with it.

15 JUDGE STOCKHOLM: As far as you know, that meets all
16 code requirements, code and safety requirements?

17 MR. STOLICKY: Millennium is required under safety
18 regulations to evaluate its approximate to alter
19 transmission lines, and if they have done that analysis
20 and this is the distance they came up with their sort of
21 calculations, yes.

22 JUDGE STOCKHOLM: Have you reviewed that analysis?

23 MR. STOLICKY: I have not.

24 JUDGE STOCKHOLM: Anything else, Mr. Blow.

1 MR. BLOW: No, your Honor.

2 JUDGE STOCKHOLM: Thank you. Mr. Stolicky, thank
3 you very much for your testimony. You are excused.

4 MR. STOLICKY: Thank you.

5 (Witness excused.)

6 JUDGE STOCKHOLM: And Mr. Kluscik, thank you very
7 much for allowing me to interrupt your cross-examination.

8 MR. KLUSCIK: You're welcome, your Honor. The break
9 was appreciated.

10 JUDGE STOCKHOLM: Off the record.

11 (Discussion off the record.)

12 JUDGE STOCKHOLM: Back on the record. After lunch
13 we had a long conversation about on-site visits, and I
14 was just beginning to get into something we left on the
15 record just before we broke for lunch which was a request
16 that our ruling be clarified with regard to the filing of
17 Rebuttal Testimony now scheduled for Monday. I apologize
18 to the parties for not being more specific in what we
19 intended, which was frankly that DEC's motion was only
20 for DEC. But nevertheless, it strikes me that some of
21 the parties have relied on that as being applicable to
22 all parties, and therefore, we will extend the filing by
23 Monday for the Rebuttal Testimony on the Thruway
24 Alternate Project to close of business Wednesday.

1 Anything else before we get back to this panel?

2 MR. BLOW: Your Honor, you want to put the new
3 deadline for the site of this visit since it was in your
4 ruling, you want to put it on the record as a bench
5 ruling?

6 JUDGE STOCKHOLM: Yes, yes, I might as well put that
7 one in as well. One of the things we talked about with
8 regard to site visits is when the parties have to
9 identify where they'd like to stop. Under a ruling we
10 issued I think in January, that date was April 10th, but
11 because of intervening and superseding events, we've to
12 move that up. Accordingly, those identifications should
13 be submitted by close of business also next Wednesday,
14 April 1st. Thank you, Mr. Blow.

15 Anything else before we return to Mr. Klucsik's
16 cross-examination?

17 (No response.)

18 JUDGE STOCKHOLM: Hearing nothing --

19 MR. KLUSCIK: Thank you, your Honor.

20 CROSS-EXAMINATION

21 BY MR. KLUSCIK (CONT.):

22 Q. Mr. Bucci, let me refer you again to the paper we've been
23 discussed. I believe Judge Phillips said it's Exhibit 224; is
24 it?

1 JUDGE PHILLIPS: Yes.

2 Q. If you'd take a look at Page 750 of the paper, please go
3 to the left-hand column in Section 3, "Component Aging." Go to
4 the second paragraph. Would you -- can you find the sentence
5 that says, "Figure 1 illustrates the component failure rate
6 curves overtime with distribution transformers, switches,
7 underground cable and substation transformers?"

8 A. (Mr. Bucci) Yes.

9 Q. Would you go to that Figure 1, please, in the bottom at
10 the left-hand column. There are four figures there?

11 A. (Mr. Bucci) Yes.

12 Q. Would you please refer to the figure in the lower
13 right-hand corner of that block of four figures. I direct your
14 attention to the figure titled "Underground Cable." Do you see
15 it?

16 A. (Mr. Bucci) Yes.

17 Q. Does that figure show on the vertical access failure
18 rates and on the horizontal access time?

19 A. (Mr. Bucci) Yes.

20 Q. And does the line drawn across that figure begin on the
21 vertical scale just above zero and continue over time at a very
22 slight upward angle?

23 A. (Mr. Bucci) I wouldn't characterize it as just above
24 zero. You have to look at the scale on the left, and the first

1 line is zero. The second line is .2, and the line you referred
2 to in my estimation is approximately one-third of the way between
3 0 and .2.

4 Q. Would you agree with me that the slope of that line is
5 very small?

6 A. (Mr. Bucci) It's flat. It's fairly flat, certainly as
7 compared to the other components.

8 Q. Thank you. Would you go now to the same page in the
9 right-hand column, the first paragraph, second sentence. Would
10 you agree with me that that reads, "Figure 2 would be a better
11 representation for overhead line failure rate"?

12 A. (Mr. Bucci) Yes.

13 Q. And would you go to Figure 2, please. Does Figure 2 show
14 a saw-tooth line which, first, declines -- I'm sorry -- does the
15 vertical scale show failure rate?

16 A. (Mr. Bucci) There's no scale.

17 Q. Does the vertical axis --

18 A. (Mr. Bucci) It indicates the axis reads "failure rate."

19 Q. And does the horizontal axis read, "Component
20 age in years"?

21 A. Yes.

22 Q. And does the line depicted on that figure first decline
23 and then rise and then decline again and repeat that pattern
24 through time?

1 A. (Mr. Bucci) Yes.

2 Q. Would it be fair to conclude from Figure 1 the
3 underground cable figure that over time underground cable as
4 depicted in this figure displays a small increase in the failure
5 rate over time? Is that what that figure tells us?

6 MR. BISSELL: Your Honor, I'd like to object, just
7 to clarify that we are speaking about distribution
8 systems and prospective in this entire paper and not
9 transmission systems. Therefore, the relevancy to the
10 NYRI Project is little, if any.

11 JUDGE STOCKHOLM: Well, without regard to that last
12 piece of the argument, I do understand that this is a
13 study about distribution systems. Thank you, counsel.

14 A. (Mr. Bucci) Could you repeat the question?

15 MR. KLUSCIK: I'll ask the reporter to read it back,
16 please.

17 JUDGE STOCKHOLM: If you can, please.

18 (The court reporter read back the second to last
19 question.)

20 A. (Mr. Bucci) Yes.

21 Q. Does Figure 1 underground cable -- I'll withdraw the
22 question. The Panel A Rebuttal Testimony at Pages 29 and 30
23 presents your costs estimate for an HVDC light system. It
24 indicates that your estimate is several times that estimated by

1 CARI witness Lanzalotta; is that correct?

2 A. (Mr. Bucci) Well, we state we would correct the estimate
3 cost approximately two to three times the cost estimated by Mr.
4 Lanzalotta.

5 Q. So your estimated cost is somewhere between \$4.5 and \$6.8
6 billion, B as in boy. Is that what it says on Page 30?

7 A. (Mr. Bucci) It says that the correct estimated cost for
8 1,200-megawatt HVDC project would be approximately two to three
9 times the cost estimated by Mr. Lanzalotta in the range of
10 approximately 4.5 to 6.8 billion. It just multiplies out Mr.
11 Lanzalotta's numbers by two, three, and the cost is preceding,
12 yes, yes.

13 Q. And is that cost estimate based on the proposition that
14 in order to achieve an HVDC light system, which is equivalent to
15 NYRI's proposal, one would have to build three different systems
16 or three separate systems?

17 A. Essentially two to three, yes.

18 Q. And that's the genesis for the cost system that's two to
19 three times larger; is that correct?

20 A. (Mr. Bucci) Yes.

21 Q. Mr. Thompson, yesterday, I believe in response to
22 questions from Ms. Wilkinson, you made reference to the FERC
23 incentive rate proceeding?

24 A. (Mr. Thompson) Correct.

1 Q. Do you recall that?

2 A. (Mr. Thompson) Yep.

3 Q. Is it correct that in that proceeding, NYRI has advanced
4 the position that the Project's use of advanced technology is a
5 positive feature that helps justify the grant of the incentive
6 rate?

7 A. (Mr. Thompson) Absolutely.

8 Q. Thank you, sir. Panel A at the Application, Exhibit 3,
9 Page 2, Section 3.1.2, which is titled "Total Underground
10 Alternative," the first paragraph thereunder talks about
11 feasibility of such a system; is that correct?

12 A. (Mr. Bucci) Yes.

13 Q. Is it your position that an underground HVDC system at
14 400 kilovolts is not technically feasible? Is that your
15 position?

16 A. (Mr. Bucci) That's not what we said. We said that no
17 similar line has been proven to be technically feasible.

18 Q. Do you believe an underground system at 400 kilovolts is
19 technically feasible?

20 A. (Mr. Bucci) An underground system --

21 Q. -- rated at 400 kilovolts, is it technically feasible?

22 A. (Mr. Thompson) Can I answer partially to that? Because I
23 think it goes beyond technical feasibility. It goes to
24 commercial feasibility.

1 Q. Well, I would rather have an answer to my question first,
2 if you don't mind.

3 A. (Mr. Thompson) Okay. That's fine. I'm sorry.

4 A. (Mr. Bucci) You're asking a general question that related
5 to what we wrote here.

6 Q. I'm asking if you believe it's possible to build an
7 underground system at 400 kilovolts that works?

8 A. (Mr. Bucci) Yes.

9 Q. Mr. Thompson --

10 JUDGE PHILLIPS: I'm sorry. I wanted to see if he
11 had any addition to that.

12 MR. THOMPSON: Yeah. I think it's very relevant.
13 You asked about the fact that we have, we're provided a
14 FERC incentive for an advanced technology. I think it
15 goes beyond that to discuss other FERC requirements,
16 specifically to the feasibility of the Project.
17 Yesterday, Judge Stockholm talked about the financability
18 of the Project. One of the key elements here, and I've
19 been a driver of this, is there is a requirement for
20 prudence as far as recovery of any costs, and prudence
21 would require utilizing commercially proven technologies,
22 not taking on new proposed technologies. I can vouch
23 that the investors would not be willing to invest money
24 into a \$2 billion project that a year or two into it we

1 find out did not live up to its expectations and was not
2 successful, and therefore, they were not able to recover
3 any of their interest costs, which is what would happen
4 if it was judged to be imprudent taking on a brand new
5 technology. So, yes, we demand and require commercially
6 prudent technology to be used here in this Project.
7 That does mean it can't be advanced, but it does have to
8 be commercially prudent.

9 Q. Mr. Thompson, under that standard --

10 A. (Mr. Thompson) Yes.

11 Q. -- does anybody build new technology?

12 A. (Mr. Thompson) Yes.

13 Q. Isn't the first guy always taking a risk?

14 A. (Mr. Thompson) Usually so, and so usually they get some
15 sort of a government backing or there is some sort of a small
16 reduced scope type project that begins to grow, and then you
17 piggyback from that. But you don't start with a 200-mile, \$2
18 billion public infrastructure project for a brand new technology.

19 MR. KLUSCIK: Thank you, Mr. Thompson. No further
20 questions, your Honor. I'm sorry. Your Honor, we do have one or
21 two more, if I may have a moment to consult with co-counsel.

22 JUDGE STOCKHOLM: You may. I wanted to ask a simple
23 question, or at least I think it's simple. Why is the
24 other system that you discussed in your Rebuttal

1 Testimony, the HVDC light, why is it called light? Is it
2 physically lighter, or is it just a trade name or --

3 MR. BUCCI: It's a trade name, your Honor.

4 JUDGE STOCKHOLM: So it's not physically lighter?

5 MR. BUCCI: No.

6 JUDGE STOCKHOLM: Okay. All right. If that's your
7 testimony, I won't push on it.

8 MR. SINGER: Fewer calories.

9 JUDGE STOCKHOLM: Fewer calories?

10 MR. BUCCI: There's another manufacturer that
11 manufactures specific named HVDC light. There's another
12 manufacturer that offers the same technology and refers
13 to it as HVC something else. It's not light.

14 JUDGE STOCKHOLM: It's not light. Okay. It's just
15 a trade name.

16 MR. BUCCI: Yes.

17 JUDGE STOCKHOLM: I just wondered if there's more
18 behind it. Thank you.

19 MR. KLUSCIK: Your Honor, Ms. Collela has just a few
20 more questions.

21 JUDGE STOCKHOLM: Please proceed.

22 MS. COLLELA: Thank you.

23 RE CROSS-EXAMINATION

24 BY MS. COLLELA:

1 Q. We talked earlier about your comparison of open trench
2 method of construction for stream crossings versus the overhead
3 spanning of streams, and we talked about potential impacts of
4 overhead construction to streams, and in that we talked about the
5 clearing of vegetation for right of ways, correct?

6 A. (Ms. Ernst Sims) Yes.

7 Q. I had forgotten to ask you about the clearing along the
8 Marcy South Alternate Route. NYRI proposes clearing of an area
9 of 125 to 150 feet adjacent to or parallel to the existing Marcy
10 South right of way; is that correct?

11 A. (Mr. Wood) Yes.

12 Q. Okay. And for those portions of NYRI's Route, both the
13 Proposed Route and the Marcy South Alternate that are not within
14 existing of right of way, meaning that the right of way is either
15 in a greenfield area or it's additional widening of an existing
16 right of way, for those areas, will the clearing require removal
17 of vegetation and stumps?

18 A. (Mr. Wood) No. For the vegetation clearing, it would
19 just be removal of the vegetation. Although, I should qualify
20 that, where there are structures being located, then the stumps
21 would be removed in those areas.

22 Q. Okay. So there will be some areas that require stump
23 removal?

24 A. (Mr. Wood) Yes.

1 Q. And will that removal of vegetation and stumps loosen the
2 topsoil?

3 A. (Mr. Wood) Yes.

4 Q. Okay. And some of you on this panel were here yesterday
5 to testify as Panel D, and you testified yesterday regarding the
6 amount of material and equipment that would be removed along the
7 right of way during tower and pole construction. You testified
8 regarding the fact that concrete would be needed for tower and
9 pole construction; is that correct?

10 A. (Mr. Bucci) Yes.

11 Q. And I think you testified that to move that concrete to
12 the tower site, you would need to use trucks, such as the ready
13 mix trucks?

14 A. (Mr. Bucci) That's one method, yes.

15 Q. Okay. Would you agree that the moving of such equipment
16 -- well, first, let me go to one other thing. I believe you've
17 also previously testified that you would try to use the right of
18 way that you're clearing to move that equipment and materials to
19 the tower sites as much as possible; is that correct?

20 A. (Mr. Bucci) Yes. The right of way, the clearing of the
21 right of way that we already may be sharing if we're using one
22 the ones that are inactive, the Marcy South or the railroad right
23 of way which already exists, any right of way that's available
24 that would fit equipment, we would try to make use of, yes.

