

BEFORE THE  
RHODE ISLAND PUBLIC UTILITY COMMISSION

DOCKET NO. 4041

DIRECT TESTIMONY

OF

RICHARD S. HAHN

IN THE MATTER OF NATIONAL GRID'S STANDARD  
OFFER SUPPLY PROCUREMENT PLAN FOR 2010

ON BEHALF OF THE

RHODE ISLAND DIVISION OF PUBLIC UTILITIES AND CARRIERS

July 22, 2009

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1 **INTRODUCTION**

2 **Q. Please identify yourself for the record.**

3 A. My name is Richard S. Hahn. I am a Principal Consultant for La Capra Associates. My  
4 business address is One Washington Mall, Boston, Massachusetts 02108.

5 **Q. Mr. Hahn, please summarize your experience and qualifications.**

6 A. I have a BSEE and an MSEE in power systems engineering, and an MBA degree. I am a  
7 Registered Professional Engineer in Massachusetts. I have worked in the electric utility  
8 business for more than 35 years. From 1973 to 2003, I worked at NSTAR Electric & Gas  
9 (formerly Boston Edison Company). I have held many technical and managerial  
10 positions in both regulated and unregulated subsidiaries covering all aspects of utility  
11 planning, operations, regulatory activities, and finance. In 2004, I joined La Capra  
12 Associates. Since then, I have worked on projects related to resource planning,  
13 transmission, power procurement, generating asset valuations, analyzing market rules and  
14 prices, mergers, and litigation support. My resume is provided in Exhibit RSH-1.

15 **Q. Have you previously prepared testimony before the Commission?**

16 A. Yes. On April 23, 2009, I submitted comments on National Grid's ("NGRID's" or the  
17 "Company's") accelerated procurement plan for Standard Offer Service ("SOS") power  
18 supplies, and appeared at the April 28, 2009 hearing in this proceeding. On April 8,  
19 2009, I submitted direct testimony in Docket No. 4029 regarding the load forecast used in  
20 the justification of the Rhode Island Reliability Project. I have also testified before  
21 regulatory commissions in other states, as described in Exhibit RSH-1.

22 **Q. What has been your experience relative to power supply procurement?**

1 A. Most recently at La Capra Associates, I have assisted the Pennsylvania Office of  
2 Consumer Advocate in reviewing the SOS procurement plans of several of  
3 Pennsylvania's Electric Distribution Companies, including PECO Energy, PPL Utilities,  
4 West Penn Power, Citizens Electric Company, and Wellsboro Electric Company. I was a  
5 leading member of La Capra Associates teams that served as the Independent Evaluator  
6 of a complex power contract between Consumers Energy and the Midlands Cogeneration  
7 Venture, and have overseen the implementation of RFPs for long-term contracts between  
8 utilities and renewable energy facilities. During my career at NSTAR, I was responsible  
9 for integrated resource planning, energy supply planning, and wholesale power purchases  
10 and sales.

11 **Q. What is the purpose of your testimony in this proceeding?**

12 A. La Capra Associates, Inc. ("La Capra Associates") has been retained by the Rhode Island  
13 Division of Public Utilities and Carriers ("Division") to review and comment on  
14 NGRID's plan to procure SOS power supplies and to comply with Renewable Energy  
15 Standards ("RES") for 2010. This testimony presents the results of that review, and my  
16 conclusions and recommendations.

1 **SUMMARY**

2 **Q. Can you summarize the results of your review and your conclusions and**  
3 **recommendations?**

4 A. The Company's proposed plans to procure SOS power supplies and to comply with RES,  
5 as they have evolved over time, generally represent a good start towards developing an  
6 effective approach to meeting the needs of Rhode Island consumers who do not obtain  
7 the generation component of their electric supply from competitive suppliers. However, I  
8 have identified several areas where the Company's plans can be significantly improved.  
9 The following is a brief summary of my recommendations to achieve that improvement.  
10 Each of these recommendations and observations are discussed in greater detail in later  
11 sections of my testimony. Lastly, I respond to the testimony of Constellation, the only  
12 other party to submit testimony in this proceeding thus far.

13

14 Definition of Procurement Groups

15 The Company should redefine its SOS procurement groups. The residential rate class  
16 should be separated from the Small Customer Group. The G02 rate class should be  
17 combined with the C06 and S10/S14 classes. Under this plan, the Company would have  
18 three SOS procurement groups instead of two. There should be different procurement  
19 plans for each group.

20 (1) Residential – A16/A60

21 (2) Small Commercial – C06, S10/S14, and G02

1 (3) Large Commercial / Industrial (“Large C&I”). G32/B32 and G62/B62<sup>1</sup>

2  
3 Alternative Procurement Approach for Large C&I

4 For the Large Commercial group, the Company should consider the option of using 100%  
5 spot market prices rather than Full Requirements Service contracts with three month  
6 terms. This will eliminate the solicitation activities for one of the three SOS procurement  
7 groups. It will also avoid the high risk premium and rate impact of the loss of one very  
8 large customer on the customers remaining on SOS supply. As is discussed later in this  
9 testimony, this procurement method is logistically comparable to the Company’s  
10 proposal.

11  
12 Delivery Schedule

13 The Company has scheduled the effective dates of its SOS contracts to begin April 1<sup>st</sup>  
14 and October 1<sup>st</sup>. The ISO-NE capacity year begins on June 1<sup>st</sup>. The Company should  
15 adjust its scheduled effective dates to better comport with the start of the capacity year.

16  
17 Managed Portfolio Approach

18 The Company should modify its procurement plan to transition to a managed portfolio  
19 approach for the Residential and Small Commercial groups. A prudent mix of (a) long-  
20 term contracts, (b) block purchases of peak and off-peak energy with separate purchases  
21 of capacity and ancillary services, and (c) spot market purchases should be included in

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<sup>1</sup> In Docket No. 4065, the Company proposes to consolidate these rate classes.

1 this portfolio. Other products such as heat rate index contracts, which are block  
2 purchases indexed to natural gas prices, should be included.

3  
4 Long-Term Contracts

5 The evaluation of long-term contracts as proposed by the Company is subjective and non-  
6 transparent. There is no detailed description of how it will be done, nor any basis  
7 provided for the NGRID estimate of market prices for RECs. The Company should  
8 explain exactly how it plans to evaluate long-term contracts, preferably in advance of the  
9 Commission's upcoming proceeding in Docket No. 4069.

10  
11 Risk Premium Factors

12 If the Company continues to use Full Requirement Service and Financial Swaps and  
13 evaluate these two instruments against each other, it should provide additional  
14 justification for its risk premium factors.

15  
16 Response to the Testimony of Constellation.

17 Constellation, the only intervening party to file testimony in this proceeding, urges the  
18 Commission not to allow the Company to transition to a managed portfolio approach for  
19 procuring SOS power supplies. Such recommendations should be rejected. The  
20 Company should be allowed to proceed with its managed portfolio approach, as modified  
21 according to my testimony, as it will produce better results in terms of lower, more stable  
22 prices for those consumers least likely to switch to a competitive supplier.

