STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION

THE NARRAGANSETT ELECTRIC COMPANY d/b/a NATIONAL GRID, Plaintiff, v. THE TOWN OF HOPKINTON; THOMAS E. BUCK; SYLVIA THOMPSON; BARBARA CAPALBO; BEVERLY KENNEY; and WILLIAM FELKNER, in their official capacities as members of the Hopkinton Town Council, Defendants.	:	
and	:	Docket No. 4076
THE NARRAGANSETT ELECTRIC COMPANY d/b/a NATIONAL GRID, Plaintiff, v. THE TOWN OF HOPKINTON and BRAD R. WARD, in his official capacity as the Building and Zoning Official of the Town of Hopkinton, Defendants.	:	

PREFILED TESTIMONY OF SCOTT H. RYDER, P.E.
ON BEHALF OF THE NARRAGANSETT ELECTRIC COMPANY
D/B/A NATIONAL GRID

September 24, 2009

Q. Please state your name and business address.

A. My name is Scott H. Ryder, P.E. My business address is 176 Worcester-Providence Turnpike, Suite 102, Sutton, MA 01590.

Q. By whom are you employed and in what position?

A. I am a Consulting Engineer with Energy Initiatives Group, LLC, an energy consulting company that provides project development, planning, strategy, execution, management, engineering, and operations consulting in the areas of electric transmission, generation, distribution, transportation, and renewable energy services.

Q. Please summarize your education, training and experience.

A. Attachment SHR-1 is my resume, which states my qualifications. In summary, I have worked in the field of transmission line engineering, project development and project management since 1970. Thirty-two years of this experience was gained with National Grid and its predecessor company, New England Electric System, including 12 years as Manager of Transmission Line Engineering. The last seven years I have been with Energy Initiatives Group. I have a Bachelors of Science degree in Civil Engineering from the University of Massachusetts and a Master of Science degree in Management Science and Engineering from Worcester Polytechnic Institute. I am a Registered Professional Engineer and a Licensed Construction Supervisor in Massachusetts.

Q. Are you familiar with National Grid's proposed new substation in Hopkinton, Rhode Island (the "Project")?

A. Yes, I am familiar with the Project. I have been asked to address transmission

issues related to alternative sites to the proposed site.

Q. What is the scope of your testimony in this proceeding?

A. In my testimony I will explain the need to connect substations to transmission lines and discuss the advantages of constructing substations adjacent to transmission lines as opposed to locating them remotely. I will also discuss the disadvantages of constructing transmission tap lines to a substation on the former Narragansett diesel generator site (the "Diesel Site") which was suggested by the Town of Hopkinton. I will provide some general estimates of the magnitude of the cost to construct a transmission tap line to the alternate site and estimates of the cost of building transmission to reach other sites in Hopkinton that are zoned manufacturing.

Q. Please describe the National Grid transmission system in the Hopkinton area.

A. The 1870S 115 kV transmission line extends from the West Kingston Substation in South Kingstown to the Mystic Substation in Connecticut. It traverses the towns of South Kingstown, Charlestown, Hopkinton and Westerly before it enters Connecticut. The location of this transmission line is shown on Attachments MR-1 and MR-4 to Mr. Rook's testimony. The right-of-way is typically 125 to 180 feet wide and, in addition to the 1870S line, is occupied by the 85T2 and 85T3 34.5 kV subtransmission lines.

Q. Why is it necessary to connect a substation to a transmission line?

A. The transmission line delivers power at higher voltage (in the case of the proposed Hopkinton Substation, 115,000 volts or 115 kV) which is transformed by the substation transformer to distribution level voltage and then distributed to National

Grid customers within the local supply area.

Q. Is it necessary to construct the substation immediately adjacent to the transmission line?

A. While it is not absolutely necessary, it is highly desirable, especially if the location adjacent to the transmission line is also central to the local supply area to be served. A number of National Grid's substations in southern Rhode Island are located adjacent to this right-of-way including the West Kingston Substation, the Kenyon Substation and the Wood River Substation. If the substation is located adjacent to the transmission line right-of-way, it is possible to connect the substation to the transmission line with a short transmission tap line. If the substation is not adjacent to the transmission line (examples in southern Rhode Island include Old Baptist Road Substation and the Tower Hill Substation), it is necessary to construct a new transmission tap line from the existing transmission line to the substation site. In instances where National Grid owns right-of-way (for example, in the case of the Tower Hill Substation), it is a matter of constructing transmission tap lines to connect the substation and the existing transmission line. However, if National Grid does not own right-of-way, it would be necessary to acquire, by purchase or condemnation, a right-of-way that would range from 125 to 150 feet in width from the transmission line right-of-way to the substation site. Depending on the development in the area, this could be disruptive to existing land uses.

