STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS
PUBLIC UTILITIES COMMISSION

In the matter of National Grid's
Renewable Energy Standard Procurement Plan
Docket No. 3765

Direct Testimony of
Timothy Woolf

On Behalf of
The Division of Public Utilities and Carriers

Regarding National Grid's
Renewable Energy Standard Procurement Plan

January 17, 2007

Table of Contents

1. INTRODUCTION AND QUALIFICATIONS

Q. What is your name, position and business address?

A. My name is Timothy Woolf. I am the Vice-President of Synapse Energy Economics, Inc, 22 Pearl Street, Cambridge, MA 02139.

Q. Please describe Synapse Energy Economics.

A. Synapse Energy Economics is a research and consulting firm specializing in electricity industry regulation, planning and analysis. Synapse works for a variety of clients, with an emphasis on consumer advocates, regulatory commissions, and environmental advocates.

Q. Please describe your experience in the area of electric utility restructuring, regulation and planning.

A. My experience is summarized in my resume, which is attached as Exhibit TW-1. Electric power system planning and regulation have been a major focus of my professional activities since 1982. In my current position at Synapse, I investigate a variety of issues related to the electric industry; with a focus on energy efficiency, renewable resources, air quality, environmental policies, performance-based ratemaking, market structure, customer aggregation and many aspects of consumer protection.

Q. Please describe your professional experience before beginning your current position at Synapse Energy Economics.

A. Before joining Synapse Energy Economics, I was the Manager of the Electricity Program at Tellus Institute, a consulting firm in Boston, Massachusetts. In that capacity I managed a staff that provided research, testimony, reports and regulatory support to state energy offices, regulatory commissions, consumer advocates and environmental organizations in the US. Prior to working for Tellus Institute, I was employed as the Research Director of the Association for the Conservation of Energy in London, England. I have also worked as a Staff Economist at the Massachusetts Department of Public Utilities, and as a Policy Analyst at the Massachusetts Executive Office of Energy Resources. I hold a

Masters in Business Administration from Boston University, a Diploma in Economics from the London School of Economics, a BS in Mechanical Engineering and a BA in English from Tufts University.

Q. On whose behalf are you testifying in this case?

A. I am testifying on behalf of the Division of Public Utilities and Carriers (the Division).

Q. Have you testified previously before this Commission?

A. Yes. Since 2003 I have represented the Division in the demand-side management collaborative with Narragansett Electric Company d/b/a National Grid. In that capacity I have provided oral testimony and have attended several technical sessions before this Commission.

Q. Have you testified previously in this docket?

A. No, I have not.

Q. Were you involved in the development of the regulations governing the implementation of the Renewable Energy Standard in Rhode Island?

A. Yes. In 2005 I provided the Division with assistance in reviewing and commenting on the language proposed for the Rhode Island Renewable Energy Standard (RES) regulations, RIPUC Docket number 3659.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to review and comment on the RES Procurement Plan proposed by National Grid (the Company). In particular, I review and comment on the direct testimony and attachments of Michael J. Hager.

2. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

Q. Please summarize your concerns with National Grid's RES Procurement Plan.

A. My primary concern with the National Grid RES Procurement Plan is that the Plan does not contain any provisions for purchasing NEPOOL-GIS Certificates for renewable energy in the years after 2009 – either in isolation or bundled with renewable energy. As a result, the Company might miss significant opportunities to minimize the cost to ratepayers of complying with the RES. The Company might also miss significant opportunities to support the development of renewable energy in Rhode Island and New England. Most new renewable projects require some form of long-term commitment for their output, in order to obtain the financing necessary for project development.

Q. Please summarize your primary recommendations.

A. I recommend that the Commission reject the Company's Procurement Plan as currently written. The Commission should order the Company to modify its Procurement Plan, and modify its Request For Proposals for NEPOOL-GIS Certificates (Attachment MJJH-5), to clearly indicate:

- that the Company will evaluate and seriously consider the purchase of Renewable Energy Certificates for Period III;
- that the Company will attempt to procure an appropriate mix of short- medium- and long-term Renewable Energy Certificate contracts; and
- that the Company will evaluate and seriously consider the purchase of bundled energy with the Renewable Energy Certificates for Period III.