1 **OVERVIEW OF THE COMPANY'S MARCH 2, 2009 FILING**

2 **Q. Can you describe the Company's proposed plan to procure power supplies to meet**  
3 **its SOS obligations?**

4 A. On March 2, 2009, NGRID filed a proposed procurement plan to procure SOS power  
5 supplies. The Company proposed to establish two groups of customers for the purposes  
6 of SOS power supply procurement. The Large Customer group would consist of rate  
7 classes G-02, G-32, G-62, B-32, B-62, and X-01. The Small Customer group consists of  
8 rate classes A-16, A-60, C-06, S-10, and S-14.

9 **Q. Do these two customer groups contain all of the Company's rate classes?**

10 A. NGRID had several other rate classes, specifically rate classes E-30, E-40, M-1, R-02, T-  
11 06, T-08, and T-10, which have relatively small amounts of annual KWH sales. It is my  
12 understanding that the rate class M-1 is not eligible for SOS service, and that the other six  
13 rate classes are being eliminated and consolidated into other rate classes in Docket No.  
14 4065. For example, rate classes E-30, T-06, and T-10 are being consolidated into the A-  
15 16 rate class. Rate classes T-08 and R-02 will be consolidated into the C-06 rate class,  
16 and rate class E-40 will be consolidated into rate class G-02. With these changes, the rate  
17 classes listed in the response to the previous question constitute all of the Company's  
18 SOS load. I also note that the Company is planning to consolidate the G32/B32 and  
19 G62/B62 rate classes in that same docket.

20 **Q. How does the Company plan to procure SOS power supplies for the two customer**  
21 **groups in its March 2, 2009 filing?**



1 A. For the Large Customer group, NGRID proposes to use Full Requirements Service under  
2 short-term (i.e., three month) contracts with a fixed but different per KWH price for each  
3 month for 100% of the SOS supply obligation. Requests for Proposals (“RFPs”) for SOS  
4 power supplies for this customer group will be issued four times per year, with the first  
5 solicitation planned for November 2009.

6 For the Small Customer group, the Company proposes a layering and laddering  
7 approach with Full Requirements Service contracts ranging from three months to 24  
8 months. On a steady state basis, RFPs for SOS power supplies for this customer group  
9 will also be issued four times per year for 25% of the SOS load obligation each time on  
10 the same approximate schedule as for the Large Customer group. Exhibit RSH-2, which  
11 is an excerpt from Schedule APS-1 from the Company’s March 2, 2009 filing, depicts the  
12 proposed plan and schedule. RFPs are issued approximately two months in advance of  
13 the effective date when deliveries commence.

14 The solicitations of Full Requirements Service conducted by NGRID will seek  
15 separate bids for compliance with Rhode Island’s Renewable Energy Standard (“RES”),  
16 which requires that 4.5% of the 2010 power supplies come from renewable energy, with  
17 2.0% coming from existing renewable energy facilities and the balance coming from  
18 new renewable energy facilities. By seeking separate bids, the Company claims it can  
19 evaluate the cost-effectiveness of compliance.

20 **Q. Are there other elements to the Company’s proposed plan of March 2, 2009?**

21 A. The Company proposes to eliminate Last Resort Service (“LRS”) and transition all  
22 remaining LRS customers to SOS. A revised tariff governing the new SOS rates is also

1 provided in the Company's filing. For the Large Customer group, rates will be set  
2 monthly for the three-month contract and each month will have a separate rate. For the  
3 Small Customer group, the monthly SOS rate charged to customers will be the weighted  
4 average of the prices received during each solicitation for the appropriate months. For  
5 example, referring to Exhibit RSH-2, for the months of January to March 2010, the SOS  
6 rate for the Small Customer group will be the single fixed rate for 100% of the SOS load  
7 obligation under a three-month contract procured in November 2009. For the months  
8 from April through September 2010, the SOS rate for the Small Customer group will be  
9 the average of the 50% of the SOS load obligation procured in November 2009 and the  
10 50% procured in February 2010.

11 The Company's March 2, 2009 filing also contained an accelerated procurement  
12 plan for the Small Customer group. Under this alternative plan, procurement activities  
13 from the first nine months of 2010 would begin in August 2009, compared to November  
14 2009 under the original plan, and provide for additional layering and laddering of  
15 contracts as the procurement transitions to a steady state basis. Exhibit RSH-3 provides  
16 an excerpt from the Company's filing that summarizes the procurement plan and  
17 schedule.

18 Lastly, the Company's March 2, 2009 filing contains testimony explaining why  
19 the proposed procurement plan contains no provisions for long-term contracts.

20 **Q. Has the Commission acted upon the Company's March 2, 2009 filing?**

21 A. On March 18, 2009, the Commission issued an Order rejecting the Company's March 2,  
22 2009 filing, finding that the filing did not effectively coordinate the long-term contracting

1 requirements set forth in the Commission's RES rules with the Company's SOS  
2 procurement plans. The Company was directed to re-file its SOS procurement plan by  
3 April 16, 2009.<sup>2</sup>

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<sup>2</sup> This filing deadline was later extended to May 1, 2009 by the Commission at the request of NGRID.

1 **OVERVIEW OF THE COMPANY'S APRIL 9, 2009 FILING**

2 **Q. Has the Company re-filed its SOS procurement plan?**

3 A. Yes. On April 6, 2009, NGRID filed a motion for expedited treatment for an Accelerated  
4 Procurement Plan and a request for an extension of time to May 1, 2009 to comply with  
5 the Commission's March 18, 2009 order. The Accelerated Procurement Plan, which was  
6 filed on April 9, 2009, called for a solicitation to procure fixed price Financial Swap  
7 contracts in order to take immediate advantage of current favorable market conditions  
8 and prices. A Financial Swap contract is a standard market product that does not involve  
9 the physical purchase of electric energy to be delivered in the future, but allows the buyer  
10 to financially "lock in" or hedge the price of that energy at current prices for future  
11 deliveries. Most Financial Swaps are settled against actual peak and off-peak market  
12 prices as they occur each month. The Company proposed to settle its Financial Swaps  
13 against NYMEX futures prices that are contemporaneous with the procurement of Full  
14 Requirements Service, which will be approximately two months before the commence of  
15 the time period for which the Swaps are purchased. Parties to this proceeding filed  
16 comments on the Accelerated Procurement Plan on April 23<sup>rd</sup> and 24<sup>th</sup>, and a technical  
17 session was held on April 28, 2009.

18 **Q. Did you file comments on the Accelerated Procurement Plan on behalf of the**  
19 **Division?**

20 A. Yes. I filed comments and participated in the technical session on behalf of the Division.  
21 A copy of my comments is provided in Exhibit RSH-4.

22 **Q. Please continue.**

1 A. On April 29, 2009, the Company re-filed its proposed procurement plan for 2010. The  
2 April 29, 2009 filing contains two specific documents: a revised Standard Offer Portfolio  
3 Procurement Plan and a Revised Renewable Energy Procurement Plan.