1 Q. And you've also testified that some areas where you are
2 constructing new access roads, some of those roads will be
3 constructed using native soil or dirt?

4 MR. BISSELL: Your Honor, I object. All this
5 information was covered yesterday. Can we get to the
6 relevance of the information for today's panel?

7 MS. COLLELA: I'm getting there, trying to lay the
8 foundation.

9 JUDGE STOCKHOLM: Okay. I think you've laid a
10 fairly good foundation. Why don't you go to the
11 questions, the actual questions you want to get to, and
12 if there's not enough of a foundation, I'll let you go
13 back.

14 Q. So would you agree that moving the equipment necessary
15 and the materials necessary to build the towers or poles either
16 along the right of way or dirt roads would increase the potential
17 for erosion?

18 MR. BISSELL: Your Honor, I object. This
19 information was covered during yesterday's panel. If
20 there were questions that should have been asked, then
21 they should have been asked then. Just because the same
22 witnesses are available doesn't mean we can reopen
23 yesterday's panel.

24 MS. COLLELA: Your Honor, I'm asking them in

1 relation to the comparative assessment that they did and
2 their Rebuttal Testimony between open trench method for
3 stream crossings and overhead spanning of stream
4 crossings, and we've talked about the fact that overhead
5 routes do pose potential impacts to streams.

6 JUDGE STOCKHOLM: I understand that, and it seems to
7 me that I have heard this testimony more than once.
8 Plus, in your question, you asked whether or not access
9 roads of various types could increase the chance for
10 erosion. And it seems to me that -- over what? Over
11 having no facility built? I mean, I think the answer is
12 pretty clearly yes, and the record establishes that. But
13 if you're trying to make a different point, I think you
14 have to say increases the chance of erosion over
15 something, unless it's over nothing, which I'll grant you
16 that point. Am I clear?

17 MS. COLLELA: I think you're clear. I'm trying to
18 think of how I want to ask it.

19 JUDGE STOCKHOLM: I'll let you explore this a little,
20 but it is as counsel for NYRI indicates, it is, it sounds
21 very repetitive, but I won't cut you off yet.

22 MS. COLLELA: Thank you, your Honor.

23 Q. I'm not clear if I got an answer to the question. I
24 don't think I did?

1 A. (Mr. Wood) I'm not sure what the question is now.

2 Q. Basically, I think I asked, would you agree that moving
3 the equipment and materials that's necessary to build the towers
4 or the poles either along the right of way that you said you were
5 going to try to utilize or dirt roads that you said you may use
6 in some areas, would that not increase the potential for erosion?

7 JUDGE STOCKHOLM: Over what? As compared to what?

8 Q. As compared to, first of all, not building the towers
9 there?

10 JUDGE STOCKHOLM: I already granted you that finding
11 on the record. You don't have to establish it.

12 MS. COLLELA: Okay. So I'll go to my next question
13 then.

14 Q. You wouldn't construct the towers and the cable all at
15 the same time; would you?

16 JUDGE PHILLIPS: I know Judge Stockholm was going to
17 give you some leeway, but you need to point me to where
18 you are on this panel's testimony and how that question
19 is related to it.

20 MS. COLLELA: Where I'm going is that, if they agree
21 they are going to have to several trips along the right
22 of way or these dirt access roads to the tower site --

23 JUDGE STOCKHOLM: That's not my question though.

24 Where in Panel, in Panel A -- I'm getting confused now --

1 Panel A, page and line number, are you tying your
2 question to?

3 MS. COLLELA: I'm tying it to, I believe, it's Page
4 23.

5 JUDGE PHILLIPS: Are you referring to the reference
6 language that you were asking about before with the open
7 trench method of stream crossings?

8 MS. COLLELA: Yes, yes.

9 JUDGE PHILLIPS: How is that related to truck and
10 access roads though? The method of stream crossing and
11 the question that you're asking don't seem to be related
12 to me. So please help me out.

13 MS. COLLELA: They've -- they are saying here that
14 comparing open trenching to spanning of overhead streams
15 that there are less potential for impacts to surface
16 waters, and what I'm trying to establish is that, when
17 you're building an overhead route there are many more --
18 there are a lot of factors that could create potential
19 for surface water impacts.

20 JUDGE PHILLIPS: Right. And if the factors you're
21 trying to get to are trucks on access roads, I don't
22 think there's close enough nexus between that and a
23 statement about an open trench method of stream crossing,
24 and I think we already covered the trucks and the access

1 roads, I believe, yesterday.

2 MS. COLLELA: I'll withdraw the question, and then
3 that's all I have.

4 JUDGE PHILLIPS: That's all both of you have? We're
5 done with CARI, correct?

6 MR. KLUSCIK: Correct, your Honor.

7 JUDGE STOCKHOLM: I wouldn't put it quite that way,
8 Judge.

9 JUDGE PHILLIPS: All right. I'll try to be nicer.
10 I believe that both of the counsel for CARI are now
11 finished; is that correct?

12 MR. KLUSCIK: Yes. We have no further questions of
13 this panel, your Honor.

14 JUDGE PHILLIPS: Thank you. Okay. Let's move to
15 Staff, please.

16 MR. BLOW: Your Honor, Mr. Belsito is going to
17 start. He has quite a number of questions, and then I
18 have quite a number as well, I believe in the range of
19 two to two and a half hours total.

20 MR. BELSITO: Thank you, your Honors.

21 CROSS-EXAMINATION

22 BY MR. BELSITO:

23 Q. Good afternoon, panel.

24 JUDGE STOCKHOLM: The clock is running you know, the

1 stop watch.

2 MR. BELSITO: Okay. So I get time back for that
3 short answer option?

4 JUDGE STOCKHOLM: Yes.

5 MR. BELSITO: Thank you, your Honor.

6 JUDGE STOCKHOLM: It's over.

7 Q. The first few questions I have relate back to an earlier
8 conversation specifically directed to Mr. Bucci. I believe
9 earlier in our conversation about redundancy, wisely commenced by
10 the Judge, you stated that, you stated that in order to obtain
11 100 percent redundancy, the return conductor would be increased
12 in size so that 1,200 megawatts could be transferred to 1 K --
13 excuse me, it's the first day with my new mouth -- 1,200
14 megawatts could be transferred if one of the cables is lost; is
15 that correct?

16 A. (Mr. Bucci) I gave that -- I didn't mean to imply that we
17 were going to do that. That was kind of me being, you know,
18 considered for implementation, but 1,200 megawatts would be 100
19 percent redundancy. Even if you lose one cable, the remaining
20 would still be able to carry 100 percent of the rated power.

21 Q. So essentially what would originally be installed as a
22 return cable, would be used to pick up the electricity running
23 over the --

24 A. (Mr. Bucci) That one example of redundancy I gave you,

1 yes.

2 Q. So to make that scenario work, you would be changing the
3 size of that third cable; is that correct?

4 A. (Mr. Bucci) Yes.

5 Q. Do you know of any projects that have used this concept
6 as a means of, or the concept of using the return cable, for
7 means of providing 100 percent redundancy?

8 MR. BISSELL: Your Honor, I object. I just want to
9 clarify. I think there is maybe a mischaracterization of
10 what Mr. Bucci testified earlier to earlier was that -- I
11 think he stated on the premise the return conductor
12 would be used to carry all 1,200, and as far as I
13 understand, that was not what Mr. Bucci testified to. In
14 essence what he was saying is, you would have two three
15 cables. If two went down, you'd still have two available
16 to carry 1,200, not one carrying 1,200.

17 A. (Mr. Bucci) Yeah, if I can respond, yes, it would. You
18 have three cables. All three cable are sized the same for
19 redundancy. If you lost one of the cables, the remaining two
20 would continue to carry the 1,200 megawatts.

21 Q. All right. That was my understanding. I apologize.

22 JUDGE STOCKHOLM: Can I jump in on just exactly that
23 point? If you do lose one and you've got two, if I can
24 call them the big cables, if you've got two big cables

1 left, where is the return? In other words, the return
2 normally would go back along one of the cables, either
3 the small one or if you made it the big one, the big one.
4 But if you lose one, where is the ground return, or is it
5 a ground return actually in the ground?

6 MR. BUCCI: No. And that's one of the -- you know,
7 like I said, there's many considerations that would have
8 to be done during the final design. You'd either have to
9 run an additional return conductor, which is a relatively
10 small conductor, and it would increase the size of the
11 trench. It doesn't carry loads or increase the heating.
12 Or there's another possibility of new releases would have
13 to be looked at in evaluating further. The cable, which
14 is not capable of being energized as 400 kV might still
15 be capable of being energized as 5 kV. The dielectric
16 strength is suitable, the remaining dielectric strength
17 I'd say. So . . .

18 MR. SINGER: Just to be clear, your Honor, this is
19 not our proposal. Mr. Bucci indicated this is something
20 we considered, and we priced it out in Exhibit 9 in our
21 cost estimate, but we haven't changed our proposal at
22 all.

23 JUDGE STOCKHOLM: I do understand that, counsel, but
24 I wanted to understand the.

1 MR. SINGER: How it works.

2 JUDGE STOCKHOLM: -- the electronics of how this
3 works, and maybe I can ask my question more directly, and
4 I'll ask the Staff witnesses and anyone else who wants to
5 opine on this on the record the same thing. With a
6 metallic return conductor, am I correct that there should
7 be expected to be either no ground returns or very, very
8 limited ground returns, currents?

9 MR. BUCCI: That's correct, your Honor.

10 JUDGE STOCKHOLM: If I understood your last answer
11 to me correctly, in order for 100 percent redundancy and
12 to avoid significant ground returns, you would still have
13 to put a small return cable in the trench together with
14 the three big ones. Did I understand you to say that?

15 MR. BUCCI: That was one possibility. The other
16 possibility is utilizing the conductor that's no longer
17 capable of energizing the 400 kV.

18 JUDGE STOCKHOLM: Okay. I do understand that now.
19 Thank you.

20 MS. LEARY: Your Honor, could I ask a question
21 because I don't want the record -- my understanding of
22 Mr. Bucci's testimony this morning was that it is being
23 considered, not was and what Mr. Singer said. I mean,
24 it's in the Application. That's what I'm trying to

1 clarify here. Your testimony was it is being considered.
2 It's in -- I believe you referred specifically to an
3 allocation of costs on a particular table or chart in the
4 Application. So can I understand from the witness, is it
5 being considered? Is it still being considered? Was it
6 rejected? Is it no longer on the table?

7 JUDGE STOCKHOLM: That's only four different
8 questions, and one of those four the witness is welcome
9 to answer. Your choice.

10 MR. BUCCI: I thought my testimony was, we have --
11 we may consider it later during the final design. We did
12 not design the system so that would be out of the
13 question completely.

14 JUDGE STOCKHOLM: I'm not sure which one of your
15 questions he actually answered.

16 MR. BUCCI: I made up my mind.

17 JUDGE STOCKHOLM: My understanding, and I'd ask
18 counsel to correct me, is that NYRI's proposal does not
19 include 100 percent redundancy for the underground cable;
20 am I correct?

21 MR. SINGER: Yes.

22 MR. BUCCI: Yes.

23 JUDGE STOCKHOLM: I think that's the way it's being
24 proposed to us, yes. If the engineers in final design,

1 and there's all kinds of final design things that might
2 be considered, and apparently, this is one of things
3 that's still on the table. It has not been ruled out,
4 but nor is it what's proposed.

5 MR. SINGER: That's correct. And if I can just
6 point out, Mr. Blow indicated earlier that he thought
7 that depending on what certificate conditions we
8 received, we might not be able to implement something
9 like that in final design if it was contrary to the
10 certificate conditions, and if that was the case and if
11 during final design the design team determined that that
12 was something that would be more advantageous to the
13 system, then we obviously would have to come back and
14 seek a Certificate of Amendment to implement that. As he
15 said, that's just something that we've considered, but
16 our proposal doesn't change.

17 JUDGE STOCKHOLM: Thank you. I think the record is
18 clear. Where are we?

19 MR. BELSITO: My turn again.

20 JUDGE STOCKHOLM: Yes, you do get credit for a few
21 minutes.

22 MR. BELSITO: Appreciated.

23 Q. With the understanding that that 100 percent redundancy
24 is not at this time a total proposal, we just have one more

1 question on the topic. In that scenario with the three large
2 cables, when a fault occurs on a cable, can you tell us if OSHA
3 would allow workers to be in the trench working on the cable when
4 the other cables are energized?

5 A. (Mr. Bucci) That wasn't -- that's not -- we wouldn't do
6 that.

7 Q. Okay. So the line would have to be off line for any
8 repairs?

9 A. (Mr. Bucci) Any, I believe -- yeah, I can't think of a
10 case where -- if one of those cables fails, then we need to, even
11 with just two cables, I mean, any scenario you'd have to
12 de-energize the line to do the repair.

13 Q. Okay.

14 A. (Mr. Thompson) You know, I think it's worth noting though
15 that you can continue operation of the line you're reducing while
16 you're identifying where the problem is until you actually begin
17 operations; I think, is one of the earlier points we were trying
18 to make, just to clarify.

19 Q. Okay. Thank you. It's my understanding that this Panel
20 A addresses facility location; is that correct?

21 A. (Mr. Wood) Yeah, that's correct.

22 Q. Please turn to your testimony, turn to Page 2, Lines 15
23 through 20, Direct Testimony. Sorry. All set? And is it
24 correct to characterize that portion of the testimony as

1 indicating that maps and photographs indicating the location of
2 the Proposed Route are provided in Appendix A and B to the
3 Application?

4 A. (Mr. Wood) Yes. It says, "aerial photographs."

5 Q. Now, Appendix B, and I just want to be clear for the
6 record, I'm referring to Exhibit 37, which I believe is the
7 reformatted Appendix B -- is that correct?

8 JUDGE STOCKHOLM: Yes, it is.

9 Q. -- consists of the Project location indicated on 253
10 Ortho photographs and 3 pages providing an Ortho photograph. And
11 is that correct?

12 A. (Mr. Wood) Yes, 253 pages and then the index.

13 Q. Thank you. And an aerial Ortho photograph is essentially
14 an aerial photograph that has been manipulated and/or corrected
15 to reduce or avoid distortions in distances between elements in
16 the aerial photographs?

17 A. (Mr. Wood) Yes, that's my understanding.

18 Q. Thank you. And would it be fair to say that Ortho
19 photographs provide a fairly accurate basis on which to make
20 distance measurements when used on an appropriate scale?