3. USING LONG-TERM CONTRACTS FOR COMPLIANCE WITH THE RENEWABLE ENERGY STANDARD

Q. Please briefly describe how National Grid intends to comply with the RES over both the short-term and the long-term.

A. In accordance with the RES regulations, the National Grid Procurement Plan is divided into three time periods. Period I includes calendar year 2007, Period II includes calendar years 2008 and 2009, and Period III includes calendar year

2010 and the following years. The Company proposes to issue an RFP for NEPOOL-GIS Certificates for all three of these periods.[1]

For the purpose of complying with the RES targets, National Grid will consider purchasing Renewable Energy Certificates (RECs) – and related instruments such as forwards and options – for Period I and Period II, but it will not consider purchasing NEPOOL-GIS Certificates for Period III.

In accordance with the RES regulations, the Company will share with Participating Purchasers the proposals for Period II RECs that were not selected by National Grid for compliance with the RES, as well as all proposals for Period III RECs.[2]

Q. Does the Company explain why it will not consider purchasing Renewable Energy Certificates for Period III?

A. Yes. In his direct testimony, Mr. Hager points out that the current Standard Offer period extends only through 2009, and that the Company is required to file with the Commission by March 2009 a plan for securing Standard Offer supply for the years 2010 and beyond. Mr. Hager argues that it would not be appropriate to make any RES commitments at this time, without considering the overall approach that the Company may be taking for meeting future Standard Offer requirements. Mr. Hager states that the Company is reluctant to make financial commitments in the near-term due to the uncertainty in Standard Offer load, electricity market prices, and the cost of Renewable Energy Certificates in the long-term future.[3]

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1 In the remainder of my testimony I will refer to NEPOOL-GIS Certificates from Eligible Renewable Energy Resources as Renewable Energy Certificates (RECS). The Company uses both of these terms interchangeably in its RFP for NEPOOL-GIS Certificates (Attachment MJH-5).

2 Rhode Island Renewable Energy Standard regulations, RIPUC Docket number 3659, Section 8.5(iii).

3 Direct testimony of Michael Hager, National Grid, Docket 3765, page 5.

Q. Do you agree that it would be inappropriate for the Company to purchase in 2007 Renewable Energy Certificates for compliance with the RES in Period III?

A. No. The Company should at least solicit and consider proposals for RECs for Period III, as well as Periods I and II. The Company might find that some REC proposals associated with Period III can help reduce the cost of complying with the RES. For example, some renewable developers (or REC brokers) might be willing to enter into long-term contracts for RECs for the period 2007 and beyond, which are lower than the prices that are offered for the years 2007, 2008 and 2009 in isolation. In other words, long-term contracts might help the Company reduce the cost of complying with the RES during Periods I and II.

In addition, entering into long-term contracts now for RECs associated with Period III might help to reduce the cost complying with the RES in Period III. As renewable energy standards in Rhode Island and other New England states increase with time, the costs of RECs might increase as well. Locking in to lower prices now will help mitigate against those potential price increases.

Q. How should the Company decide how to procure Renewable Energy Certificates in the current year for the purpose of complying with the RES requirements in Period III?

A. The Company should develop a procurement plan for complying with the RES in Period III that is based upon the general goals of minimizing costs and minimizing risks. One of the ways to achieve both of these goals is to develop a balanced portfolio of options. Portfolio management is a widely accepted practice used for financial investments, it is becoming increasingly popular among distribution companies for the purpose of providing Standard Offer service, and is appropriate in the context of complying with the RES as well.

Specifically, the Company should consider procuring a mix of short-, medium- and long-term contracts for the purpose of complying with the RES in future years, including the years beyond 2009. This is the best way to balance the costs and risks that might be associated with each type of contract.

Q. Are there other advantages to procuring Renewable Energy Certificates in the current year for the purpose of complying with the RES requirements in Period III?

Yes. This approach will allow the Company to use the dollar-cost averaging approach for purchasing the RECs needed for compliance in Period III. This approach relies upon purchasing a discreet portion of the total commodity needed at pre-determined, relatively frequent intervals, in order to avoid the risk of purchasing most or all of the needed commodity at a time when the market price is relatively high. The Company has proposed to use this approach for purchasing RECs for Periods I and II. The same approach should be used for purchasing RECs for Period III as well. If the Company were to wait until 2010 to begin dollar-cost averaging for Period III, it might miss out on low-cost opportunities for purchasing RECs in 2007, 2008 and 2009.