4 The revised SOS procurement plan has many similarities to the Company's  
5 original plan of March 2, 2009. It uses the same two customer groups: Large Customers  
6 and Small Customers. The procurement plan and schedule for the Large Customer group  
7 are essentially the same as the original filing. That is to say, the plan relies upon Full  
8 Requirements Service contracts with a three-month term and separate, fixed prices for  
9 each month for 100% of the SOS load obligation for this customer group. The  
10 procurement plan and schedule for the Small Customer group is very different from the  
11 one proposed in the Company's original filing. Exhibit RSH-5 contains a summary of  
12 the procurement plan and schedule for this customer group in the revised filing. Under  
13 the revised plan for the Small Customer group, in November 2009, NGRID will solicit  
14 Full Requirements Service for 100% of the Small Customer load obligation for nine  
15 months from January 2010 through September 2010. After that, the Company will  
16 procure 100% of load obligation using Full Requirements Service contract with a six-  
17 month term. Financial Swap contracts of similar terms will also be procured at fixed  
18 intervals. The initial Swap will be one contract for 100% of the load for nine months.  
19 The second tranche of Financial Swaps will be two contracts each for 50% of the load for  
20 six months procured at two different points in time. The third tranche of Financial Swaps  
21 will be four contracts each for 25% of the load for six months procured at four different

1 points in time. The tariff mechanism in the revised filing is similar to the original, but it  
2 includes the gains or losses from the Financial Swaps contracts in the reconciliations.

3 **Q. Please describe the Revised Renewable Energy Procurement Plan.**

4 A. The stated purpose of the Company's revised renewable energy procurement plan is to  
5 comply with the Commission's Order 19602, as clarified in Order No. 19610.  
6 Specifically, the April 29, 2009 filing appears to provide a process for considering long-  
7 term contracts, although the filing states that NGRID is not committing to enter into long-  
8 term contracts at this time. It also provides a projection of the SOS RES obligations for  
9 2010 and beyond. The plan has a "short-term" component for 2010, which appears to be  
10 similar to the 2009 plan, which was approved. Under this approach, the Company will  
11 solicit separate bids from Full Requirements Service suppliers for assuming the RES  
12 obligations for the SOS load. If these bids are deemed higher than NGRID's estimate of  
13 market prices for RECs, then the Company will not include the RES obligation with the  
14 SOS supply obligation.

15 Under the "long-term" component of the plan, the Company will solicit bids to  
16 purchase RECs and also the bundled output from renewable energy facilities for five, ten,  
17 and fifteen year terms. The Company will evaluate the "cost-effectiveness" of entering  
18 into long term contracts. If any long-term contracts are entered into, the Company  
19 proposes to either (a) assign these contracts to a Full Requirements Service supplier, (b)  
20 sell the output into the ISO-NE markets and credit any loss or gain to SOS customers, or  
21 (c) include the contract as part of a NGRID managed portfolio for SOS customers. It  
22 appears that the Company is proposing to include the impact of any long-term contracts

1 in the SOS power supply for the Small Customer group only. The schedule for this long-  
2 term component has not yet been set.

3 **Q. Has the Commission acted on any of the Company's filings made since April 6,**  
4 **2009?**

5 A. Yes. On May 7, 2009, the Commission issued Order 19640, approving with modification  
6 the Company's Accelerated Procurement Plan that was filed on April 9, 2009. The Order  
7 directed the Company to perform simultaneous solicitations for Full Requirements  
8 Service and for Financial Swap contracts to be settled at NYMEX futures prices. These  
9 solicitations would procure power for the Small Customer group. For the period from  
10 January 2010 through September 2010 ("period 1"), NGRID will solicit bids for 95% of  
11 the Small Customer group SOS load obligation without the RES obligation. For the  
12 period from October 2010 through March 2011 ("period 2"), NGRID will solicit bids for  
13 50% of the Small Customer group SOS load obligation without the RES obligation. The  
14 Company was directed to compare the two types of bids and select one type of bid for  
15 final negotiations among the best suppliers for the selected instrument.

16 **Q. Did the Company issue the simultaneous solicitations?**

17 A. Yes. On May 20, 2009, the Company issued a solicitation for Full Requirements Service  
18 proposals. On June 2, 2009, the Company issued a solicitation for fixed price Financial  
19 Swap contracts. On June 11, 2009, the indicative bids from both solicitations were  
20 received by NGRID. Specifically, the Company compared the prices received for each  
21 type of instrument to an "expected" price. The bids were evaluated between June 12<sup>th</sup>  
22 and June 15<sup>th</sup>. The Company selected the Full Requirements Service instrument, based

1 upon the indicative bids received, and made contract awards to the lowest bidders on  
2 June 17, 2009 for both period 1 and period 2. On July 1, 2009, NGRID made an  
3 informational filing with the Commission summarizing the process described above.

4 **Q. Did the Company involve you in their review of the simultaneous solicitations?**

5 A. Yes. The Company shared the results of its evaluations of the indicative bids received  
6 prior to selecting its preferred instrument.

7 **Q. How did the Company evaluate the two different instruments, specifically the Full  
8 Requirements Service contracts versus the Financial Swap contracts?**

9 A. The Company compared the bids received from Full Requirements Service suppliers and  
10 Financial Swap counterparties to the Company's "expected prices". The instrument that  
11 had lowest bids relative to its expected value was chosen. For example, if the bids for  
12 Financial Swaps contracts were 3% above their expected price while bids for Full  
13 Requirements Service contracts were 4% above their expected price, the Financial Swap  
14 instrument would be chosen under the Company's methodology because its bids were  
15 lower relative to its expected price.

16 The processes for developing the expected prices were different depending upon  
17 the instrument, although the NYMEX futures prices for electric energy in New England  
18 on the day that the bids were received served as the starting point for both instruments.  
19 For each instrument, a "risk premium factor" was estimated and applied to the NYMEX  
20 prices. In estimating the expected price for Full Requirements Service, the Company  
21 began with NYMEX futures peak and off-peak energy prices for the same time period,  
22 added estimates of the costs of capacity and ancillary services, and then multiplied this



1 sum by the assumed risk premium factor for Full Requirements Service. In estimating  
2 the expected price for Financial Swaps, the Company multiplied the NYMEX energy  
3 prices by the risk premium factor for Financial Swaps. Then the comparison described  
4 above was performed.

5 Under this method, the choice of the risk premium factors becomes a crucial  
6 assumption. Small variations in these factors can change the selected instrument. I also  
7 believe that the decision to settle Financial Swaps against NYMEX futures prices on a  
8 given date, as opposed to settling against actual ISO-NE LMPs would result in a higher  
9 risk premium factor for Financial Swaps in the Company's methodology.

10 **Q. How did the Company develop the risk premium factors discussed above?**

11 A. The Company stated that the risk premium factor for the Full Requirement Service  
12 contracts was developed from bids received previously by a Massachusetts utility, and it  
13 did provide some of the supporting information for this factor. The risk premium factors  
14 for the Financial Swap contracts were taken from two quotes by unnamed suppliers. It is  
15 impossible to know the robustness of this factor.