21 A. (Mr. Wood) Yes.

22 Q. Could you please turn in Exhibit 37, Figure 5.

23 A. (Mr. Wood) We have that.

24 Q. Thanks. Now, on that figure do you see the orange

1 colored line representing an access road from Barnes Avenue to
2 the red shaded area, which I believe on the key states the red
3 shaded area represents vegetative clearing Zone A along the
4 proposed NYRI right of way?

5 A. (Mr. Wood) Yes, we do.

6 Q. Has the panel come prepared with a measuring device
7 today, such a ruler or scale?

8 A. (Mr. Wood) I think we have two.

9 Q. Panel A ever at the ready. Using that measuring device,
10 would you agree that the length the orange line representing the
11 access road is approximately two inches long, which using the
12 stated reference scale of 1 inch equals 400 feet, represents a
13 distance of about 800 feet?

14 A. (Mr. Wood) Yes.

15 Q. So the Ortho photographs, again, can reasonably be used
16 to measure horizontal distances, establish offsets and make
17 reasonable conclusions about the horizontal distances between
18 elements indicated the Ortho photographs, correct?

19 A. (Mr. Wood) I'm not sure what you mean by "establish
20 offsets."

21 Q. Measure the distance between items, the offset between
22 one location and another.

23 A. (Mr. Wood) Yes.

24 Q. Okay. If we measure the width of the Proposed Route

1 transmission corridor indicated on this figure, we can conclude
2 that the corridor is 150 feet wide; is that correct?

3 A. (Mr. Wood) Yes, 150 feet.

4 Q. A hundred fifty feet right of way corridor?

5 A. (Mr. Wood) Yes.

6 Q. Referring again to that same access road location on
7 Figure 5 that I mentioned earlier from Barnes Road to the red
8 shaded area, is that road located wholly within the proposed NYRI
9 150-foot wide right of way?

10 A. (Mr. Wood) No, it's not.

11 Q. And that same access road appears to cross a dotted
12 yellow line about halfway between Barnes Avenue and the NYRI
13 transmission corridor, which the legend on the figure indicates
14 "CL-transmission line"?

15 A. (Mr. Wood) Yes, that's correct.

16 Q. Is that an existing 115 kV transmission line?

17 A. (Mr. Wood) Yes, it is.

18 Q. Now, on that notation, does CL stand for center line?

19 A. (Mr. Wood) Yes, it does.

20 Q. Thank you. And the same access road appears to cross
21 that yellow line, which you indicated is the center line of a
22 transmission line, immediately at a turning point or angle in
23 that transmission line; is that correct?

24 A. (Mr. Wood) Yes, that's correct.

1 Q. And at that point is the 115 kV line, is that an
2 underground or an overhead line?

3 A. (Mr. Wood) That's an overhead line.

4 Q. NYRI does not intend to interfere with the location of
5 structures on that transmission line; does it?

6 A. (Mr. Wood) No, we would not.

7 Q. So an access road would need to go around that
8 transmission line angle structure, including any guide wires or
9 associated equipment, correct?

10 A. (Mr. Wood) Yes, it would.

11 Q. So the access road is a general location which would need
12 to be adjusted to field conditions?

13 A. (Mr. Wood) Yes, that's correct.

14 Q. Now, that access road, is that existing or does NYRI
15 intend to create a new access road?

16 A. (Mr. Wood) That would be a new road.

17 Q. Now, to the left center in Figure 5, I believe there is a
18 dot numbered three, which the legend indicates is a station
19 number; is that correct?

20 A. (Mr. Wood) Correct.

21 Q. Is that number three indicating that that point is about
22 three miles from the beginning of the Proposed Route?

23 A. (Mr. Wood) Generally. They are not exactly one mile but
24 generally speaking.

1 Q. Approximately. To the right or the easterly side of
2 Station 3 in Figure 5, the Proposed Route location and vegetative
3 clearing zone appears to cross an area of fairly fine texture.
4 Is that fine texture indicating that the line location is across
5 an area of grass or similar type of vegetation cover?

6 A. (Mr. Wood) Yes, I agree.

7 Q. Again, in Ortho photo Figure 5 at the location of the
8 access road to the west of the intersection with Barnes Avenue
9 appears to be located in an area with a fuzzier texture; is that
10 correct?

11 A. (Mr. Wood) Yes.

12 Q. Can the panel tell us what that texture might generally
13 indicate? Is that an area of vegetation cover such as forest
14 cover?

15 A. (Mr. Wood) It could be more shrub type vegetation.

16 Q. Does the panel agree that the Ortho photo figures of the
17 proposed NYRI facility and alternates, proposed alternates, can
18 reasonably be used to discern location of the proposed facility
19 in relation to landscape features and to measure approximate
20 distances between those features?

21 A. (Mr. Wood) Yes, I think so, yeah.

22 Q. Thank you.

23 JUDGE STOCKHOLM: Can you tell me, with regard to
24 the answer before your last answer about the vegetation

1 along the access road in Figure 5, which I think counsel
2 referred to as fuzzy, and you suggested it might be shrub
3 type vegetation, can you tell from the photograph whether
4 it's low-growing shrub kind of vegetation as opposed to
5 trees, or could it be either?

6 MR. WOOD: It could be either. I think what we're
7 trying to indicate, your Honor, is that it looked like it
8 was more lower growing than very tall trees.

9 JUDGE STOCKHOLM: That's a difficult determination
10 to make looking at this photograph; is it not?

11 MR. WOOD: It is.

12 JUDGE STOCKHOLM: Thank you.

13 Q. If you can please refer to Figure 33, again, in Exhibit
14 37, do you see at the lower center there is a pink square labeled
15 "access road"?

16 A. (Mr. Wood) Yes, I do.

17 Q. Is that square actually the location of a proposed
18 transition station?

19 A. (Mr. Wood) Yes, it is.

20 Q. And the access road label, is that supposed to refer to
21 the gray line to the left side of the access road label which is
22 an existing access road?

23 A. (Mr. Wood) Yes, yes, it is.

24 Q. And to what location does that existing access road

1 provide access? Is there a building next to the transmission
2 station site?

3 A. (Mr. Wood) Yes, there is an existing building there.

4 Q. Do you know what that building is and who owns it or who
5 owns it?

6 A. (Mr. Wood) I'm not sure of the ownership, but it's a
7 waste water treatment plant or facility.

8 Q. Thank you. Does NYRI have an agreement with the land
9 owner, to site with that land owner, to site the transmission
10 facility location at that station?

11 A. (Mr. Wood) No, we do not.

12 Q. Does NYRI have any other agreements with the land owner
13 regarding the location of facilities, or with that particular
14 land owner, regarding the location of facilities or any other
15 aspects of the Project?

16 A. (Mr. Wood) With respect to this land owner?

17 Q. Correct.

18 A. (Mr. Wood) No, we don't.

19 Q. The transition station indicated at the lower edge of
20 Exhibit 37, Figure 7, is that the start of a segment of
21 underground facility, of an underground facility location?

22 A. (Mr. Wood) Yes, it is.

23 Q. So if we could look ahead in Exhibit 37 through the next
24 several pages, I believe it will demonstrate that the facility is

1 proposed to be underground all the way to the next transition
2 station, which is depicted on Figure 24 in the Village of
3 Clayville; is that correct?

4 A. (Mr. Wood) That is correct.

5 Q. And the figures in Exhibit 37 indicate a dashed red line
6 for the proposed underground facility location; is that correct?

7 A. (Mr. Wood) Yes, that's correct.

8 Q. And there is also another dashed red line approximately
9 three inches to each side of the proposed facility location,
10 which the legends indicate is the 2,400-foot study corridor; is
11 that correct?

12 A. (Mr. Wood) Yes, that's correct, and the dash lines is
13 wider than the lines showing the underground location, but it is
14 the 2,400-foot study corridor.

15 Q. The dashes are wider that demonstrate the study corridor
16 as opposed to the line. Thank you. And the 2,400-foot study
17 corridor indicates 1,200 feet on each side of the facility line;
18 is that correct?

19 A. (Mr. Wood) That's correct.

20 Q. Now, I believe there was quite a bit of discussion the
21 other day regarding the one-quarter mile corridor which would
22 provide the flexibility that NYRI states it needs to address
23 detailed location of the proposed facility and final design.
24 Does the study corridor indicate the limits of flexibility that

1 NYRI is seeking in final facility siting?

2 A. (Mr. Wood) No, we haven't drawn in that line
3 specifically.

4 Q. Now, just for clarification, the one-quarter mile wide
5 corridor is proposed to be centered on the facility. That is
6 one-eighth of a mile on either side?

7 A. (Mr. Wood) Yes, that's correct.

8 Q. At the map scale, 400 feet per inch, how many inches from
9 the proposed center line should be measured to establish the
10 proposed corridor width of a quarter mile?

11 A. (Mr. Wood) That's an math question.

12 Q. I can help by giving you a --

13 JUDGE STOCKHOLM: Well, Mr. Belsito, isn't the
14 2,400-foot corridor that's already shown on this map
15 roughly a half mile, a little less, but roughly a half
16 mile. So wouldn't the quarter-mile corridor be, again
17 roughly, half as wide?

18 MR. BELSITO: I'm going to go ahead and trust your
19 calculations. Thank you, your Honor.

20 JUDGE STOCKHOLM: I think a quarter-mile corridor is
21 something just over, between 1,200 and 1,300 square feet,
22 or not scare feet, 1,300 feet wide.

23 MR. BELSITO: 1320?

24 JUDGE STOCKHOLM: Yes, 1,320, very good number.

1 Thank you.

2 Q. If we could return to Figure 5 for a moment, 5 for a
3 moment, and get out your rulers again, please. At the distances
4 you specified from the quarter-mile corridor, is it conceivable
5 that the facility center line location could be shifted to the
6 north side of the barge canal and run westerly parallel to the
7 road indicated as I-90?

8 MR. SINGER: Your Honor, can I get a clarification
9 on what counsel means by "conceivable"? Do you mean
10 whether it's technically possible?

11 MR. BELSITO: If you're considering a quarter mile,
12 that quarter-mile corridor, at least a portion of that is
13 shifted to the north side. So, yes. Is it conceivable
14 in the realm of possibility?

15 MR. SINGER: Are you asking whether the moving to
16 the north side of the barge canal would be within the
17 quarter-mile corridor?

18 MR. BELSITO: Exactly.

19 A. (Mr. Wood) Is your question, does the quarter-mile
20 include the north side of the barge canal.

21 Q. Yes.

22 A. (Mr. Wood) Well, it does.

23 Q. Okay. So if you were given the flexibility of that
24 quarter mile, only considering that flexibility, it's conceivable

1 that the line could be moved north of I-90, or excuse me, north
2 side of the barge canal and run westerly parallel to I-90?

3 A. (Mr. Wood) Conceivable but not likely.

4 Q. Fair enough. And it is conceivable that the facility
5 center line location could be shifted to the south side of the
6 proposed center line location an equal distance but further from
7 the barge canal?

8 A. (Mr. Wood) Yes.

9 Q. Now, if we can go to Figure 8 again in the Exhibit 37.
10 All set?

11 A. (Mr. Wood) Yes.

12 Q. The proposed facility location to the south of Commercial
13 Drive appears to wind through an area fairly close to what
14 appears to be large buildings; is that correct?

15 A. (Mr. Wood) Yes, that's correct.

16 Q. And there appears to be a residential area along Greenman
17 Avenue to the east and west of the proposed facility location; is
18 that correct?

19 A. (Mr. Wood) Yes, it is.

20 Q. And is the proposed line location between Commercial
21 Drive and Greenman Avenue following an existing corridor of some
22 sort?

23 A. (Mr. Wood) Yes, it is.

24 Q. Could you describe the corridor? Do you know what type

1 of corridor it is?

2 A. (Mr. Wood) Yes. I believe it's the National Grid
3 overhead line, 46 kV in voltage.

4 Q. Thank you. Is it the panel's position that the facility
5 should be granted a certificate which would allow the facility to
6 be located through that residential area if there were an
7 engineering constraint which made location at the proposed center
8 line too expensive or too problematic from an engineering
9 prospective?

10 A. (Mr. Wood) Could you do that again?

11 Q. Sure. Is it the panel's position that the facility
12 should be granted a certificate which would allow the facility to
13 be located through that residential area if, in other words, to
14 the east or west of the center line if there were an engineering
15 constraint which made location at the proposed center line too
16 expensive or too problematic from an engineering prospective?

17 A. (Mr. Nield) Can I just ask for a point of clarification?
18 Between Commercial Drive and Greenman Avenue, there appears to be
19 an industrial area, and you said residential area. I'm just
20 asking for a clarification on that.

21 Q. Sure. I'm looking right at Greenman Avenue, and I
22 believe that the panel just agreed that it was a residential area
23 in the areas surrounding Greenman Avenue where it crosses the
24 proposed center line.

1 A. (Mr. Nield) Thank you.

2 A. (Mr. Wood) I guess we're just not clear on your premise
3 "too expensive." Or too expensive in relation to what?

4 Q. It's my understanding that the quarter-mile corridor is
5 requested because once you get into the field, there may be
6 engineering constraints that require you to go off of the exact
7 proposed center line. So considering those restraints that gave
8 you reason to ask for the quarter-mile corridor, whatever they
9 may be, is the constraint or the too expensive or too
10 problematic, those are examples of the constraints, I guess, that
11 I was trying to get.

12 A. (Mr. Wood) I guess in this location, we're underground in
13 this location here. At least what we are proposing is to be
14 underground utilizing or at least adjacent to to the extent we
15 can the National Grid 46 kV line. So I'm just having trouble
16 with your question about granting a certificate in terms of
17 whether or not the engineering constraints or if it's too
18 expensive.

19 Q. To go back to the beginning of the question or my
20 understanding of the proposal, you ask for a quarter-mile line or
21 quarter-mile corridor from end to end on the Proposed Route. I
22 guess you asked for the flexibility. I'm asking in this
23 situation if that flexibility was exercised, what would happen,
24 or are you proposing you don't need the flexibility here?

1 A. (Mr. Wood) I think in this location we would be less
2 likely to be looking for, you know, the entire extent of that
3 flexibility. That's part of the reason for selecting this
4 particular route proposing the underground, because as we can see
5 by looking at this panel, it's a very tight area that we have to
6 get through, and there isn't really a lot of flexibility to move
7 this area, and that's why we've proposed of the route through
8 this particular location we have, if that's helpful.