Q. Are you familiar with the proposed site of the Hopkinton Substation?

A. Yes, I am.

Q. Please explain the transmission facilities that will be required to connect the substation to the 1870S transmission line.

A. The new transmission facilities required will include a single span 115 kV tap line approximately 200 feet in length from the 1870S line to the proposed Hopkinton Substation. In addition, switches on self-supporting steel structures will be installed on each side of the new tap line to facilitate removal of segments of the 1870S line from service for maintenance or repairs without interrupting supply to the new station.

Q. Are you familiar with the Diesel Site which National Grid owns in the southern part of the Town of Hopkinton?

A. Yes, I am.

Q. Please explain the transmission implications of constructing the substation on that site.

A. There is an existing 34.5 kV line which runs from the transmission right-of-way to the site. The line is out of service, in disrepair and is of inadequate size to accommodate the required 115 kV transmission tap. The Diesel Site is approximately 8,200 feet from the transmission line right-of-way.

Q. Have you made any estimate of the cost of constructing the tap line?

A. Yes. We have prepared a study grade estimate and determined that a single 115 kV transmission tap line, 8,200 feet in length, would cost approximately $2,000,000. Based on a preliminary assessment of the site, there would be significant additional costs to construct distribution facilities from the site to serve customers.

Q. Have you reviewed the sites zoned manufacturing in Hopkinton that Mr. Rook has identified in his testimony?

A. I am generally familiar with the sites although I have not studied them in detail.

Q. What would be involved in connecting any of those sites to the transmission right-of-way?

A. As with the Diesel Site, it would be necessary to construct a 115 kV tap line from the transmission line right-of-way to the site in question with provision for a second 115 kV tap line. I understand that National Grid does not have rights so it would be necessary to acquire either title to or easements over a strip of land approximately 125 to 150 feet wide from the transmission line right-of-way to the selected site.

Q. Have you prepared an estimate of the cost of the tap line?

A. We have not attempted to estimate the cost of acquiring property rights. However, based on the estimate of the cost of the tap line to the Diesel Site, a general guideline is that a single 115 kV transmission tap line would cost approximately $1.0 million per mile. Mr. Rook has identified the distance from the transmission right-of-way to each of Exits 1 and 2 on I-95 where the undeveloped sites are located. Based on the per mile cost, I estimate the cost of tap lines from the existing transmission line ROW to Exit 1 to be $3.0 million, and to Exit 2 to be $4.8 million. Both of these estimates include the required switches at the tap point.

Q. Does this complete your testimony?

A. Yes, it does.

ATTACHMENTS

SHR-1 Vitae of Scott H. Ryder, P.E.

Scott H. Ryder, PE
Consulting Engineer

Scott Ryder spent more than 32 years in the power transmission business at one of the Northeast's largest electric utilities. During that time, he was responsible for all phases of transmission project development and operation, including support of planning studies, project licensing, detailed line design, materials procurement, construction project management, facilities commissioning, O&M support, and real estate transaction coordination.

Prior to joining EIG in 2002, Scott worked for the National Grid USA Companies, formerly the New England Electric System Companies. From 1986 to 1990, he served as Lead Project Engineer (Transmission) for the New England to Hydro Quebec HVDC Interconnection Project. In this role, he was responsible for the licensing, design and construction of 133 miles of 450kV dc line, 52 miles of 345kV ac lines and 36 miles of double-circuit 115kV ac lines. Following this successful assignment, he was named Manager of Transmission Line Engineering, a role he maintained until joining EIG. In this position, he was responsible for a professional staff of eight and an annual capital budget exceeding $50M. Major accomplishments in this role included development of successful project licensing strategies, ensuring consistency of transmission designs and practices, ensuring licensing and environmental compliance on all transmission projects and successfully working to influence the regulatory climate relative to transmission siting issues.

Since joining EIG, Scott has coordinated the execution of multiple transmission projects from 69 kV through 345 kV on behalf of transmission owning clients. Project justification, support of environmental consultants, management of licensing activities, oversight of engineering consultants and construction support are among his key areas of expertise.

Scott holds a Bachelor of Science Degree in Civil Engineering from the University Of Massachusetts and a Master of Science Degree in Management Science and Engineering from Worcester Polytechnic Institute. He is a Registered Professional Engineer, Licensed Construction Supervisor, and member of the American Society of Civil Engineers.

PUC Dkt. No. 4076
Attachment SHR-1