16 **Q. What was the outcome of the comparison performed by the Company?**

17 A. According to the Company's informational filing made on July 1, 2009, the best of the  
18 Full Requirements Service bids were only slightly lower, relative to their expected price,  
19 than were the best of the Financial Swap bids. On that basis, the Company moved to  
20 finalize prices and award contracts to the lowest priced Full Requirements Service  
21 suppliers.

1 **Q. Did you concur with the Company in its choice of Full Requirements Service**  
2 **contracts?**

3 A. I accepted the Company's selection in order to move forward and consummate a  
4 transaction at this time. I had expressed some reservations about the assumed risk  
5 premium factors at the time, but the Company seemed reluctant to make any changes. I  
6 will address these concerns in a later section of this testimony. Even under the  
7 Company's methodology, the comparison was extremely close. Rather than prolong the  
8 debate and allow inaction to prevent securing power supplies at favorable prices, the  
9 Company's selection was accepted for this solicitation, knowing that there would be  
10 additional opportunities to reconsider these issues in the near future. Had the Division  
11 not accepted the Company's recommendation, it is possible that the Company would not  
12 have acted on the bids that it received, which would cause them to expire. The Company  
13 could then wait until November 2009, its next contemplated procurement, before  
14 soliciting replacement bids. Exhibit RSH-6 provides a graph of NYMEX futures prices  
15 for peak and off-peak electric energy for calendar year 2010. As is shown in this graph,  
16 prices bottomed out at approximately mid-March and have risen steadily since then.  
17 Based upon these market conditions, it seemed prudent to consummate the transactions  
18 available to the Company at this time and address any concerns in future solicitations.

19 **Q. What are the next steps for the Company in order to continue to implement its SOS**  
20 **power supply procurement plan?**

21 A. The Company has procured 95% of the SOS load obligation for the Small Customer  
22 group for the first nine months of 2010 and 50% of the SOS load obligation for the Small

1 Customer group for October 2010 through March 2011, using Full Requirement Service  
2 contracts. No procurements have yet been consummated for the Large Customer group.  
3 NGRID has not yet secured suppliers for its RES obligations for any of its SOS load for  
4 2010. In a later section of this testimony, I will address modifications to the Company's  
5 proposed procurement plan.

1 **OVERVIEW OF THE COMPANY'S JULY 10, 2009 FILING**

2 **Q. Has the Company revised its SOS procurement plan that was filed on April 29,**  
3 **2009?**

4 A. Yes. On July 10, 2009, NGRID filed with the Commission an amended plan to procure  
5 SOS power supplies and to comply with the RES. Specifically, the testimonies of  
6 Mr. Milhous and Mr. Smithling were filed.

7 **Q. How does the July 10, 2009 filing change the manner in which NGRID proposes to**  
8 **comply with RES?**

9 A. It appears from the testimony of Mr. Milhous that the Company is eliminating the  
10 consideration of long-term contracts at this time. The Commission has opened a  
11 proceeding in Docket No. 4069 to establish rules and regulations regarding long-term  
12 contracts for renewable energy. Until that proceeding is concluded, the Company  
13 proposes to utilize short-term purchases of RECs to comply with RES. For the period  
14 January 1, 2010 to September 30, 2010, the Company proposes to issue an RFP for  
15 RECs. Subsequently, the Company will solicit bids for full requirements service with  
16 and without RES compliance. This will allow the Company to evaluate separate or  
17 bundled purchases of RECs.

18 **Q. How does the July 10, 2009 filing change the manner in which NGRID proposes to**  
19 **procure SOS power supplies?**

20 A. It appears from the testimony of Mr. Smithling that the SOS procurement plan submitted  
21 on April 29<sup>th</sup> is largely unchanged. The Company will use the same two groups, Large  
22 Customer and Small Customers, as in previous versions of the plan. SOS supplies for the

1 Large Customer group will be procured via Full Requirements Service contracts with  
2 three-month terms with a fixed but separate price each month. For the Small Customer  
3 group, the Company proposes to transition to a managed portfolio approach, which  
4 appears to consist of Full Requirements Service contracts with six month terms for 100%  
5 of the group SOS load obligation solicited twice per year.

1 **OBSERVATIONS AND ANALYSIS**

2 **Q. What did your analysis of the Company's various filings yield, and what issues or**  
3 **concerns were raised by that analysis?**

4 A. As a result of my review and analysis of the Company's various filings, I have identified  
5 several areas where the Company's plans can be significantly improved. These areas are  
6 listed immediately below, and are discussed in detail in the ensuing paragraphs of this  
7 section of my testimony.

- 8 ■ Definition of Procurement Groups
- 9 ■ Alternative Procurement Approach for Large C&I
- 10 ■ Delivery Schedule
- 11 ■ Managed Portfolio Approach
- 12 ■ Long-Term Contracts
- 13 ■ Risk Premium Factors

14

15 Definition of the Procurement Groups

16 **Q. What factors do you believe are important to consider in establishing groups of**  
17 **customers for the procurement of SOS power supplies?**

18 A. I believe that one should consider the overall size of the procurement group. That is to  
19 say, the group should be large enough such that, when procurements are scheduled  
20 throughout the year, the amount of load should be sufficiently large to facilitate efficient  
21 and economic price bids from suppliers. One should also consider the likelihood of  
22 switching to competitive suppliers, and the potential for switching to create volumetric

1 risk, which is reflected in higher risk premiums. Finally, the load profiles of rate classes  
2 in a procurement group should be similar.

3 Exhibit RSH-7 provides summary data on the load profiles of the rate classes for  
4 the Company.

5 **Q. The Company has established two procurement groups: the Large Customer Group**  
6 **and the Small Customer group. Please comment on the grouping of customers into**  
7 **these two procurement groups.**

8 A. The Small Customer group established by the Company includes residential, small  
9 General, and lighting rate classes. This mixes residential customers, who are very  
10 unlikely to switch to competitive suppliers, with small commercial customers, who are  
11 more likely to switch. These two rate classes also have very different load profiles, as  
12 shown in Exhibit RSH-7. The residential class is large enough to serve as a separate  
13 procurement group.

14 Under the Company's proposal, the Large Customer group includes some very  
15 large and very small commercial customers. Among these rate classes, the very large  
16 customers are very likely to switch to a competitive supplier, while smaller customers are  
17 less likely to do so.

18 **Q. What do you recommend in establishing the specific procurement groups?**

19 A. The Company should redefine its SOS procurement groups. The residential rate class  
20 should be separated from the Small Customer Group and be its own procurement group  
21 (the "Residential group"). The G02 rate class should be removed from the Large  
22 Customer group and be combined with the C06 and S10/S14 classes to form the "Small

1 Commercial” group. Under this approach, the Company would have three SOS  
2 procurement groups instead of two. There should be different procurement plans for each  
3 group.

4 (1) Residential – A16/A60

5 (2) Small Commercial – C06, S10/S14, and G02

6 (3) Large Commercial / Industrial (“Large C&I”) – G32/B32 and G62/B62

7 **Q. Does this definition meet the criteria you mentioned previously for establishing**  
8 **procurement groups?**

9 A. Yes, it does. Under my proposed groupings, each of the three procurement groups will  
10 be large enough to facilitate efficient and economic procurements. This approach will  
11 group customers with similar load profiles and switching tendencies. It is also similar to  
12 what NGRID uses in Massachusetts.