9 Q. So given that answer, would it be reasonable for the
10 Commission to limit the range of flexibility for final facility
11 location at any location?

12 JUDGE STOCKHOLM: Are you asking the panel if it's
13 reasonable for the Commission to establish site-specific,
14 if you will, corridor widths in the certificate?

15 MR. BELSITO: Yes.

16 JUDGE STOCKHOLM: I mean, I think that's already
17 been done. Staff already testified that with regard to
18 one the Boy Scout camps or perhaps it was a Girl Scout
19 camp, I don't remember, Staff recommended increasing the
20 company's flexibility to encompass the entire property,
21 if I remember that correctly.

22 MR. BELSITO: I believe that's correct, your Honor.
23 We're asking this panel if they believe it's reasonable
24 for such flexibility or constriction, if you will.

1 JUDGE STOCKHOLM: Or constraints expanded or
2 contracted.

3 MR. BELSITO: That's correct.

4 JUDGE STOCKHOLM: I just assumed Staff thought it
5 was because it did, you're free to ask the panel. Does
6 the panel understand the question?

7 MR. WOOD: I'm not sure. I thought we might be
8 getting another question. So we were --

9 Q. That was the question. Would it be reasonable for the
10 Commission to limit the range of flexibility for final facility
11 location at any locations or specific locations?

12 A. (Mr. Wood) I think, generally, it would be. It takes
13 into account a lot of different factors, and there are probably
14 areas where we would not need that full extent of that
15 flexibility, and as we just talked about, there are areas that we
16 might want a little bit more flexibility. So, yes.

17 JUDGE STOCKHOLM: Can I ask what the thinking was in
18 terms of Figure 8, why that underground construction goes
19 along, let me call it a back street that has residential
20 aspects at least in some areas, rather than following
21 Commercial Drive around the outside and then perhaps on
22 the next panel crossing over to the 46 kV, was there
23 specific thought that went behind that choice of
24 routings?

1 MR. WOOD: I think generally, your Honor, we try to
2 use existing rights of way to the extent we could, and we
3 thought it might be more problematic to go along the
4 Commercial Drive than through this area, although there
5 is a small area of residential, it is mainly commercial,
6 and again, the line would be underground.

7 JUDGE STOCKHOLM: Yeah, I'm not so -- I was thinking
8 more construction impacts. Now, you said it would be
9 more problematic around, if you followed Commercial Drive
10 because --

11 MR. BUCCI: From a construction point of view, your
12 Honor, in terms of this being a major busy road,
13 Commercial Drive that is, and whereas the selected route
14 is a transmission line right of way already and there's
15 access from other roads side roads, side roads --

16 JUDGE STOCKHOLM: Okay. As a resident along that,
17 what I refer to as a back street, how long are you going
18 to have my street dug up? It won't be the first time
19 you've heard the question if you construct there. Do you
20 understand I'm asking you a construction timing question?

21 MR. BUCCI: Yes, your Honor.

22 JUDGE STOCKHOLM: Okay.

23 MR. BUCCI: It's a length of approximately five or
24 six hundred feet. You know, we could time that so that

1 it would only be a few days.

2 JUDGE STOCKHOLM: Okay. Thank you.

3 MR. SINGER: Okay, your Honor. I just want to point
4 out that the orange X on Greenman Road is where the
5 railroad starts.

6 JUDGE STOCKHOLM: Oh, okay.

7 MR. SINGER: And also we have proposed that
8 particular location as a stop for the site visit in our
9 proposal.

10 JUDGE STOCKHOLM: Excellent. Thank you.

11 MR. BELSITO: My turn?

12 JUDGE STOCKHOLM: Yes, sir. Sorry.

13 MR. BELSITO: Nope, no apologies necessary.

14 Q. The proposed facility location indicated in Exhibit 37,
15 Appendix B, the same exhibit we have been going through, on the
16 Ortho photographs, does this exhibit indicate the location of the
17 facility in relation to underground facilities, other underground
18 facilities?

19 A. (Mr. Wood) On this particular figure or just generally?

20 Q. Generally.

21 A. (Mr. Wood) Generally, it does indicate some of the
22 underground features. I wouldn't say all of the underground
23 features have been noted, gas pipelines, that sort of thing have
24 been noted.

1 Q. So on Figure 5, are we still on Figure 5?

2 A. (Mr. Wood) We were on Figure 8.

3 Q. If you'd go back to Figure 5, please. So the locations
4 of facilities, such as the yellow dash lines on Figure 5, is it
5 your assessment that those -- I'm sorry. The yellow dashed line
6 on Figure 5, is it your assessment that those yellow lines
7 labeled 46 kV or 115 kV are existing overhead transmission lines?

8 A. (Mr. Wood) Yes.

9 Q. Has NYRI made any identifying of under ground facilities
10 in relation to the proposed facility location? I believe you
11 already said that. I'll withdraw that question. Can the panel
12 identify the circular white structures at the top center of
13 Figure 5?

14 A. (Mr. Wood) Yes, those are generally petroleum storage
15 tanks I believe.

16 Q. In that area, in the area depicted in Figure 5, are there
17 underground facilities, such as an oil transmission pipeline that
18 connects to those white tanks?

19 A. (Mr. Wood) I don't know.

20 Q. And if we could go to Figure 8 now, please. Starting on
21 Figure 8 and proceeding southerly along the route through Figures
22 9 to 13, NYRI's facility appears to be located in an urban area;
23 is that correct?

24 A. (Mr. Wood) Yes, along the railroad.

1 Q. Would it be reasonable to assume that the proposed NYRI
2 location, which is underground in this area, would be likely to
3 encounter other underground facilities in an area such as this
4 urban or suburban area?

5 A. (Mr. Wood) Well, again, this isn't the railroad bed. So
6 I think it would minimize the underground facilities that we
7 would encounter.

8 Q. Has NYRI made any comprehensive review of known
9 underground facilities within this area, including the railroad
10 right of way?

11 A. (Mr. Wood) We haven't done a detailed identification,
12 although there may have been some discussions with the railroad
13 that were not necessarily known on this panel or participated in.

14 Q. Okay. Generally speaking, do you know what types of
15 other -- excuse me -- what types of underground facilities you
16 may run into, gas lines, electric or communication lines, water
17 and sanitary lines?

18 A. (Mr. Wood) On the railroad?

19 Q. Throughout the facility but where it's underground, but
20 also including particularly this area.

21 A. (Mr. Bucci) Along the railroad right of way, there's
22 communication circuits. I'm not sure if this particular railroad
23 has that buried. I know there are some cases where they have
24 communication circuits, you know, above ground which falls along

1 the edge of the right of way as well. That would be what we
2 would expect.

3 Q. On Figure Number 9, could you describe the number of
4 streets the Proposed Route crosses, streets or roads?

5 A. (Mr. Wood) It looks like three streets.

6 Q. When you cross those lines, would you expects to
7 encounter underground facilities other than communication, or
8 including communication lines, but other than that as well?

9 A. (Mr. Wood) There could be, yes.

10 Q. Has NYRI ascertained the depth -- you said you did not do
11 a comprehensive review. So is it correct to say that NYRI has
12 not ascertained the depth of the burial of the existing, depth of
13 burial of the existing underground facilities crossed by the
14 route proposed by NYRI?

15 A. (Mr. Wood) Yes, that's correct.

16 Q. And does the panel agree that the location of the
17 proposed facility could be affected by the location of other
18 facilities, such as the type of underground facilities I'm asking
19 you about?

20 A. (Mr. Bucci) In the sense that if we encountered a water
21 line or sewer line, you know, on these cross streets, we would go
22 underneath.

23 Q. Okay. That ties in perfectly to my next question. Mr.
24 Bucci, you are a fantastic witness.

1 JUDGE STOCKHOLM: A little more decorum.

2 Q. Does the depths of the proposed underground NYRI facility
3 need to accommodate any of these other underground facilities?
4 For instance, if there were large underground storm water
5 pipeline crossing a route of the NYRI's facility, would the NYRI
6 facility need to increase the design depth to have sufficient
7 clearance beneath the storm water pipe to achieve proper facility
8 protection?

9 A. (Mr. Bucci) Most likely, yes.

10 Q. Is there a limit to how deep below the surface the
11 underground facility can be installed?

12 A. (Mr. Bucci) That's -- the limits on -- that's a tough
13 question to answer it the way you phrased, is there any limit on
14 anything, but I could say for practical purposes, no. For
15 example, when you use directional drilling, you can go quite
16 deep. Not a practical limitation, no.

17 Q. Okay. Now, if we could please refer to Figures 23 and
18 24.

19 JUDGE PHILLIPS: Counsel, can you just let me know
20 when you get to a convenient breaking point. I didn't mean it
21 had to be now, just in the next five to ten minutes, if you could
22 let me know.

23 MR. BELSITO: Sure.

24 A. (Mr. Wood) We have those figures.

1 Q. Is the State Highway 8 within the study corridor that was
2 analyzed for a facility location?

3 A. (Mr. Wood) Yes, it is.

4 Q. Was Route 8, State Highway 8 considered as a routing
5 option in this area to avoid locating the facility through the
6 Village of Clayville?

7 A. (Mr. Wood) No. I think in this location we were locating
8 within the existing railway property, as we already indicated by
9 underground in this location.

10 MR. BELSITO: Your Honor, this is a good place for
11 us to stop for a break.

12 JUDGE PHILLIPS: Thank you. Let's take about 15
13 minutes, if you could come back at quarter of, please.

14 (A brief recess was taken.)

15 JUDGE PHILLIPS: Let's go back on the record, and I
16 think we left off with Staff, right?

17 MR. BELSITO: That's correct.

18 JUDGE PHILLIPS: Please proceed.

19 MR. BELSITO: Thank you, your Honor.

20 Q. Again, if we could refer to Exhibit 37, Figures 225 and
21 226?

22 A. (Mr. Wood) Yes, we have it.

23 Q. These are Ortho photos depicting the proposed facility
24 location in Otisville in Orange County; is that correct?

1 A. (Mr. Wood) Yes.

2 Q. Is the panel aware of whether there's a passenger rail
3 station located near the proposed facility location in the
4 Village of Otisville?

5 A. (Mr. Wood) Yes, there is one.

6 Q. Is the train station identifiable on Ortho photograph
7 Figure 225 as being approximately one inch west of the indicated
8 crossing of State Route 211 and one-half inch north of the red
9 house symbol near the lower right-hand side of this figure?

10 A. (Mr. Wood) Yes.

11 Q. Would the panel agree that there is not, that it is not
12 easy to discern that there is a passenger train station other
13 than noting there are several cars parked in the parking lot
14 adjoining the train station to the south side of the tracks?

15 A. (Mr. Wood) On this photograph?

16 Q. Correct.

17 A. (Mr. Wood) Yes.

18 Q. Have any of the panelists been to this station?

19 A. (Mr. Wood) Yes.

20 Q. Is the station in the nature of track-side platform and
21 ticket stand?

22 A. (Mr. Wood) Yes, it is.

23 Q. Now, if we measure along the railroad tracks from New
24 York Route 211 to the west about 2,400 feet or 6 inches on the

1 scale of Figure 225, the tracks appear to end or perhaps they
2 disappear a fear into a tunnel?

3 A. (Mr. Wood) Yes, that's right. They go into a tunnel.

4 Q. Is that the Otisville tunnel?

5 A. (Mr. Wood) Yes, it is.

6 Q. Please note the NYRI facility location at the crossing of
7 Route 211 on Figure 225. Can the panel describe the panel
8 describe the location of the underground cable at this location
9 in relation to the railroad facilities? In other words, is the
10 location on the north or south side of the railroad tracks?

11 A. (Mr. Wood) It's on the north side.

12 Q. How far from the rail tracks is the NYRI center line
13 proposed to be at the crossing of New York State 11 in feet, 211,
14 excuse me?

15 A. (Mr. Wood) I'm sorry. Could you ask that again, the
16 center of the --

17 Q. How far from the rail tracks is the NYRI center line
18 proposed to be at the crossing of New York State Route 211? In
19 other words, I'm looking for the distance between the rail tracks
20 and the center line at the point that it crosses Route 211.

21 A. (Mr. Wood) As shown on Figure E-1.1.1-4, the distance
22 between the center line of the track and the center line of the
23 structure would be about 45 feet.

24 Q. Thank you.

1 MR. BELSITO: At this time we'd like to propose a
2 document for identification. It's a set of four photographs,
3 Numbers 5590, 5592, 5593 and 5594. Staff represents that these
4 photographs were taken by DPS Staff witness Davis during a field
5 review of the facility location in November of 2008. They were
6 taken from a paved passenger crossingway which affords access to
7 board trains on the northerly side of the tracks, the rail
8 tracks. If I could just clarify the description of those
9 pictures, 5590, 5590, the view was from north of the railroad
10 crossing of New York State Route 211 at the Village of Otisville,
11 Orange County.

12 JUDGE PHILLIPS: We'll mark them for identification
13 as Exhibit 226.

14 (Exhibit Number 226 was marked for identification.)

15 MR. BELSITO: Thank you, your Honor.

16 Q. Has the panel seen these photographs before?

17 A. (Mr. Wood) I don't remember seeing these before, no.

18 Q. Could anyone on the panel identify these photographs as
19 representing the views as labeled?

20 A. (Mr. Wood) Yes. These appear to be the Otisville area
21 that we're talking about, from our site visits anyway.

22 Q. Okay. Thank you. If you could please refer to
23 Photograph 5594, I believe it's the second one in the series.
24 It's the zoom view westerly. There is a dark spot in the center

1 of the photograph which the rail tracks disappear into. To the
2 knowledge of the panelists, is this the location of the Otisville
3 tunnel?

4 A. (Mr. Wood) Yes.

5 Q. Is there a light at the end of that tunnel?

6 A. (Mr. Wood) I think the train is coming.

7 Q. Thank you. At the upper of left of Photograph 5594,
8 again, the same photograph, there is a set of utility wires and
9 some cars which correspond to the location of Kelly Hill Road, as
10 is indicated on Exhibit 37, Figure 225; is that correct?

11 A. (Mr. Wood) Yes.

12 Q. Can the panel describe the proposed location of the NYRI
13 facility in relation to rail tracks and features depicted here
14 and referencing the facility location as depicted in Figure 225?