Q. Would the Company or the ratepayers be exposed to any risk by soliciting and considering REC proposals at this point in time for compliance with the RES during period III?

A. No. I am simply recommending that at this point in time the Company be required to not only *solicit* proposals for RECs for compliance with the RES in Period III, but to also *evaluate and seriously consider* these longer-term proposals when determining the optimal procurement for complying with the RES. There is no risk associated with soliciting, evaluating and considering REC proposals.

Once the REC proposals have been received, and National Grid evaluates and seriously considers all REC proposals for all periods, then it will be in a better position to assess the costs, benefits and risks associated with different portfolios of REC contracts.

Q. Will there be any regulatory oversight of the Company's solicitation and evaluation of REC proposals?

A. Yes. In accordance with the RES regulations, the Company will share the bids received for Periods II and III with the Department of Energy Resources, the Economic Development Corporation and the Division.[4]

In addition, the Company intends to share the results of its evaluation of the bids with the Division, and identify any bids that the Company intends to accept, before executing any contracts. According to Mr. Hager's direct testimony, this will allow "the Division an opportunity to determine if the Company's proposed awards are consistent with the intent of the procurement process."[5]

Furthermore, if there are any issues in the selection of REC bids that the Company and the Division cannot agree upon, then the Company would bring any such issues before the Commission for the Commission to resolve before approving or rejecting contracts for Renewable Energy Certificates.[6]

Q. If the Company were to provide the Division with a REC procurement plan, without seriously evaluating and considering valid REC proposals in Period III, would the Department consider such a plan to be consistent with the intent of the RES regulations?

A. No. In its order adopting the RES regulations the Commission was quite clear on this issue. The Commission stated that in the regulations "the Commission required National Grid's annual procurement plan to include long-term contracts as part of its portfolio."[7] The Commission also stated that "the legislature anticipated long term RES commitments from obligated entities providing standard offer service, last resort service and the successor services."[8] A REC procurement plan that did not even evaluate or consider viable proposals for

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[4] Rhode Island Renewable Energy Standard regulations, RIPUC Docket number 3659, Section 8.5(i).

[5] Direct testimony of Michael Hager, National Grid, Docket 3765, page 23.

[6] Direct testimony of Michael Hager, National Grid, Docket 3765, page 24.

[7] Rhode Island Public Utilities Commission, Report on Final Rules, In Re: Rules and Regulations Governing the Implementation of a Renewable Energy Standard, Docket No. 3659, page 9.

[8] Rhode Island Public Utilities Commission, Report on Final Rules, In Re: Rules and Regulations Governing the Implementation of a Renewable Energy Standard, Docket No. 3659, page 9.

RECs during Period III would clearly not be consistent with the intent of the RES regulations or enabling legislation.

Q. How would you define long-term? In other words, how many years should the Company consider when evaluating RECs for Period III?

A. It is difficult to define the appropriate number of years for long-term REC contracts in the absence of market information. Ideally, the Company should review the REC bids received from each RFP and weigh the advantages and disadvantages of contracts of different lengths. Relatively longer contracts are typically more beneficial to the renewable developers. Relatively longer contracts might offer lower REC prices, but might also create greater risks to the Company due to greater uncertainties in the later years. One of the goals of the bid evaluation process will be to draw the appropriate balance between the benefits and costs of short -, medium- and long -term contracts.

In general, the Company should consider REC contracts that have a term of at least ten years. In the first solicitation, this would include contracts that span from 2007 through at least 2016.

Q. Do you agree with Mr. Hager that there is uncertainty in the size of the Standard Offer load in the period after 2009?

A. I agree that there is some uncertainty as to how large the Standard Offer load might be. However, this uncertainty is no reason to simply ignore the Period III RES obligation at this time. There is no question that there will continue to be some customers requiring Standard Offer service for many years. Consequently, the Company will clearly require some number of RECs to comply with the RES for many years.

The Company should not purchase all of its REC requirements for Period III in the next few years. Instead, the Company should purchase a balance of short-, medium- and long-term options for complying with the RES in Period III. In addition, if the Company were to use the dollar-cost averaging approach it should not contract for all of its long-term options at one time, but instead over several periods at regular intervals. This means that in 2007 (or 2008 or 2009) the

Company would be expected to procure only a small portion of its REC requirements for Period III. As such, there is very little chance that the Company would purchase significantly more RECs than necessary for future years.