13 **Q. How quickly could NGRID transition to your proposed customer grouping?**

14 A. NGRID has recently procured Full Requirements Service contracts for 95% of its Small  
15 Customer group through September 2010, and 50% through March 2011. Therefore the  
16 next opportunity to redefine customer groups for procurement purposes would be for  
17 deliveries that commence starting April 2011. I will address this transition schedule in  
18 more detail later in my testimony.

19  
20 Alternative Procurement Approach for Large C&I

21 **Q. Could the Company’s proposed procurement plan for its Large Customer group**  
22 **also be used for your Large C&I group?**



1 A. I believe it could. The short term procurement with three-month terms and different  
2 prices each month will produce SOS prices that are quite volatile and change frequently.  
3 However, this group of customers is the most likely to switch to competitive suppliers.  
4 The Company should consider the option of using 100% spot market prices for the Large  
5 C&I group, rather than Full Requirements Service contracts with three-month terms.  
6 This will eliminate the solicitation activities for one of the three SOS procurement  
7 groups. It will also avoid the high risk premium associated with the volumetric risk and  
8 the rate impact of the loss of several very large customers on the remaining customers in  
9 this group that stay on SOS supply.

10 **Q. Logistically, how would such an approach work?**

11 A. All Large C&I SOS load served by such spot purchases for energy, capacity, ancillary  
12 services, and RES compliance would be purchased from ISO-NE markets. NGRID  
13 would bid this load into these markets on behalf of these customers, but the customers  
14 would assume all of the price risk, which would be primarily limited to energy and REC  
15 prices, as capacity and ancillary services costs are well known one month in advance. If  
16 necessary, the Company could develop a month-ahead forecast of such rates, but the  
17 actual load would settle against actual, after-the-fact hourly energy prices, and the  
18 Company would charge customers based on those hourly rates. Since ISO-NE bills its  
19 participants at least weekly, the Company will have the information to bill these hourly  
20 priced customers promptly. The Company would amend its tariff to describe the process  
21 of setting these rates. Under this approach, the Company assumes no risk.

22 **Q. Has 100% spot pricing for Large C&I customers been used in other jurisdictions?**

1 A. Yes, this approach is being used by most of the large Electric Distribution Companies  
2 (“EDCs”) in Pennsylvania after generation rate caps expire.

3 **Q. Would this approach provide greater incentive for Large C&I customers to switch**  
4 **to competitive suppliers?**

5 A. That is possible, but any increase in switching potential is likely to be small. Remember  
6 that these customers already have the greatest potential for and likelihood of switching.  
7 They have large loads and are experienced in procuring goods and services, so buying  
8 generation service from a competitive supplier is not much different from their normal  
9 business practices. Under both approaches, SOS prices will change monthly, so Large  
10 C&I customers will be incented to switch to competitive suppliers if they desire more  
11 stable, predictable prices.

12

13 Delivery Schedule

14 **Q. What schedule has the Company proposed for implementing its SOS procurement**  
15 **plan?**

16 A. The Company has scheduled the effective dates of its SOS contracts for its Small  
17 Customer Group with a six-month term to begin May 1<sup>st</sup> and November 1<sup>st</sup>. For its Large  
18 Customer group, the Company proposes to commence deliveries for each three-month  
19 contract on January 1<sup>st</sup>, April 1<sup>st</sup>, July 1<sup>st</sup>, and October 1<sup>st</sup>.

20 **Q. Do you agree with that schedule?**

21 A. I propose a slight modification to that schedule. The ISO-NE capacity year begins on  
22 June 1<sup>st</sup> and runs through May 31<sup>st</sup>. New rates for capacity and Regional Network

1 Service (“RNS”) transmission rates are effective on June 1<sup>st</sup>. The new rates for these  
2 products are generally published a couple of months in advance of the effective date. The  
3 Company should adjust its scheduled effective dates to better comport with the start of  
4 the capacity year. This should mitigate some of the uncertainty for the suppliers that may  
5 bid in the Company’s solicitations and help reduce the risk premium included in those  
6 bids.

7  
8 Managed Portfolio Approach

9 **Q. Please describe the Company’s proposed transition to a managed portfolio**  
10 **approach.**

11 A. The Company states that its revised plan transitions to a managed portfolio approach for  
12 its Small Customer group. However, the portfolio appears to include only two products –  
13 Full Requirements Service contracts and Financial Swaps. These are the same products  
14 that the Company is using under its accelerated procurement plan, which resulted in the  
15 execution of Full Requirements Service contracts for 2010 and part of 2011.

16 **Q. Are these the only products appropriate to include in a power supply portfolio?**

17 A. A true power supply portfolio should contain a prudent mix of long-term contracts (either  
18 for blocks of energy and capacity, or for unit entitlement purchases), purchase of blocks  
19 of capacity with shorter terms (such as one or two years), and some spot market  
20 purchases for a small portion of the portfolio. A portfolio should also consider other  
21 products besides fixed price blocks, such as heat rate index contracts.

22 **Q. Please describe what is meant by a heat rate index contract.**

1 A. A Heat Rate Index contract is an agreement to purchase a specified amount of electric  
2 energy at a price that is derived from two components: a natural gas price in \$/million  
3 BTU and a heat rate in million BTUs/MWh. The multiplication of the gas price by the  
4 heat rate yields the electric price. In these types of agreements, the price of electric  
5 energy is indexed to the natural gas price by the heat rate. For example, if the natural gas  
6 price is \$5.00/million BTU and the heat rate is 10 million BTUs/MWh, then the electric  
7 price is \$50 per MWh. Such contracts may have multi-year terms and can be made for  
8 peak, off-peak, and around-the-clock time periods, but the price is typically set or “locked  
9 in” on a monthly basis.

10 **Q. How can SOS customers benefit from a portfolio that includes heat rate index**  
11 **contracts?**

12 A. In the most common form of the Heat Rate Index contract, the heat rate component is  
13 fixed by contract, and the buyer of the electric energy has some options as to when and  
14 how to lock in the electricity price, based on natural gas prices. Most Heat Rate Index  
15 contracts allow the buyer to lock in the energy price based on natural gas futures at any  
16 time up to three days prior to the start of the delivery month. Thus, if natural gas futures  
17 markets soften temporarily, and gas prices become low relative to forward electricity  
18 prices, the buyer could exercise its right to lock in its energy price. In this case, the  
19 resulting price for electric energy would be less than the forward or spot market  
20 electricity price, providing a benefit to customers.

21 The “optionality” of this type of product is compelling. The buyer of electric  
22 energy could regularly monitor the natural gas futures market relative to forward

1 electricity prices, and lock in when the market heat rate exceeds the heat rate contract  
2 multiplier, when natural gas prices are low relative to historical norms, or both.  
3 However, if the buyer never opts to lock in the energy price, then it is usually locked in  
4 automatically on one of the last trading days prior to the start of the delivery month, also  
5 known as the “prompt month.”