15 A. (Mr. Wood) Well, I guess in looking at Photograph 5594,
16 the NYRI line is proposed to come, if you look to the far left of
17 that photograph, the NYRI line would be coming generally from
18 that location for a short distance down Kelly Hill Road, and then
19 turning to the right on the photograph and making kind of a
20 diagonal line down to get to the, down to get onto the railroad
21 property, and then once on the railroad property would continue
22 within the railroad right of way here on the south side for some
23 short distance, and then would be crossing over to the north side
24 of the track to maintain as much distance as we can from the

1 passenger platform we talked about earlier.

2 Q. So could you describe the offset from the tracks? Is
3 that the 44 feet we mentioned earlier or you mentioned earlier,
4 excuse me?

5 A. (Mr. Wood) Yeah, the figure number I think -- generally,
6 in this area we would be 45 feet off the center line of the track
7 closest to the line, if that makes sense. In other words, where
8 we were on the south side of the track, the separation would be
9 45 between that track and the edge, and then as we cross over on
10 the north side, the separation would be 45 feet more or less from
11 that. Again, this is a location we haven't done an exact design,
12 and we've got two tracks here, so --

13 JUDGE STOCKHOLM: What is intended with regard to
14 the utility lines? I'm look at Photograph 5593. There's
15 utility lines on the right-hand side. Is it anticipated
16 that you would go over the top of those -- this is
17 underground. So you're going underground all this way.
18 I'm sorry, my mistake.

19 MR. WOOD: Yeah, this is underground here, your
20 Honor.

21 Q. Again, referring to Figure 225, as it shows the line
22 crossing from the south side to the north side, just as it bends
23 back to the right on the figure, it appears that there's a
24 structure right there. Is that a house?

1 A. (Mr. Wood) I'm sorry. Could you give us that location
2 again?

3 Q. On Figure 225 --

4 A. (Mr. Wood) Yes.

5 Q. -- as it crosses from the south side of the track to the
6 north side, there's a word "access road" right there, but just
7 above the line at that point, there's a gray or lighter structure
8 it appears. Do you know if that is a house?

9 A. (Mr. Wood) I don't know specifically.

10 Q. Do you know approximately how close you plan to come to
11 that structure?

12 A. (Mr. Wood) We're not sure of this particular location.

13 Q. If we could now turn to Photo 5592. Is that the view
14 easterly from the Otisville train station?

15 A. (Mr. Wood) Yes, it is.

16 Q. I don't believe your mic was on for that answer.

17 A. (Mr. Wood) Oh, he knocked it off on me. Yes, it is.

18 Q. There appears to be a yellow car, perhaps a track mobile
19 or something near the center of the photo and some guardrails or
20 something similar at the photo center; is that correct?

21 A. (Mr. Wood) Yes.

22 Q. Does the guardrail correspond with the crossing of the
23 railroad tracks over Route 211 as depicted at Photo 5590?

24 A. (Mr. Wood) I believe it does.

1 Q. That railroad bridge has a very low overhead crossing of
2 the State 211 road surface; does it not? I believe if you look
3 at the photograph, there's an indication of how high that
4 crossing is on the right.

5 A. (Mr. Wood) I guess I don't know what you mean by "very
6 low."

7 Q. The photo indicates it's eleven feet, six inches; is that
8 correct?

9 A. (Mr. Wood) Eleven feet, six inches, yeah, close.

10 Q. Would that low crossing present a constraint to
11 construction traffic trying to get through this area?

12 JUDGE STOCKHOLM: Is any of the construction
13 equipment that you plan to use, as it goes down the
14 highway, taller than eleven feet, six inches?

15 MR. BUCCI: It could be, could be.

16 JUDGE STOCKHOLM: And if there were any that were
17 taller than eleven feet, six inches, would the clearance
18 under this overpass present a potential constraint on how
19 you got your equipment to wherever you had to get it to?

20 MR. BUCCI: I'm not sure that we need to use this
21 road, because we would be on the railroad. We would be
22 working on the railroad at this point.

23 JUDGE STOCKHOLM: From the railroad you could put --
24 well, where is the wire going? Is it going to be hung up

1 from that bridge.

2 MR. BUCCI: It could be. That would be one
3 solution, your Honor.

4 JUDGE STOCKHOLM: Okay. But you could put equipment
5 on the railroad that would dig you a trench across this
6 road from the height of where the railroad is; could you?

7 MR. BUCCI: No, your Honor. In the case of --

8 JUDGE STOCKHOLM: If you had to come down to the
9 road level, the regular drive road level --

10 MR. BUCCI: We would have to make sure that our
11 equipment would fit under the bridge if we were going to
12 drive under it certainly.

13 JUDGE STOCKHOLM: That was all of my question. I
14 was just trying to get that, because I thought that's
15 what counsel was asking, too.

16 MR. BELSITO: Thank you, your Honor.

17 Q. Referring to Photo 5590, which represents the crossing of
18 the rail tracks over New York State Route 211 east of the
19 Otisville train station, can the panel please describe where the
20 NYRI facility would be located in relation to the bridge
21 structure depicted?

22 A. (Mr. Bucci) It would be on the north side of the tracks.
23 The exact location and exact specific method of crossing the
24 bridge there would be final design, but it is on the north side.

1 Q. I believe Mr. Wood's testimony just a bit earlier was
2 that the line in this area would be about 45 feet from the
3 tracks. Would that answer change, or where would that 45 feet
4 put the line, again, in reference to the photograph?

5 A. (Mr. Wood) Okay. I'm sorry. I was talking about an
6 overhead configuration. That was my mistake. We should correct
7 that. Yeah, I referenced the wrong figure. We should look at
8 Figure E-3.3.1-7.

9 Q. And what would the distance be referring to that figure?

10 A. (Mr. Bucci) It would be minimum of 15 feet from the
11 center line of the track to the edge of trench --

12 Q. Okay.

13 A. (Mr. Bucci) -- the digging part of the trench, not the
14 cable location part of the trench.

15 Q. If you would please refer to Exhibit 37, Figure 226. I'm
16 sorry. I jumped ahead a little too quickly. If we go back to
17 Photo 5590, I'm just trying to understand exactly -- I guess
18 exactly is not the right word to use. But where the line may go,
19 would you consider putting the line under the bridge abutment?

20 A. (Mr. Bucci) This is a view from the north, right? This
21 is a view from the north. Okay. I guess there are several
22 possibilities. We would first look at hanging it from the
23 bridge, and we'd have to get the bridge information and see if
24 that design worked.

1 Q. Do you have a second option?

2 A. (Mr. Bucci) You could go underground. Underground,
3 that's another possibility. It probably would be a little more
4 difficult design, but it would go down and go back up.

5 Q. I'm sorry. I didn't mean to interrupt.

6 A. (Mr. Bucci) An alternative would be to come down to
7 ground level, cross the road and go up back up on the other side.

8 Q. Okay. Considering your first alternative, connecting it
9 to the bridge, is there and do you know what it is, a minimum
10 clearance for that line over a state highway?

11 A. (Mr. Bucci) Well, I wasn't thinking about decreasing it.
12 You know, I guess, essentially, we're talking about hanging the
13 cable from the side so that we wouldn't necessarily have to
14 decrease the clearance.

15 JUDGE STOCKHOLM: But what is the NESC clearance for
16 typical a track trailer?

17 MR. BUCCI: There's no NESC -- oh, since the line
18 would be cable and at this point probably in conduit,
19 there would be no electrical clearance requirements.
20 However, there would certainly be clearance, physical
21 clearance for trucks passing under the bridge.

22 JUDGE STOCKHOLM: In a normal configuration above
23 ground construction, isn't there an electric clearance
24 requirement?

1 MR. BUCCI: Yes, that would be for bare conductor
2 overhead. In this case we're using underground cable.
3 We're underground still at this point.

4 JUDGE STOCKHOLM: Well, except along the side of the
5 bridge, in which case you're --

6 MR. BUCCI: Not on. We would still use the same
7 type of cable. Instead of being in the ground, it would
8 be attached to the bridge, most likely in conduits.
9 Basically, the distinction is that there would be
10 insulated conductor so that there would be no
11 specific --

12 JUDGE STOCKHOLM: Okay. It's insulated conductor
13 versus bare conductor?

14 MR. BUCCI: Yes.

15 JUDGE STOCKHOLM: Okay. Thank you.

16 Q. And that insulated conductor that would prevent the need
17 for a minimum requirement as to the roadway, would that also
18 eliminate the need for a minimum separation from the railroad
19 facility?

20 A. (Mr. Bucci) The separation from the railroad facility is
21 for physical interference for the rail cars. That's the purpose
22 of that. There's no electrical reason. It's for, in the case of
23 buried conductors, for being further -- it's more -- it's a
24 physical restriction that the railroad has.

1 Q. So the method that you just described would satisfy any
2 physical requirements?

3 A. (Mr. Bucci) Yes, it would, because it would be off the
4 edge of the bridge. As a matter of fact, I'm not sure what the
5 space requirements on the bridge would be. We could also look at
6 on the surface of the bridge running the conduits, but we would
7 have to be looking again -- in that case we would have to look at
8 the physical limitation of the rail cars.

9 Q. Okay. So it's -- is it your testimony that there's no
10 minimum separation requirement for a buried cable with this
11 particular railroad facility?

12 A. (Mr. Bucci) There is a minimum separation requirement due
13 to physical space required and desired by the railroad, and it's
14 consistent with the Figure G-3.3.3-1-7.

15 Q. Okay. Here I think we described it that the tracks are
16 elevated above the roadway with a filled area to either side.
17 Are there other areas along this railroad that have a similar
18 configuration with the railroad track on an elevated fill area?

19 JUDGE STOCKHOLM: Are you asking about this railroad
20 in particular or the railroad rights of way generally in
21 a project?

22 MR. BELSITO: This railroad in particular.

23 A. (Mr. Bucci) I'd have to double check specifically every
24 one, but offhand, there are others, yes, but not where we cross

1 underground.

2 Q. Okay. Would that be true for Clayville as well? If it
3 helps, Figure 23, parallel to Main Street.

4 A. (Mr. Bucci) Yeah, to the best of our recollection, it's a
5 grade crossing.

6 Q. And just another location with the same question, north
7 Foundry Place, north of the, from Morgan Road to Foundry Place?

8 A. (Mr. Bucci) That's a grade crossing as well.

9 Q. I apologize. My question was not clear. But between
10 Morgan Road and Foundry Place, is the railroad elevated on some
11 sort of fill as you see if in Figure 5590?

12 A. (Mr. Bucci) No, not at the road crossings. But just
13 along the railroad are there cases where it's elevated similar?

14 Q. Yeah, that my question.

15 A. (Mr. Bucci) Yes, there are cases like that.

16 Q. Okay. Thank you. Okay. Now, we're ready to refer to
17 Figure 226 in Exhibit 37. Is it correct that there's a proposed
18 transition station located east of Route 211, east of the 211
19 crossing and north of the railroad tracks?

20 A. (Mr. Wood) Yes, that's correct.

21 Q. Can the panel identify the owner of the property where
22 that transition station facility would be located? Does that
23 mean municipal property?

24 A. (Mr. Wood) We don't know. We don't know.

1 Q. Have any of panelists ridden on the passenger train along
2 any portion of the proposed NYRI facility location in Orange
3 County?

4 A. (Mr. Bucci) I don't believe so.

5 Q. Can you tell me why not? Why not?

6 A. (Mr. Bucci) Why I wouldn't be taking the passenger train?
7 Oh, specifically to look at the route?

8 Q. Correct.

9 A. (Mr. Bucci) Oh.

10 Q. Specifically as part of this Project.

11 A. (Mr. Bucci) Well, we looked at, as part of this Project
12 but not on a train.

13 A. (Mr. Wood) I should say we did have one individual that
14 did look at this that is not on this panel in association with
15 the bog turtle survey.

16 Q. Approximately how many miles of the proposed NYRI
17 facility are located along the railroad facility in Orange
18 County?

19 JUDGE STOCKHOLM: Counselor, do you have a number
20 they could take subject to check?

21 MR. BELSITO: Approximately 20 miles.

22 JUDGE STOCKHOLM: Is the panel willing to accept 20
23 miles subject to check?

24 MR. WOOD: Yes. That sounds about right, yes.

1 Q. I understand that you have not ridden the train in this
2 portion, but you did have one of your staff members look at the
3 line in this area. Are you aware of whether or not the railroad
4 is located within narrow cuts through hills or areas of bedrock?

5 A. (Mr. Wood) Yes, I believe there are some locations that
6 would be characterized that way.

7 Q. And just to clarify, I believe you stated before there
8 are locations along the railroad where the railroad bed is
9 located on filled or elevated banks, such as depicted in 5590?

10 A. (Mr. Wood) Yes.

11 Q. Is it conceivable that there are significant areas where
12 the NYRI facility might need to be located completely off the
13 filled or narrow banks or narrow cuts through bedrock if there is
14 insufficient space to locate or construct the proposed
15 transmission facility and maintain the necessary offsets from the
16 railroad facilities?

17 A. (Mr. Bucci) I'm not sure I can answer or grasp all of
18 your question.

19 Q. I'll be happy to read it again. Is it conceivable that
20 there are significant areas where the NYRI facility might need to
21 be located completely off the filled or elevated banks that we
22 just spoke about or narrow cuts through bedrock if there is
23 insufficient space to locate or construct the proposed
24 transmission facility and maintain the necessary offsets from the

1 railroad facility?

2 A. (Mr. Bucci) No, I don't believe so.

3 Q. If you would please refer to Figure 234, still in Exhibit
4 37?

5 A. (Mr. Wood) Yes, we have it.

6 Q. Is it correct that this figure indicates the location of
7 a proposed transmission station, excuse me, a transition station
8 as a pink square at the middle of the figure with an access road
9 from State Highway 211?

10 A. (Mr. Wood) Yes, it does.

11 Q. At the lower left of Figure 224 is the bus crossing of
12 the NYPA 345 kV line, which was discussed earlier at some length?

13 A. (Mr. Wood) Yes, that's correct.

14 Q. The transition station in Figure 224 is the start of an
15 underground location section of the NYRI proposal through the
16 Otisville area; is that correct?

17 A. (Mr. Wood) That is correct.

18 MR. BELSITO: At this time we'd like to present for
19 identification a Response by NYRI to Discovery Request
20 DPS 77. It's a two-page document, including a page of
21 text and an Ortho photograph labeled Figure DPS 77,
22 "Potential Relocation Sites for Transition Station in
23 Otisville."

24 JUDGE PHILLIPS: The document will be marked for

1 identification as Exhibit 227.