Furthermore, if the Standard Offer load turns out to be significantly lower than currently expected, then the Company can reduce the amount of REC procurements in future years to compensate for the lower load. This is another advantage of maintaining a portfolio of contracts with different durations; the Company can reduce the amount of short-term and medium-term purchases made in future years in order to best match the actual Standard Offer load.

Finally, even if the Company were to purchase too many RECs in any one year because of a reduction in the Standard Offer load, the Company could bank those RECs for compliance with the RES in future years. Alternatively, it could sell those RECs to other parties interested in complying with renewable portfolio standards or selling green power.

Q. Do you agree with Mr. Hager that there is uncertainty in the future markets for electricity and in the future markets for Renewable Energy Certificates?

A. Yes. However, this uncertainty is no reason to simply ignore the Period III RES obligation at this time. There will always be uncertainty in the future markets for electricity and for RECs. That is exactly why portfolio management and dollar cost averaging techniques are so important – they offer a way to help address uncertainties and mitigate risk. If the Company were to ignore Period III RES obligations until 2009 or even 2010, then it creates a risk of missing lower-cost opportunities that may be available over the next two to three years.

Q. So far in your testimony you have only discussed the need to solicit Renewable Energy Credits for the purpose of complying with the RES. Should the Company also solicit proposals for RECs that include bundled energy for Period III?

A. Yes. The RES regulations clearly require that for Period III the Company solicit bids for RECs that may include bundled energy. According to Section 8.5 of the RES regulations:

> For the period 2010 and beyond the Annual RFP will request proposals for NEPOOL GIS Certificates that may also include bundled energy.

Q. What are the advantages of purchasing RECs with bundled energy?

A. There are several advantages. First, some renewable developers may prefer to sell both RECs and energy bundled together, and therefore may offer a relatively low price for one or both of these commodities. Second, it may provide the Company with an opportunity to purchase energy at a cost lower than it would otherwise – either because of the timing of the purchase or because of the connection with the RES requirement. Third, renewable energy offers a hedge against volatile fossil fuel prices. If the Company purchases only the RECs from a particular renewable project, it does not benefit from this hedging effect. By bundling the renewable energy with the purchase of the RECs, the Company and its ratepayers may enjoy the benefits of a fixed-price source of energy for many years into the future.

Q. Are there risks associated with purchasing RECs with bundled energy?

A. Yes. There is the risk of paying more than necessary for the energy, as a result of uncertainties in the future energy market. But again, this is no reason to simply ignore the opportunities for purchasing RECs with bundled energy for Period III. There is always a risk associated with purchasing energy. By soliciting proposals for RECs with bundled energy for Period III, the Company would simply be increasing the amount of information available regarding the costs associated with RECs and energy. Such information would put the Company in a better position to assess the risks of buying – or not buying – bundled energy for Period III. If the Company does not even solicit proposals for RECs with bundled energy for Period III, then it will have less information with which to make future purchasing decisions.

Q. If National Grid were to purchase RECs with bundled energy for Period III, is there a risk that the Company could purchase too much energy, given uncertainties in the Standard Offer load in future years?

A. No. The amount of energy associated with the RECs would be so small that there would be essentially no risk of buying too much power. First, the RES requirement reaches a maximum of only 14% of sales, in 2019. Thus, the energy that might be bundled with RECs would not exceed 14% of the forecasted Standard Offer load. Second, if the Company were to use portfolio management and dollar-cost averaging practices, as described above, then the amount of energy purchased with RECs at any one time would be only a small portion of the RES requirement, thereby reducing the risk of buying too much energy. Third, if the Company were to somehow buy more energy than needed to meet it Standard Offer obligations, then it could sell that excess energy to other Load Serving Entities in the region.

Q. What do you recommend to the Commission with regard to the solicitation, evaluation and consideration of RECs for Period III?

A. I recommend that the Commission reject the Company's Procurement Plan as currently written. The Commission should order the Company to modify its Procurement Plan, and modify its Proposed RFP for NEPOOL-GIS Certificates (Attachment MJJH-5), to clearly indicate:

- that the Company will evaluate and seriously consider the purchase of Renewable Energy Certificates for Period III;
- that the Company will attempt to procure an appropriate mix of short- medium- and long-term Renewable Energy Certificate contracts; and
- that the Company will evaluate and seriously consider the purchase of bundled energy with the Renewable Energy Certificates for Period III.