6 The value in these types of agreements is the flexibility it provides. To realize  
7 this value, the portfolio manager must monitor both natural gas and electricity futures  
8 markets, which is something it would routinely do.

9 **Q. Why should a power supply portfolio be based upon a prudent mix of products**  
10 **rather than simply relying upon Full Requirements Service contracts?**

11 A. In assembling any portfolio, it makes sense to diversify the contents of the portfolio  
12 among various available products. Long-term contracts can help stabilize prices in the  
13 future and facilitate the development of renewable projects that can contribute to RES  
14 compliance. The layering and laddering of shorter term purchases can smooth out  
15 fluctuations and result in more stable prices over time. Buying block products instead of  
16 Full Requirements Service contracts can help reduce the risk premiums contained in the  
17 price of those products. Leaving an open position, the portion of the portfolio supplies by  
18 spot market purchases, can effectively deal with load fluctuations and any migration or  
19 switching that might occur.

20 **Q. How difficult is it for the Company to implement a managed portfolio approach?**

1 A. In the course of implementing its accelerated procurement plan and in its filings to date,  
2 the Company has already demonstrated that it has the ability to effectively manage a true  
3 portfolio of power supplies.

4 **Q. Please describe how the Company would transition from its current situation to a**  
5 **managed portfolio approach.**

6 A. Exhibit RSH-8 provides a procurement schedule and plan that shows a detailed transition  
7 from the Company's current plan and recent activities to a managed portfolio approach.

8 **Q. What do you recommend the Company do to improve its managed portfolio**  
9 **approach?**

10 A. The Company should modify its procurement plan to transition to a managed portfolio  
11 approach for the Residential and Small Commercial groups. A prudent mix of (a) long  
12 term contracts, (b) blocks purchases of peak and off-peak energy with 12-month and 24-  
13 month terms and separate purchases of capacity and ancillary services, and (c) spot  
14 market purchases should be included in this portfolio. Other products, such as heat rate  
15 index contracts, should be included.

16 **Q. Please describe the schedule and plan provided in Exhibit RSH-8**

17 A. The company has already secured a portion of the SOS supply for its Small Customer  
18 group. I have provided a schedule of activities and procurements designed to fill out that  
19 supply using Full Requirements Service contracts out through March 2010. I have also  
20 included activities to implement the Company's plan for its Large Customer group  
21 through that same time period. Once these procurements have been completed, I propose  
22 that the Company implement the new definition of the customer procurements —

1 specifically the Residential group, the Small Commercial group, and the Large C&I  
2 group for deliveries commencing April 1, 2011. I further propose short term  
3 procurements of two-month terms for the Residential and Small Commercial groups to  
4 cover April and May of 2011. Then procurement for SOS power supplies for deliveries  
5 commencing after June 1, 2011 can be made under the managed portfolio approach. For  
6 each transaction contemplated in this plan, I have provided a window of time within  
7 which the Company should monitor market conditions and consummate purchases if  
8 conditions are favorable.

9 **Q. Do Financial Swaps have a place in your plan under the managed portfolio**  
10 **approach?**

11 A. I am not opposed to the deployment of Financial Swaps and believe that they should be  
12 considered. I would not expect significant reliance on these instruments, as the proposed  
13 layering and laddering of block purchases would accomplish the same effect but without  
14 any risk premiums associated with Financial Swaps as they Company has proposed them.

15  
16 Long-Term Contracts

17 **Q. In light of the Commission's decision to open a new docket to consider the role of**  
18 **long-term contracts for renewable energy in the SOS procurement plan, do you**  
19 **think it appropriate that the Company no longer intends to consider such long-term**  
20 **contracts in its 2010 plan?**

21 A. Generally, yes, although this is not a large departure based upon the Company's recent  
22 procurement activities. The Company has already locked in portions of the SOS supply

1 through March 2011. So, as a practical matter, the earliest that long-term contracts could  
2 become a component of the SOS power supply is the Spring of 2011. To the extent that  
3 long-term contracts are signed with new facilities still under development, it could be  
4 later than the Spring of 2011 when long-term contracts are implemented. Therefore,  
5 there is time in the implementation schedule to complete the review contemplated by the  
6 Commission in Docket No. 4069.

7 However, long-term contracts, from either renewable energy or conventional facilities,  
8 can be an effective component of a balanced portfolio, and therefore the Company should  
9 begin planning now for the future consideration of such power supply and REC options  
10 in subsequent SOS procurements.

11 **Q. What would you recommend the Company do?**

12 A. The evaluation of long-term contracts as was proposed by the Company is subjective and  
13 non-transparent. There is no detailed description of how it will be done, nor any basis  
14 provided for the NGRID estimate of market prices for RECs. The Company should  
15 describe the details of its plan to evaluate long-term contracts now, so that it can be  
16 thoroughly reviewed by all parties to this proceeding and those others that may wish to  
17 participate in Docket No. 4069.

18  
19 Risk Premium Factors

20 **Q. What is your concern regarding the development and use of risk premium factors?**

21 A. As noted previously in this testimony, the Company has developed risk premium factors  
22 to apply to Full Requirements Service contracts and Financial Swaps. The risk premium



1 factor for Full Requirements Service contracts was based upon an analysis of bids in  
2 Massachusetts. The risk premium factor for Financial Swaps did not have a very strong  
3 supporting basis. If the Company continues to use Full Requirements Service contracts  
4 and Financial Swaps and evaluate these instruments against each other, it should provide  
5 additional justification for its risk premium factors.  
6

## 7 **RESPONSE TO THE TESTIMONY OF CONSTELLATION**

### 8 **Q. Can you summarize the testimony of Constellation?**

9 A. Constellation, the only intervening party to file testimony in this proceeding, filed a  
10 position statement on April 24, 2009, and also filed the testimony of Mr. Daniels on June  
11 24, 2009. Constellation is a competitive supplier that currently provides SOS service in  
12 Rhode Island and engages in retail and wholesale transactions, including Full  
13 Requirements Service, throughout the Northeastern United States. The position  
14 statement and testimony of Constellation do not really address the current procurement  
15 activities of NGRID, but rather urge the Commission not to allow the Company to  
16 implement a managed portfolio approach or to enter into long-term contracts. In taking  
17 this stance, Constellation offers several arguments.

- 18 ■ It is inappropriate to use the current proceeding to adopt a managed portfolio  
19 approach and move away from reliance on Full Requirements Service.
- 20 ■ Requiring NGRID to maintain personnel or hire outside expertise to manage a  
21 portfolio is an inefficient way to achieve competitive SOS prices.

- 1       ▪ The expertise of the vast team of experts at Constellation is a better way to achieve
- 2           competitive prices.
- 3       ▪ A managed portfolio approach imposes vast regulatory issues and drains the
- 4           resources of the Commission and the Company.
- 5       ▪ A managed portfolio requires “market timing” to get low prices.
- 6       ▪ Full Requirements Service is widely used to supply SOS service.
- 7       ▪ Full Requirements Service is more compatible with competitive markets.
- 8       ▪ NGRID’s load requirements must always be met by Full Requirements Service.