2 (Exhibit Number 227 was marked for identification.)

3 MR. BELSITO: Thank you, your Honor.

4 Q. Have you had a chance to look at the document,
5 particularly the Ortho photograph?

6 A. (Mr. Wood) Yes.

7 Q. Is it correct that Figure DPS 77 appears to show the same
8 area as Figure 224 in Exhibit 37?

9 A. (Mr. Wood) Yes, that's correct.

10 Q. But there are a couple of changes to this figure,
11 including a change in the potential location of the proposed NYRI
12 transition station; is that correct?

13 A. (Mr. Wood) That's correct.

14 Q. That potential relocation would shift the transition
15 station from the Town of Mt. Hope to the Town of Deer Park; is
16 that correct?

17 A. (Mr. Wood) Yes, that's correct.

18 Q. How far from the proposed transition station is the
19 potential relocation station, about 1,500 feet?

20 A. (Mr. Wood) Exactly, about 1,500 feet.

21 Q. Is this area generally known as the part of Shawangunk
22 Bridge?

23 A. (Mr. Wood) Yes, generally.

24 Q. Can the panel describe the location of the proposed

1 transmission facility in relation to Shawangunk Bridge Trail
2 which traverses the Shawangunk Bridge? I'd be happy to spell
3 Shawangunk for the reporter if that would be helpful
4 S-H-A-W-A-N-G-U-N-K. I'm sure my pronunciation is off.

5 A. (Mr. Wood) We don't have an exact location of the trail
6 shown on this figure, but I believe that the proposed relocation
7 site would be to the west of where the trail was located.

8 Q. Okay. Is the proposed facility location in the area
9 depicted in exhibit, Figure 24 (sic) of Exhibit 37, is it south
10 of New York State Route 17?

11 JUDGE STOCKHOLM: Did you mean Figure 224 or 24?

12 MR. BELSITO: I did mean Figure 224. I apologize
13 for my confusion.

14 JUDGE STOCKHOLM: Thank you. Perhaps I'm missing
15 something, but I don't see Route 17 on 224. I see 211.

16 Q. I'm referring generally to the geography of the area. It
17 is true that New York State Route 17 is not depicted on the
18 figure. But your knowledge of the proposed route and in
19 reference to this picture, is it fair to say that the proposed
20 facility location is south of New York State Route 17?

21 A. (Mr. Wood) Yes, that's correct.

22 Q. And east of New York State Route 209?

23 A. (Mr. Wood) Yes.

24 Q. And north of the New Jersey border?

1 A. (Mr. Wood) Yes.

2 Q. Thank you.

3 MR. BELSITO: At this time, your Honors, I'd like to
4 present a document for identification. It's a one-page document,
5 both sides, consisting of Page Numbers 65 and 66, and identified
6 at the bottom of each page as the 2009 New York State Draft Open
7 Space Conservation Plan and at the top of the each page as
8 Regional Priority Conservation Projects.

9 JUDGE STOCKHOLM: Counselor, in looking at Figure
10 224 --

11 MR. BELSITO: Yes.

12 JUDGE STOCKHOLM: -- and starting at Mile Post, if
13 you will, 167, and looking in a northeasterly direction,
14 there appears to be, to me, what might be a trail and
15 maybe a half, three-quarters of an inch from where the
16 line is. Is that just wishful thinking on my part, or is
17 that the trail that you're looking for?

18 MR. BELSITO: It's unclear from Figure 224 exactly
19 where the trail is.

20 JUDGE STOCKHOLM: We're going to have to have some
21 indication in the record. I mean, you've done your
22 cross-examination on this I issue, but the one thing we
23 don't know is, where is that trail.

24 MR. BELSITO: Witness Davis, as part of his

1 exhibits, indicated there's several maps indicating where
2 the trail is.

3 JUDGE STOCKHOLM: Okay. And I assume we can tie
4 those maps to this Ortho, more or less?

5 MR. BELSITO: That shouldn't be a problem.

6 JUDGE STOCKHOLM: Thank you.

7 JUDGE PHILLIPS: With respect to the document that
8 was handed out, we'll mark that for identification as
9 Exhibit 228.

10 MR. BELSITO: Thank you, your Honor.

11 (Exhibit Number 228 was marked for identification.)

12 Q. Is the panel familiar with this document?

13 A. (Mr. Wood) Generally, yes.

14 Q. Starting at the top of Page 65 is a heading entitled
15 "Shawangunk Mountain Region." Is that correct?

16 A. (Mr. Wood) That's correct.

17 Q. Could you please read into the record the first sentence
18 of the last paragraph on Page 65, starting with "Protection of
19 the southern Shawangunk"?

20 A. (Mr. Wood) "Protection of the southern Shawangunk in
21 Orange and Sullivan Counties will enable the greenway corridor
22 for recreational biodiversity conservation extending from Sam's
23 Point Preservation to the New Jersey state line, completing the
24 protection and buffer 30-mile long Shawangunk Ridge trail

1 corridor."

2 Q. Thank you. Does the area described in the passage you
3 just read correspond with your understanding of the location of
4 the trail and the relative location of the NYRI facility as
5 depicted in Figure 224 of Exhibit 37 as we discussed a minute
6 ago, in general?

7 A. (Mr. Wood) I think in general, yes.

8 Q. Thank you. If you would please refer to Page 66 of
9 Exhibit 228, and please read for the record the final two
10 sentences in the top paragraph, which the paragraph continues
11 from Page 65 starting at "The most vulnerable portion of the
12 ridge top."

13 A. (Mr. Wood) "The most vulnerable portion of the ridge top
14 is a 20-mile stretch from Route 17 to the New Jersey state line
15 east of Route 209 in the Towns of Greenville, Mt. Hope and Deer
16 Park. Scenic values are threatened by the planned extension of
17 the Route 17/86 highway and the proposed NYRI power transmission
18 line."

19 Q. Is it your understanding that the NYRI Project is
20 proposed to be located in the area identified in the referenced
21 paragraph?

22 A. (Mr. Wood) Within that area, yes.

23 Q. Thank you.

24 MR. BELSITO: Your Honor, I do not have any further

1 questions. I'd like at this time to pass the microphone
2 over to my colleague, Mr. Blow.

3 MR. BLOW: Your Honor, just to let everybody know,
4 I'm helping Diane Smith out from Ag. and Markets because
5 she couldn't be here today and the other attorneys that
6 she thought were going to be able to, are not able to
7 either. So I'm asking a few questions on Ag. and
8 Markets' behalf.

9 JUDGE STOCKHOLM: Always at the ready.

10 MR. BLOW: Yes. Your Honor, I'd like to have marked
11 both the Interrogatory Request, AGM 3 and NYRI's
12 Response. There's actually two documents. There's the
13 Discovery request and the Response.

14 JUDGE PHILLIPS: I have a quick question. You gave
15 us the Response it appears, and then the Response plus
16 the answers. Is there a reason why we need both?

17 MR. BROWER: The first is the Response, or the
18 Request, I'm sorry, and then the second document that I'm
19 passing out now is the request with the Response
20 included.

21 JUDGE STOCKHOLM: Right.

22 MR. BLOW: The second document also has the
23 questions on it. I mean, all they do is -- the second
24 document has all of the information that the first

1 document has; does it not?

2 MR. BROWER: No, because there is a difference in
3 the information in the request and the information in the
4 Response. There's an attachment.

5 JUDGE STOCKHOLM: Okay. All right. All right.
6 We'll see what it is.

7 JUDGE PHILLIPS: Thank you. Okay. We are going to
8 mark the first document, which is I think about seven
9 pages, that might not be exact, but with just the
10 questions on them as Exhibit 229. We'll mark the second
11 document, which has at least some Responses as Exhibit
12 230.

13 (Exhibit Number 229 and 230 were marked for
14 identification.)

15 MR. BLOW: Thank you, your Honor.

16 CROSS-EXAMINATION

17 BY MR. BLOW:

18 Q. These -- Exhibit 230 was prepared by Panel A, correct?

19 A. (Mr. Wood) Yes, that's correct. Excuse me.

20 MR. BLOW: And I represent that Exhibit 229 was
21 prepared by the Department of Agriculture and Markets. Your
22 Honor, in the request the Department of Agriculture and Markets
23 asked if NYRI would agree to the Department's, that's Ag. and
24 Markets, recommended ordering clauses for electric transmission

1 lines if the Commission were to grant a certificate, correct?

2 JUDGE PHILLIPS: Yes, I see that.

3 Q. Witnesses?

4 JUDGE PHILLIPS: Oh, I'm sorry. You started with
5 "your Honor."

6 MR. BLOW: I know. I switched in mid-stream.
7 Sorry, your Honor.

8 Q. Now in its Response to this Interrogatory, NYRI provided
9 the Department of Ag. and Markets with language that it would
10 accept as certificate conditions, right?

11 A. (Mr. Wood) Yes, that's correct.

12 Q. Would you please explain the differences between the two
13 documents, Exhibit 229 and Exhibit 230?

14 MR. BISSELL: Your Honor, I'd like to object.
15 Actually, I believe they did not provide the attachment
16 that NYRI had submitted in response. In response, NYRI
17 provided a red line document, which displayed the
18 differences between the two, and from a glossary review,
19 these both appear to be the exact same certificate
20 conditions in each document.

21 MR. BLOW: Your Honor, all I can say is, it's my
22 understanding based on discussions with Ms. Smith, that
23 NYRI, in fact, did not provide a red line version, even
24 though it had a red line version, and NYRI does, in fact,

1 does have a red version that it can go through to explain
2 the differences.

3 JUDGE PHILLIPS: Okay. I don't have either. Do you
4 want to maybe ask the panel about that in order to
5 establish a foundation for this?

6 MR. BLOW: That's what I'll ask, your Honor.

7 Q. Does the panel have a red line version that it can use to
8 go through to explain the differences?

9 A. (Mr. Wood) No, we don't.

10 Q. Okay. Now -- well, we'll try it at least with a major
11 difference. First of all, can you explain how many miles of
12 construction and restoration could be occurring at one time along
13 the right of way?

14 A. (Mr. Wood) In any general location or a specific
15 location? Just generally speaking?

16 Q. Yes. We'll start there.

17 A. (Mr. Bucci) Well, the construction sequencing and number
18 of crews and those kinds of details have not been worked out yet.

19 Q. So are you saying that you might have more than one
20 construction spread at the same time?

21 A. (Mr. Bucci) Oh, without referring to this specific area,
22 in general in constructing the line, yes. But we don't have
23 specific plans for a specific area of the line there.

24 Q. One of the changes that NYRI provided in the first

1 paragraph, if you compare the two exhibits, would you agree that
2 one of the changes that NYRI made to the Department of Ag. and
3 Markets' language is a change from one agricultural specialist
4 for each work spread that the Department had recommended to one
5 agricultural specialist for the entire Project? Do you see that
6 difference?

7 JUDGE PHILLIPS: I'm sorry. But did you identify
8 which condition we're looking at? Did I miss that?

9 MR. BLOW: Number one, your Honor. I did I think.

10 JUDGE STOCKHOLM: You may have. I may have just
11 missed it. Thank you.

12 A. (Mr. Wood) Yes.

13 Q. So that was a change that NYRI proposed, right?

14 A. (Mr. Wood) Yes.

15 Q. And before we leave that area, I just want to ask a
16 general -- NYRI did make other changes, correct, in the, in what
17 it would accept as compared to what the Department of Ag. and
18 Markets was recommending. Would you agree with that?

19 A. (Mr. Wood) I don't recall at this point.

20 Q. But a comparison of the exhibits would show that, right?

21 A. (Mr. Wood) Yes. If we could compare them, we could
22 determine that.

23 Q. Now, given the length of the Project, please explain how
24 one person, one agricultural specialist can cover the amount of

1 territory that might be going on, since I believe Mr. Bucci was
2 not yet willing to say that there would only be one construction
3 spread, right?

4 A. (Mr. Wood) Yes. I think the change that we were
5 suggesting here was that there would be an agriculture soil
6 conservation specialist that would oversee the entire or be
7 involved in the entire Project, and then there would be
8 environmental inspectors with suitable training in agricultural
9 specialty to do the actual inspection at the actual work area.

10 Q. But they -- but you're not -- help me understand. Are
11 you saying that these environmental inspectors would also be
12 agricultural specialists or not?

13 A. (Mr. Wood) They would have training in agricultural
14 inspection.

15 Q. What would the maximum time between construction and
16 restoration be in active agricultural land?

17 A. (Mr. Wood) Well, I believe once the, you know, the actual
18 fill work was done, the actual fill construction was done and no
19 more construction equipment was going to be in the area, we would
20 start to undertake the restoration activities at that point in
21 time, recognizing that depending on time of year and that sort of
22 thing, it might span several months.

23 Q. Would you explain the change in Paragraph 10 that you
24 made to the Department of Ag. and Markets' recommended language,

1 comparing that recommended language about removal of stones four
2 inches or greater to a discussion of the property owner? Would
3 you discuss that change?

4 A. (Mr. Wood) I think all we're trying to indicate here is,
5 we would be working on some property owner's parcels, and before
6 just removing stones that arguably are his property, you know, we
7 would want to discuss with him whether or not he would want to
8 use them for his own purposes, stone walls, whatever, and I think
9 we do say at the end of that paragraph or that condition that
10 stone removal would be completed as necessary.

11 Q. In that Response, the answer you just gave, it sounded to
12 me like you were talking about disposal of stone rather than
13 removing it from a crop field, correct?

14 A. (Mr. Wood) Yes.

15 Q. You would -- am I correct that you wouldn't have any
16 problem removing stone from a crop field that's four inches or
17 greater in size?

18 A. (Mr. Wood) No, I don't think we're indicating we have a
19 problem with it. I think we were just indicating we would want
20 to discuss it with the property owner.

21 Q. You think the property owner would want stones that are
22 greater than four inches in size in his crop field?

23 A. (Mr. Wood) I can't speak for the property owner. I
24 wouldn't think so, but then again --

1 Q. Okay. Turning to a different topic. From now on, as far
2 as I know, I'm going to be in your Rebuttal Testimony, relating
3 to your Rebuttal Testimony, and I would like to start off with
4 Pages 6 and 7. Let me know when you have it.