Q. Do you have any other concerns with the National Grid RES Procurement Plan?

A. Yes. The RFP to Provide NEPOOL-GIS Certificates (attachment MJH-5) raises an issue regarding the process for working with Participating Purchasers. Ideally, the Participating Purchasers would work in tandem with the Company to try to develop the optimal combination of REC purchases for all three types of parties involved (the bid respondents, the Company and the Participating Purchasers). For example, a renewable developer that wants to have some certainty of selling RECs over a relatively long period might structure a deal whereby the Company purchases that developer's RECs for Periods I and II, while a Participating Purchaser purchases that developer's RECs for Period III. In order for this type of arrangement to work most effectively, it would be optimal if the bid respondents were to negotiate simultaneously with the Company and the Participating Purchasers.

Q. Does the Company's RFP to Provide NEPOOL-GIS Certificates allow bid respondents to negotiate simultaneously with the Company and the Participating Purchasers?

A. The RFP apparently does not allow for simultaneous negotiations. Section 3.2 of the RFP sets out a timeline of the key dates associated with the procurement process. According to this timeline, National Grid will provide Participating Purchasers with neither the Period II bids not selected nor the Period III bids until the last step of the process. Participating Purchasers will not be able to even review these bids until after the Company has already selected its bids and executed contracts with the winning bid respondents. Consequently, the bid respondents will not have an opportunity to work out optimal arrangements for sales of RECs across all periods to both the Company and the Participating Purchasers.

Q. What do you recommend to the Commission with regard to the Company's RFP to Provide NEPOOL-GIS Certificates?

A. I recommend that the Company address this issue further in the proceeding and address whether simultaneous involvement of Participating Purchasers would be beneficial and whether it could be practically accomplished. If the Commission believes simultaneous negotiations involving Participating Purchasers is beneficial and practical, the Commission could direct the Company to modify the RFP to clearly indicate that the Company will engage in simultaneous, good-faith negotiations between itself, bid respondents and Participating Purchasers.

Q. Does this conclude your testimony at this time?

A. Yes, it does.

Timothy Woolf

Vice President
Synapse Energy Economics
22 Pearl Street, Cambridge, MA 02139
(617) 661-3248 ext. 223 • fax: (617) 661-0599
www.synapse-energy.com
twoolf@synapse-energy.com

PROFESSIONAL EXPERIENCE

Synapse Energy Economics Inc., Cambridge, MA. Vice President, 1997-present. Conducting research, writing reports, and presenting expert testimony pertaining to consumer, environmental, and public policy implications of electricity industry regulation. Primary focus of work includes electricity industry regulation and restructuring, electric power system planning, energy efficiency programs and policies, renewable resources and related policies, power plant performance and economics, air quality, and many aspects of consumer and environmental protection.

Tellus Institute, Boston, MA. Senior Scientist, Manager of Electricity Program, 1992-1997. Responsible for managing six-person staff that provided research, testimony, reports and regulatory support to consumer advocates, environmental organizations, regulatory commissions, and state energy offices throughout the US.

Association for the Conservation of Energy, London, England. Research Director, 1991-1992. Researched and advocated legislative and regulatory policies for promoting integrated resource planning and energy efficiency in the competitive electric industries in the UK and Europe.

Massachusetts Department of Public Utilities, Boston, MA. Staff Economist, 1989-1990. Responsible for regulating and setting rates of Massachusetts electric utilities. Drafted integrated resource planning regulations. Evaluated utility energy efficiency programs.

Massachusetts Office of Energy Resources, Boston, MA. Policy Analyst, 1987-1989. Researched and advocated integrated resource planning regulations. Participated in demand-side management collaborative with electric utilities and other parties.

Energy Systems Research Group, Boston, MA. Research Associate, 1983-1987. Performed critical evaluations of electric utility planning and economics, including production cost modeling and assessment of power plant costs and performance.

Union of Concerned Scientists and Massachusetts Public Interest Research Group, Cambridge and Boston, MA. Energy Analyst, 1982-1983. Analyzed environmental and economic issues related to nuclear plants, renewable resources and energy efficiency.

EDUCATION

Masters, Business Administration. Boston University, Boston, MA, 1993.
Diploma, Economics. London School of Economics, London, England, 1991.
B.S., Mechanical Engineering. Tufts University, Medford, MA, 1982.
B.A., English. Tufts University, Medford, MA, 1982.

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