9   **Q. Do you agree with the positions taken by Constellation?**

10 A. No, I do not. It should be noted that as a current provider of Full Requirements Service  
11 here in Rhode Island and elsewhere, Constellation has a vested interest in keeping the  
12 procurement of SOS power supplies under Full Requirements Service contracts.  
13 Constellation is a competitive supplier that has no inherent obligation to serve customers  
14 or provide power at the lowest costs. Constellation will sell power only when it believes  
15 it can make a profit.

16 **Q. Is it appropriate for the Commission to consider a managed portfolio in this**  
17 **proceeding?**

18 A. Certainly. The purpose of this proceeding is to approve an SOS procurement plan for the  
19 Company. A managed portfolio approach is a common method for procuring SOS power  
20 supplies that should be considered in this proceeding. Constellation has availed itself of  
21 two opportunities to be heard on this issue, so it cannot claim that the issue wasn’t fully  
22 vetted.

1 **Q. Is it inefficient for NGRID to maintain the resources necessary to implement a**  
2 **managed portfolio approach?**

3 A. Absolutely not. The Company's existing resources have clearly demonstrated in this  
4 proceeding that they have the ability to manage a portfolio of power supplies. And  
5 because they manage the power supplies for NGRID affiliates outside of Rhode Island,  
6 they represent an efficient use of resources.

7 **Q. Do the vast resources at Constellation make it better suited to determine what SOS**  
8 **power will cost?**

9 A. No. I do not doubt the capabilities of the Constellation team. Their 24-hour trading desk  
10 activities and their abilities to trade in many commodities and weather derivatives likely  
11 create value for Constellation by maximizing profits. However, once a Full  
12 Requirements Service contract is signed, nothing the Constellation team does will reduce  
13 costs to consumers in Rhode Island. It is also important to note that my recommended  
14 approach to a managed portfolio does not involve these types of activities. I am simply  
15 recommending that NGRID create a relatively simple portfolio comprised of a prudent  
16 mix of standard electric products that are obtained through competitive solicitations  
17 throughout the year to achieve layered and laddered contracts.

18 **Q. Will a managed portfolio approach place excessive burdens on the Commission?**

19 A. No. In this proceeding, the Commission has already reviewed the solicitation and  
20 evaluation of a Financial Swap. The procurement of energy blocks will not create any  
21 additional burdens for the Commission. All products purchased under a managed  
22 portfolio approach are obtained via competitive solicitations. In this way, the

1 Commission can quickly review the bids received and take comfort in the fact that these  
2 solicitations will secure the best price possible.

3 **Q. Does a managed portfolio approach require market timing?**

4 A. No. This is a myth propagated by Full Requirements Service providers in an attempt to  
5 discredit the managed portfolio approach. Under my recommended plan, standard  
6 products will be purchased at different times throughout the year. This will create the  
7 layered and laddering portfolio that will achieve lower, more stable prices.

8 **Q. Is a managed portfolio approach used in other jurisdictions?**

9 A. Yes. In Pennsylvania, Wellsboro Electric, Citizens Electric, PECO Energy, and PPL  
10 agreed to adopt a managed portfolio approach for their residential customers. All  
11 Massachusetts municipally owned electric systems use this same approach to obtaining  
12 their power supplies.

13 **Q. Are Full Requirements Service contracts more compatible with competitive  
14 markets?**

15 A. No. In fact, a managed portfolio approach is actually more compatible with competitive  
16 markets. Both approaches rely upon competitive solicitations in order to select the lowest  
17 price. But a managed portfolio approach better facilitates more competition because it  
18 allows more bidders to participate.

19 **Q. Must NGRID's SOS load obligations always be met by Full Requirements Service?**

20 A. No. There is no requirement to purchase SOS power supplies in this manner.

21 **Q. What do you recommend to the Commission regarding the positions taken by  
22 Constellation in this proceeding?**

1 A. Constellation's positions and recommendations should be rejected. The Company should  
2 be allowed to proceed with its managed portfolio approach, as modified according to my  
3 testimony, as it will produce better results in terms of lower, more stable prices for those  
4 consumers least likely to switch to a competitive supplier.

5

6 **CONCLUSION**

7 Q. Does this conclude your testimony?

8 A. Yes.

Exhibit RSH-1

Resume of Richard S. Hahn

## **Richard S. Hahn**

### **Principal Consultant**

Mr. Hahn is a senior executive in the energy industry, with diverse experience in both regulated and unregulated companies. He joined La Capra Associates in 2004. Mr. Hahn has a proven track record of analyzing energy, capacity, and ancillary services markets, valuation of energy assets, developing and reviewing integrated resource plans, creating operational excellence, managing full P&Ls, and developing start-ups. He has demonstrated expertise in electricity markets, utility planning and operations, sales and marketing, engineering, business development, and R&D. Mr. Hahn also has extensive knowledge and experience in both the energy and telecommunications industries. He has testified on numerous occasions before the Massachusetts Department of Telecommunications and Energy, and also before FERC.

#### **SELECTED EXPERIENCE – LA CAPRA ASSOCIATES**

- Performed an assessment of plans to procure Default Service Power Supplies for a Rhode Island utility. Provided expert testimony before the Rhode Island Public Utilities Commission.
- Served as an advisor to Vermont electric utilities regarding the evaluation of new power supply alternatives.
- Conducted a review of Massachusetts electric utilities' proposal to construct, own, and operate large scale PV solar generating units. Served as an advisor to the Massachusetts Attorney General in settlement negotiations.
- Served as a key member of a La Capra Team evaluating wind generation RFPs in Oklahoma.
- Performed an assessment of plans to procure Default Service Power Supplies for Pennsylvania utilities. Provided expert testimony before the Pennsylvania Public Utilities Commission.
- Performed an assessment of a merchant generator proposal to construct, own, and operate 800 MW of large scale PV solar generating units in Maine.
- Analyzed proposed environmental upgrades to an existing coal-fired power plant in Wisconsin, including an economic evaluation of this investment compared to alternative supply resources. Provided expert testimony before the Public Service Commission of Wisconsin.
- Performed a study of non-transmission alternatives (NTAs) to a proposed set of transmission upgrades to the bulk power supply system in Maine.
- Served as a key member of the La Capra Team advising the Connecticut Energy Advisory Board (CEAB) on a wide range of energy issues, including integrated resources plan and the need for and alternatives to new transmission projects.
- Performed a study of non-transmission alternatives (NTAs) to a proposed set of transmission upgrades to the bulk power supply system in Vermont.