5 A. (Mr. Wood) We do have it.

6 Q. And you mentioned three scout camps in Sullivan County,
7 correct?

8 A. (Mr. Wood) Yes, that's correct.

9 Q. Where is NYRI's assessment of the impacts to these scout
10 camps?

11 A. (Mr. Wood) I don't think we have any specific discussion
12 of that.

13 Q. All right. Would you refer to Page 8, please, Lines 8t
14 through 12? And let me know when you have it.

15 A. (Mr. Wood) We have it.

16 Q. There you state that if there is insufficient room in the
17 railroad bed, the underground line can be installed beneath the
18 track, right?

19 A. (Mr. Wood) Yes, that's correct.

20 Q. Is there any limit on the extent or length of line that
21 may be installed beneath the railroad tracks?

22 A. (Mr. Wood) Not that we're aware of.

23 Q. What proof has NYRI provided to demonstrate that the
24 railroad owners or operators will allow line installation beneath

1 the tracks in a linear co-occupation?

2 A. (Mr. Wood) I think this is -- excuse me. I think this is
3 based on discussions that have been had by others not on this
4 panel who would be the appropriate officials at the railroads
5 that would be involved.

6 Q. Is that person on any of the witness panels?

7 A. (Mr. Wood) I don't believe so.

8 Q. In your answer in the testimony, you said that it can be
9 installed, the line can be installed beneath the track, right?
10 You haven't made a commitment. It's just a statement of
11 possibility.

12 A. (Mr. Wood) That's correct.

13 Q. Would installation beneath railroad tracks require
14 removal of the tracks?

15 A. (Mr. Bucci) Yes, it could.

16 Q. Would installation beneath the railroad tracks entail any
17 disruption of rail service?

18 A. (Mr. Bucci) Yes, it could.

19 Q. You're saying, "it could," in the last two responses
20 instead of would.

21 A. (Mr. Bucci) Yes.

22 Q. So you're saying you don't know whether it would. It's
23 just a possibility that you'd have to remove the tracks, or how
24 likely is it that you would have to remove the tracks?

1 A. (Mr. Bucci) Could you rephrase that? I think you asked
2 several different questions.

3 Q. No, I was asking basically one question. You had in both
4 of your answers about installation between the tracks, requiring
5 the removal of the track -- let's start with that one. You said
6 it could be necessary. How likely is it that it would be
7 necessary?

8 A. (Mr. Bucci) To remove the track?

9 Q. Yes.

10 A. (Mr. Bucci) I couldn't tell you the likelihood.

11 Q. How likely is it --

12 A. (Mr. Bucci) No, that's my answer. I couldn't really say
13 how likely it is. We're talking about possibilities and
14 technical feasibilities.

15 Q. How likely is it that installation beneath the tracks
16 would entail a disruption in rail service?

17 A. (Mr. Bucci) Again, I couldn't -- I would say it would
18 depend on the specific conditions at the rail line at that
19 specific location.

20 Q. For how long would passenger rail service on the Orange
21 County segment of railroad right of way be disrupted by
22 underground construction of NYRI facilities?

23 MR. BISSELL: Your Honor, I object. There's
24 actually been no foundation that there was going to be

1 underground construction along that section, nor has there been
2 any foundation at this point in time that there's passenger rail
3 service that would be disrupted by such construction. As the
4 witness already testified, he said it would depend on the
5 specific conditions, and he can't testify at this point in time
6 whether there would be rail service that would have to be
7 disrupted in the event of such construction.

8 MR. BLOW: First of all, your Honor, I believe Mr.
9 Belsito questioned the panel extensively about
10 construction in Otisville, and I believe that that is
11 along the railroad tracks and I believe that is
12 underground, correct?

13 JUDGE PHILLIPS: That was my understanding. I mean,
14 I heard all of those things, and I think he just made the
15 question specific to, I thought it was the Metro North
16 Railway, and there have been questions about that. We
17 just looked at the bridge you talked about.

18 MR. BISSELL: This was based on the premise that if
19 underground construction underneath the rail tracks --
20 the proposal was not to do underground construction
21 underneath the rail bed.

22 JUDGE PHILLIPS: That actually is not clear because
23 I thought that the witness indicated that it could be
24 either on the bridge or under the track, and specifically

1 with respect to the testimony that he started with, he
2 quotes I think from this panel's testimony that if
3 there's insufficient room on the shoulder, that the line
4 can be installed beneath the track, and I believe he is
5 following up on that line of questioning --

6 MR. BLOW: Yes, your Honor.

7 JUDGE STOCKHOLM: -- that line of testimony. So it
8 appears to be relevant to me, unless you have a
9 different basis, I'm going to allow the question.

10 A. (Mr. Bucci) I would have to do a detailed study with the
11 construction contractor on that specific railroad bridge, but I
12 can conceive that it's possible that we would do construction
13 under the bridge and taking into account rail schedules, working
14 that out with the railroad without significant impact to the --
15 again, I'd have to -- I really shouldn't make a positive
16 statement, as I said. As I started to say in my answer, I would
17 have to do a detailed study of this specific bridge to see what
18 the possibilities were for crossing it underneath.

19 Q. By contrast, I have a question now on overhead
20 construction along the railroad tracks. Would that entail
21 disruption of rail service?

22 MR. BISSELL: Your Honor, I believe that question
23 was already asked and answered to a previous panel in terms of
24 disruption of rail service due to construction of the line where

1 the Proposed Route is located within the existing rail corridors.
2 So the record already reflects the answer to that question.

3 JUDGE PHILLIPS: Did you want to respond, Staff?

4 MR. BLOW: I believe that discussion was with
5 respect to the northern railroad of the New York
6 Susquehanna and Western along Nine-Mile Swamp. I'll now
7 limit my question, if it wasn't clear already, to the
8 Southern in Orange County.

9 JUDGE PHILLIPS: Let me just ask though, is there a
10 portion of the area that you're now limiting it to, the
11 lower Susquehanna, I think you said, that involves
12 overhead construction? And I'm directing this to the
13 panel. Sorry.

14 MR. WOOD: Yes, and I believe it's along the Norfolk
15 Southern Railroad that we're talking about.

16 JUDGE PHILLIPS: Okay. Then I'll allow the
17 question. I think it's slightly different.

18 A. (Mr. Bucci) If I recall the testimony, for the
19 Susquehanna portion was that we would work out schedules with the
20 railroad to eliminate or minimize disruption, and I would state
21 that the same method applies to working with or alongside the
22 Norfolk and Southern Railway.

23 Q. Do you know how often passenger trains run on the Norfolk
24 and Southern?

1 A. (Mr. Bucci) In general, I do.

2 Q. And what is that?

3 A. (Mr. Bucci) Quite frequently, more frequently than the,
4 than the -- well, the statement is mainly based on the fact that
5 the New York Susquehanna is a freight line. In this area where
6 there are passenger trains, I know that the schedule is more
7 frequent.

8 Q. Isn't there a route that would avoid disruptions to
9 passenger rail service along the Norfolk and Southern?

10 A. (Mr. Wood) Well, if you're referring to there is an
11 alternate route that avoids using the Marcy -- I'm sorry -- that
12 avoids using the Norfolk Southerner.

13 Q. The Marcy South Alternate Route, right?

14 A. (Mr. Wood) In particular, I guess it's the Marcy South,
15 the H Segment.

16 Q. Okay. Getting back to the discussion of possible
17 installation under the tracks, moving from installation to
18 maintenance, can you explain how you would perform maintenance on
19 the cable if it's buried below the track?

20 A. (Mr. Bucci) There typically is no maintenance required
21 for the cable installation.

22 Q. So you're saying there's no, there's not going to be a
23 fault on that cable?

24 A. (Mr. Bucci) Well, that wouldn't be maintenance. If there

1 is a fault, which we know is low probability, the faults would
2 have to be taken care of. That would be an emergency basis.
3 That would not be normal maintenance.

4 Q. Okay. So you're talking about a repair then?

5 A. (Mr. Bucci) Yes, that would be repair, not maintenance.

6 Q. So how would you -- I'm changing my question a bit, but
7 how would you then repair a fault? How would that be done if the
8 cable were buried below the track?

9 A. (Mr. Bucci) If the cable were below the track, in order
10 to take care, to do repairs, we would need to install that
11 portion of the cable inside conduit so it could be pulled out.

12 Q. And then it would be pulled out to wherever the end of
13 the conduit was, much like what we were talking about yesterday
14 with HDD construction, right?

15 A. (Mr. Bucci) Similar, yes.

16 Q. In this situation where -- how would the railroad
17 maintain, railroad operate and maintain traffic after you dug up,
18 dug into the ballast? Would you have to dig into the ballast?

19 A. (Mr. Bucci) No. The conduit would be installed in such a
20 way that we could pull out the cable later without -- I'd have to
21 discuss, you know -- that would be a subject of discussion with
22 the railroad, but I would presume we'd want to avoid the ballast,
23 and I know we can.

24 Q. How long would it take to pull -- how long would it take

1 to pull the cable to the end of the conduit and repair the fault?

2 A. (Mr. Bucci) I don't know. It would depend on many
3 factors, including length, efficiency of the repair crew.

4 Q. Two weeks? Three weeks? What would you think?

5 A. (Mr. Bucci) I would think it wouldn't be that long.

6 Q. It wouldn't be that long?

7 A. (Mr. Bucci) Just to pull the cable. The process of
8 actually pulling the cable out of the conduit, I wouldn't think
9 it would -- again, it depends on length, but what I would
10 envision, it would not require that long to pull the cable out.

11 Q. And how long for the repair?

12 A. (Mr. Bucci) Now, we're talking first locating the fault.
13 There's many operations that have to go on. None of these
14 certainly I don't think would interfere with the railroad, but u
15 locating where the fault is, testing the cable and pulling out
16 the cable, possibly sending portions cable off site to be
17 inspected further to determine cause of fault, repairing the
18 cable, this kind of operation could take months. It's been known
19 to take months. We wouldn't have service of that cable,
20 obviously, for that period of time.

21 Q. But you're saying that railroad traffic would not be
22 disrupted during that process?

23 A. (Mr. Bucci) No. Once we pull the cable out of the
24 conduit, there's no, there's nothing to interfere with to disrupt

1 service at all.

2 Q. Okay. Now, turning to a different topic on Pages 8, 9
3 and 10 of your Rebuttal Testimony, do you have that?

4 A. (Mr. Wood) Yes, we do.

5 Q. Okay. Now, when you're referring to the New York State
6 Thruway, are you referring to the overhead crossing proposed by
7 NYRI?

8 A. (Mr. Wood) Of the Thruway?

9 Q. Yes.

10 A. (Mr. Wood) Yes.

11 Q. Okay. Now, on Page 10, Lines 9 through 10, let me know
12 when you get there.

13 A. (Mr. Wood) We have it.

14 Q. You state that you will use the NESC National Electric
15 Safety Code clearances over the canal, right?

16 A. (Mr. Bucci) We say NYRI will comply with the NESC, yes.

17 Q. Okay. If the canal corporation were to request higher
18 clearances, would NYRI comply?

19 A. (Mr. Wood) Yes.

20 A. (Mr. Bucci) Yes. It says, "Safety concerns are addressed
21 by standards such as NESC." We will comply with -- we're
22 addressing only the NESC, but naturally, yes. It could be the
23 Canal Authority would have, might have additional clearance
24 requirements. It's possible. We would comply with those.

1 Q. Okay. Thank you. Please refer to Page 14 where you
2 discuss the suggestion of converting one 345 kV circuit of the
3 NYPA Marcy South facility to DC. Do you have that?

4 A. (Mr. Wood) We have Page 14.

5 A. (Mr. Nield) Line 19.

6 JUDGE STOCKHOLM: I think it begins on Line 18.

7 MR. BLOW: Right.

8 A. (Mr. Bucci) Yes, we have it.

9 Q. On what premise can you state that the transfer
10 capability will be less than 1,200 megawatts?

11 A. (Mr. Bucci) Well, when we place, when replacing one
12 circuit with another circuit, the increase in transfer capacity
13 is approximately the net difference between the rating of the
14 circuit you took out and the new circuit you put in. In this
15 case, my understanding is that the Marcy South circuit is rated
16 approximately the same as the NYRI circuit. So there certainly
17 wouldn't be an increase, significant increase approaching 1,200
18 megawatts.

19 Q. Could you change out insulators and use bigger insulators
20 and higher voltage?

21 A. (Mr. Bucci) The maximum capacity of our Project is 1,200
22 megawatts. So for our Project, that's the limitation.

23 Q. I understand that. But you were talking about the
24 suggestion that NYPA would change one circuit of its facility to

1 DC, correct?

2 A. (Mr. Thompson) Let me ask a question, because maybe I'm
3 too simple here to understand. But if you have an existing 1,200
4 circuit, we'll call it Circuit A, and you take that out of
5 service and replace it with a DC circuit, Circuit B, our point
6 is, you haven't really increased the transfer capability there.
7 Am I missing your question?

8 Q. Well, first, I asked about, couldn't you change
9 insulators, right, increase the transfer capabilities?

10 A. (Mr. Thompson) Are you trying to increase the transfer
11 capability of the DC line above 1,200 megawatts? If you're
12 substituting a 1,200 AC line with a 1,200 megawatt DC line, the
13 net change is virtually zero as far as total transfer capability.

14 Q. But if -- do you know what the total transfer capability
15 for the existing NYPA line is with its two circuits?

16 A. (Mr. Thompson) I don't know specifically, but I believe
17 it's in the range of 2,400 megawatts because there's two
18 circuits.

19 Q. Would you refer to Page 18, Lines 3 through 5, where you
20 state that, "The longer an underground transmission line segment
21 is, the less reliable it is"?

22 A. (Mr. Wood) Yes, we have it.

23 Q. Would you agree that 50-mile long oil-filled cables are
24 99 percent reliable?

1 A. (Mr. Bucci) I think I would need -- you need more
2 information to make that judgment. Not necessarily would be my
3 answer.

4 Q. Well, let me ask you this: Let's assume that a -- I'm
5 talking about relative reliabilities now, but let's assume a
6 hypothetical that a 50-mile long oil filled cable is 99 percent
7 reliable, and with that assumption, why would an underground
8 segment of a NYRI cable be less reliable?

9 A. (Mr. Bucci) The section of the testimony you referred to,
10 all we're saying is that the greater the number of miles of
11 underground cable, the less reliable would be the transmission
12 line. That's simply based on the fact that the fault must be
13 treated as a permanent fault in the underground cable. So
14 therefore, if we had a line which is a combination of overhead
15 and underground, a fault, even though it may be temporary,
16 because it's on the overhead section, we would have to treat it
17 as permanent, because we weren't able to accurately
18 differentiate.

19 Q. I'm confused. On an overhead section, if there's a
20 fault, wouldn't you treat it as temporary, just fix it and go on
21 about your business?

22 A. (Mr. Bucci) I need to reread the question. The question
23 we're addressing is, would the relaying system be more complex to
24 do what you're stating, in other words, differentiate between

1 overhead and underground. It adds complexity to the relaying
2 system. I need to read the whole thing to really answer your
3 question.

4 Q. We can move on. Can you refer to Page 10, Line 6. Could
5 you explain to us how an HVDC line has faster restoration time?

6 MR. BISSELL: Your Honor, just for clarification, I
7 think we might have the wrong reference. Page 10, Line 6
8 doesn't address what the question was with respect to.

9 MR. BLOW: Just a second, your Honor. Sorry. It
10 was a typo. Page 19, Line 6.

11 MS. WILKINSON: Steve, I think it's the question is
12 on Page 19 beginning on Line 18 continuing on the next
13 page.

14 Q. You refer to faster restoration time on Line 6 of Page
15 19, right?

16 A. (Mr. Bucci) Yes.

17 Q. Okay. Are you saying that an HVDC line has faster
18 restoration time?

19 A. Following a systems service, it can help restore the
20 system faster than without the HVDC line.

21 Q. Are you also -- would you also say that it would be a
22 faster restoration time after an outage?

23 A. (Mr. Bucci) This sentence doesn't talk about -- it's not
24 talking about a failure on the HVDC line. It's talking about a

1 failure in a portion of the AC system.

2 Q. Okay. I understand.

3 A. (Mr. Bucci) DC system helps restore the system faster.

4 So whether that be -- whether that disturbance -- it says the
5 system disturbance could be an outage, yes.

6 Q. Could it be a disturbances on the DC line as well?

7 A. (Mr. Bucci) Well, we're not talking about a failure on
8 the DC line. We're talking about the DC line being able, because
9 of its insertion in the AC grid, if there's a failure on the AC
10 grid, the DC system helps restores that faster than if the DC
11 system was not there because of controlability of the immediate
12 restoration capability or the immediate energization capability
13 of the DC line as opposed to, for example, rotating machinery.
14 It's available quicker.

15 Q. Okay. Now, if a lightning strike hits an HVDC line, does
16 the line have to shut off and wait some time to re-energize so
17 the fault clears?

18 A. (Mr. Bucci) Well, first of all, in our design we would --
19 loss of one line does not shut down the system. We can operate
20 at 50 percent power. But I think what you're rearing to also is
21 what's called a temporary fault, and you normally try to
22 re-energize an overhead line, and if it were a lightning strike
23 that was a temporary fault, the overhead line would successfully
24 be re-energized a short time after the fault.

1 Q. This is similar to an AC line in that respect, right?
2 The breaker opens. The relays wait and then reclose, right?

3 A. (Mr. Bucci) No, it's actually different on DC, because
4 there's no physical breakers opening or closing. On DC it's all
5 done with electronic controls which is faster.

6 Q. If a tower supporting an HVDC line falls to the ground,
7 the HVDC line must shut off, right?

8 A. (Mr. Bucci) Well, that would be akin to like a double --
9 that would be comparable to an AC double circuit line tower
10 falling, and yes, in either case, you would have to, if you lost
11 both circuits due to power failure, shut down, yes.

12 MR. NIELD: Excuse me, your Honor. Would it be
13 possible for a very brief courtesy break until counsel sorts this
14 out?

15 JUDGE PHILLIPS: Yes. Let's take a five-minute
16 break. Please come back at quarter of.

17 JUDGE STOCKHOLM: Let's go back on the record,
18 please let's continue the cross-examination by Staff.

19 (A brief recess was taken.)

20 MR. BLOW: Thank you, your Honor.

21 Q. Panel could you please refer to Page 44, Lines 6 through
22 9. Let me know when you have it?

23 A. (Mr. Wood) We have it.

24 Q. There you state that the NYRI Project interconnects to

1 the underlying HVAC transmission system at each terminal, right?

2 A. (Mr. Wood) Yes.

3 Q. And it, therefore, becomes an integral part of the New
4 York State Bulk AC System, right?

5 A. (Mr. Bucci) Becomes integral with the New York State Bulk
6 AC System, yes.

7 Q. If one were to look at the AC transmission system today,
8 it would be clear that the 345 kV lines overlay the 230 and 115
9 kV lines, right?

10 A. (Mr. Bucci) Are you referring to the specific location?

11 Q. No, no. The system as a whole?

12 A. (Mr. Bucci) As circuits?

13 Q. As circuits?

14 A. (Mr. Bucci) I don't understand what you mean by
15 "overlay."

16 Q. Well, you know that you have transmission lines at
17 different classes that are interconnected. You have a 345 kV
18 class, 230 kV class, a 115 kV class.

19 A. (Mr Bucci) Yes.

20 Q. If there's a sudden losses of either a 345 or a 115 or a
21 230 kV line, the other systems would have to take up the power
22 from the other lines without overloading, correct?

23 A. (Mr. Bucci) I would explain it a little bit differently,
24 but I'm not -- you know, you said other systems. The systems are

1 all integrated and all work together. If you have a failure
2 somewhere in the system, the other lines available in the area or
3 in the system would take up the additional flows.

4 Q. Right. In other words, the 345 kV system doesn't stay on
5 the 345 kV system. The electricity goes on to the 230 or 115 kV
6 system, etcetera.

7 A. (Mr. Bucci) Well, that's normal operation, not during a
8 disturbance.

9 Q. But if there's a fault on one of the lines, say on a 230
10 kV line or a 345 kV line?

11 A. (Mr. Bucci) Right. Regardless of voltage level, you
12 picture the grid -- well, you can look at it as a grid. It could
13 be thought of like that where at each juncture there's a
14 substation. If you lose a line between two substations, the
15 power still flows around the grid, just picks other lines and
16 normally the path of least resistance. That's the analogy to,
17 for example, a water flow system.

18 Q. Right. So there's just a different loading on the
19 different lines?

20 A. (Mr. Bucci) I wouldn't say just, but yes, it is a
21 different loading on the line. It can be a problem.

22 Q. So the AC system is a free-flowing system; isn't it?

23 A. (Mr. Bucci) Well, not with an HVDC part in there. That's
24 the concept of controllability that things like HVDC and power

1 electronics, in general, bring to the system so that it brings
2 controllability so that flow is not just free flowing. It
3 actually becomes controlled to some extent.

4 Q. Could you refer to Page 44, Lines 19, line 19 through
5 Page 45, Line 2. Let me know when you've got it.

6 A. (Mr. Bucci) Yes.

7 Q. There you state that more benefit can be gained by
8 replacing an AC circuit with a DC circuit, right?

9 A. (Mr. Bucci) Could you restate that question? I don't
10 think it's what we said.

11 A. (Mr. Thompson) I think if you reread you see that what we
12 say is, "Placing a new DC circuit provides more benefit than
13 replacing an existing AC circuit with a DC circuit.

14 Q. Okay. So am I correct that if you load the DC circuit to
15 full, let's say 1,200 megawatts, you must have 1,200 megawatts
16 capacity on the AC circuit in the event of a double pole failure,
17 right?

18 A. (Mr. Bucci) Are we going back to the transmission tower
19 collapsing taking out both circuits, which is -- these conditions
20 are all covered by the system reliability impact studies that
21 were done, and the result and loss from the -- I believe the lost
22 revenues of the NYRI line show the system to remain stable. So
23 in other words, the AC system could withstand that failure that
24 you mentioned.

1 Q. Right. But it does, in fact, have to absorb that 1,200
2 megawatts, right?

3 MR. SINGER: Your Honor, these questions, unless Mr.
4 Blow is referring to specific area in Panel A's
5 testimony, these questions are more appropriate for Panel
6 C, which sponsored the system reliability impact study.

7 MR. BLOW: This was my last question, and I thought
8 it was related to Page 44 to Page 45.

9 JUDGE PHILLIPS: I'm sorry. On those pages it does
10 refer to the SRIS. I thought that was what he was basing
11 it on. Do you still --

12 MR. SINGER: No. If he's going to ask a specific
13 question about this witness', about Panel A's testimony,
14 I don't have a problem with that. But if he's going to
15 ask specific questions about the system reliability
16 impact study and such things as what was studied
17 regarding loss of NYRI and how the system would respond
18 to that, those are issues that are covered by Panel C,
19 which is the sponsor on the SRIS.

20 MR. BLOW: No. The only question I asked and the
21 only question I plan to ask is the one that I asked about
22 wouldn't the AC system have to absorb the 1,200 megawatts
23 in the event of a double pole failure?

24 MR. SINGER: Well, if these witnesses know, I think

1 they can answer. But as I said, I think that is more of
2 an appropriate question for the individuals that
3 performed the system reliability impact study and studied
4 that specific contingency.

5 JUDGE PHILLIPS: Okay. If the witnesses know, I'm
6 going to allow the question. If you don't know, you can
7 just say that.

8 A. (Mr. Bucci) Well, I think the question is -- to me the
9 question is not a valid question. Absorb the 1,200 megawatts, I
10 don't know exactly what you're referring to. As I stated before,
11 if the DC line with 1,200 megawatts falls down, when both lines
12 fall down, the system would have to withstand that failure and
13 would have to remain in operation. Whether the 1,200 was
14 absorbed or certain lines were tripped, certain load was shed,
15 there's a world of possibilities that New York ISO studies get
16 into. It's not as simple as the question you asked. The system
17 would definitely have to withstand that failure though --

18 Q. That's fine.

19 A. -- in order to continue to operate.

20 Q. Yeah, that's fine. Thank you.

21 MR. BLOW: No further questions.

22 JUDGE PHILLIPS: I believe --

23 MR. BLOW: Oh, your Honor, I'm sorry. I do want to
24 have marked two exhibits that were sponsored, prepared

1 by Panel A though. One is DPS, the Responses to DPS 38,
2 and the other is a Response to DPS 88.

3 JUDGE PHILLIPS: DPS 38 has been marked for
4 identifications as Exhibit 231. DPS 88 has been marked
5 as 232.

6 (Exhibit Numbers 231 and 232 were marked for
7 identification.)

8 MR. BLOW: Your Honor, I'd just ask the witnesses.

9 Q. Am I correct that these exhibits were sponsored by the
10 Panel A, were prepared by Panel A?

11 A. (Mr. Wood) Yes.

12 MR. BLOW: Thank you. No further questions, your
13 Honor.

14 JUDGE PHILLIPS: Thank you. I note at this time
15 it's just about six o'clock, and according to my polling
16 earlier today, we still have about three hours of
17 cross-examination. My suggestion, I'm hoping no one has
18 any objection, is that we end today and resume tomorrow
19 with continued cross-examination of this panel. I am
20 going to turn to introduction of the exhibits into
21 evidence. We had today marked Exhibit 212 through 232.
22 Are there any objection to moving those into evidence?

23 MS. LEARY: Your Honor, if I could just get a
24 clarification, I have two documents that represent A-11,

1 which is attached to Panel A's Rebuttal Testimony. One
2 appears to be a total of 407 pages. The second is 424
3 pages. I believe this is just something that I may have
4 two documents here that are -- one was served after the
5 other and amended, but you, I thought, said 421 documents
6 were in A-11. So I'm trying to figure out, is it 424.

7 JUDGE PHILLIPS: I don't think I ever said how many
8 were in there. I believe counsel indicated how many were
9 in there. I was simply indicating the numbers that have
10 been marked and asking if there were any objections, but
11 it sounds like you want a clarification as to what A-11
12 consists of?

13 MS. LEARY: Yes, and what documents are going in
14 there.

15 JUDGE STOCKHOLM: A-11 is this big thick one with
16 the rubber band up here, but I'm going to defer to
17 counsel to tell me how many pages are in here. I'm not
18 counting this.

19 MS. LEARY: I have 424; is that right.

20 MR. BISSELL: There's 424. To clarify the
21 difference, when we had at the time that we filed our
22 Rebuttal Testimony, we were --

23 MS. LEARY: Missing the ordinances.

24 MR. BISSELL: We were awaiting the ordinances from

1 two towns. Once we received those, we provided those to
2 the parties on March 4th and then also subsequently filed
3 the amended A-11 to include those on March 10th.

4 MS. LEARY: And that's the only difference between
5 the two?

6 MR. BISSELL: Yes, it just includes the Towns of
7 Columbia and the Town of Hamden.

8 MS. LEARY: Thank you.

9 JUDGE PHILLIPS: Did you have any other
10 clarifications?

11 MS. LEARY: No. Thank you.

12 JUDGE PHILLIPS: As I indicated we had marked for
13 identification Exhibits 212 through 232, and I was
14 asking if there were any objections to moving those into
15 evidence.

16 (No response.)

17 JUDGE PHILLIPS: Hearing none, the exhibits are
18 moved into evidence.

19 (Exhibit Numbers 212 through 232 were received in
20 evidence.)

21 JUDGE PHILLIPS: Are there any other preliminary
22 matters before we end? We're starting at 9:00 a.m.
23 tomorrow morning. Other than that, are there any other
24 questions?

1 MR. BLOW: Your Honor, Mr. Belsito has an
2 explanation for the ALJs about where the Shawangunk Trail
3 is, how you can find that, if you wish, or you can do
4 that in the morning. It's no problem.

5 JUDGE PHILLIPS: Is it okay if we do it in the
6 morning?

7 MR. BELSITO: Absolutely.

8 JUDGE STOCKHOLM: Okay. That would be my
9 preference.

10 MR. BLOW: Just another question. Mr. Marriotti is
11 going on tomorrow morning at some point?

12 JUDGE PHILLIPS: I doubt it is going to be tomorrow
13 morning, because as I just indicated, I believe there's
14 about three hours, almost three hours of
15 cross-examination indicated that remains for this panel.
16 So probably it will be the afternoon, but I can't promise
17 you.

18 MR. BLOW: Yeah, I thought Mr. Marriotti couldn't be
19 available in the afternoon.

20 JUDGE PHILLIPS: No, he's available all day.

21 MR. BLOW: All day. Sorry.

22 JUDGE PHILLIPS: Any other questions?

23 (No response.)

24 JUDGE PHILLIPS: All right. Thank you. The panel

1 is excused until tomorrow. Thank you, everyone. We're
2 off the record.

3 (Whereupon, the matter was adjourned until March 27,
4 2009 at 9:00 a.m.)

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