- Served as an advisor to the Delaware Public Service Commission and three other state agencies in the review of Delmarva Power & Light's integrated resource plan and the procurement of power supplies to meet SOS obligations.
- Served as an expert witness in litigation involving a contract dispute between the owner of a merchant powerplant and the purchasers of the output of the plant.
- Served as an advisor to the Maryland Attorney General's Office in the proposed merger between Constellation Energy and the FPL Group.
- Reviewed and analyzed outages for Connecticut utilities during the August 2006 heat wave. Prepared an assessment of utility filed reports and corrective actions.
- Conducted a study of required planning data and prepared forecasts of the key drivers of future power supply costs for public power systems in New England.
- Reviewed and analyzed Hawaiian Electric Company integrated resource plan and its DSM programs for the State of Hawaii. Prepared written statement of position and testified in panel discussions before the Hawaii Public Utility Commission.
- Assisted the Town of Hingham, MA in reviewing alternatives to improve wireless coverage within the Town and to leverage existing telecommunication assets of the Hingham Municipal Light Plant.
- Conducted an extensive study of distributed generation technologies, options, costs, and performance parameters for VELCO and CVPS.
- Analyzed and evaluated proposals for three substations in Connecticut. Prepared and issued RFPs to seek alternatives in accordance with state law.
- Performed an assessment of merger savings from the First Energy – GPU merger. Developed a rate mechanism to deliver the ratepayers share of those savings. Filed testimony before the PA PUC.
- Prepared long term price forecasts for energy and capacity in the ISO-NE control area for evaluating the acquisition of existing powerplants.
- Conducted an assessment of market power in PJM electricity markets as a result of the proposed merger between Exelon and PSEG. Developed a mitigation plan to alleviate potential exercise of market power. Filed testimony before the PA PUC.
- Performed a long-term locational installed capacity (LICAP) price forecast for the NYC zone of the NYISO control area for generating asset acquisition.
- Served as an Independent Evaluator of a purchase power agreement between a large mid-west utility and a very large cogeneration plant. Evaluated the implementation of amendments to the purchase power agreement, and audited compliance with very complex contract terms and operating procedures and practices.
- Performed asset valuation for energy investors targeting acquisition of major electric generating facility in New England. Prepared forecast of market prices for capacity and energy products. Presented overview of the market rules and operation of ISO-NE to investors.
- Assisted in the performance of an asset valuation of major fleet of coal-fired electric



generating plants in New York. Prepared forecast of market prices for capacity and energy products. Analyzed cost and operations impacts of major environmental legislation and the effects on market prices and asset valuations.

- Conducted an analysis of the cost impact of two undersea electric cable outages within the NYISO control area for litigation support. Reviewed claims of cost impacts from loss of sales of transmission congestion contracts and replacement power costs.
- Reviewed technical studies of the operational and system impacts of major electric transmission upgrades in the state of Connecticut. Analysis including an assessment of harmonic resonance and type of cable construction to be deployed.
- Conducted a review of amendments to a purchased power agreement between an independent merchant generator and the host utility. Assessed the economic and reliability impacts and all contract terms for reasonableness.
- Assisted in the development of an energy strategy for a large Midwest manufacturing facility with on-site generation. Reviewed electric restructuring rules, electric rate availability, purchase & sale options, and operational capability to determine the least cost approach to maximizing the value of the on-site generation.
- Assisted in the review of the impact of a major transmission upgrade in Northern New England.
- Negotiated a new interconnection agreement for a large hotel in Northeastern Massachusetts.

## **SELECTED EXPERIENCE – *NSTAR ELECTRIC & GAS***

### **President & COO of NSTAR Unregulated Subsidiaries**

Concurrently served as President and COO of three unregulated NSTAR subsidiaries: Advanced Energy Systems, Inc., NSTAR Steam Corporation, and NSTAR Communications, Inc.

#### **Advanced Energy Systems, Inc.**

- Responsible for all aspects of this unregulated business, a large merchant cogeneration facility in Eastern Massachusetts that sold electricity, steam, and chilled water. Duties included management, operations, finance and accounting, sales, and P&L responsibility.

#### **NSTAR Steam Corporation**

- Responsible for all aspects of this unregulated business, a district energy system in Eastern Massachusetts that sold steam for heating, cooling, and process loads. Duties included management, operations, finance and accounting, sales, and P&L responsibility.

### **NSTAR Communications, Inc.**

- Responsible for all aspects of this unregulated business, a start-up provider of telecommunications services in Eastern Massachusetts. Duties included management, operations, finance and accounting, sales, and P&L responsibility.
- Established a joint venture with RCN to deliver a bundled package of voice, video, and data services to residential and business customers. Negotiated complex infeasible-right-to-use and stock conversion agreements.
- Installed 2,800 miles of network in three years. Built capacity for 230,000 residential and 500 major enterprise customers.
- Testified before the Congress of the United States on increasing competition under the Telecommunications Act of 1996.

### **VP, Technology, Research, & Development, Boston Edison Company**

- Responsible for identifying, evaluating, and deploying technological innovation at every level of the business.
- Reviewed Electric Power Research Institute (EPRI), national laboratories, vendor, and manufacturer R&D sources. Assessed state-of-the-art electro-technologies, from nuclear power plant operations to energy conservation.

### **VP of Marketing, Boston Edison Company**

- Promoted and sold residential and commercial energy-efficiency products and customer service programs.
- Conducted market research to develop an energy-usage profile. Designed a variable time-of-use pricing structure, significantly reducing on-peak utilization for residential and commercial customers.
- Designed and marketed energy-efficiency programs.
- Established new distribution channels. Negotiated agreements with major contractors, retailers, and state and federal agencies to promote new energy-efficient electro-technologies.

### **Vice President, Energy Planning, Boston Edison Company**

- Responsible for energy-usage forecasting, pricing, contract negotiations, and small power and cogeneration activities. Directed fuel and power purchases
- Implemented an integrated, least-cost resource planning process. Created Boston Edison's first state-approved long-range plan.
- Assessed non-traditional supply sources, developed conservation and load-management programs, and purchased from cogeneration and small power-production plants.
- Negotiated and administered over 200 transmission and purchased power contracts.

- Represented the company with external agencies. Served on the Power Planning Committee of the New England Power Pool.
- Testified before federal and state regulatory agencies.

## EMPLOYMENT HISTORY

<b>La Capra Associates, Inc.</b> <i>Managing Consultant</i>	Boston, MA 2004 – present
<b>Advanced Energy Systems, Inc.</b> <i>President &amp; COO</i>	Boston, MA 2001-2003
<b>NSTAR Steam Corporation</b> <i>President &amp; COO</i>	Cambridge, MA 2001-2003
<b>NSTAR Communications, Inc.</b> <i>President &amp; COO</i>	1995-2003
<b>Boston Edison Company</b> <i>VP, Technology, Research, &amp; Development</i> <i>VP, Marketing, Boston Edison Company</i> <i>Vice President, Energy Planning, Boston Edison Company</i> <i>Manager, Supply &amp; Demand Planning</i> <i>Manager, Fuel Regulation &amp; Performance</i> <i>Assistant to Senior Vice President, Fossil Power Plants</i> <i>Division Head, Information Resources</i> <i>Senior Engineer, Information Resource Division</i> <i>Assistant to VP, Steam Operations</i> <i>Electrical Engineer, Research &amp; Planning Department</i>	Boston, MA 1993-1995 1991-1993 1987-1991 1984-1987 1982-1984 1981-1982 1978-1981 1977-1978 1976-1977 1973-1976

## EDUCATION

<b>Boston College</b> <i>Masters in Business Administration</i>	Boston, MA 1982
<b>Northeastern University</b> <i>Masters in Science, Electrical Engineering</i>	Boston, MA 1974
<b>Northeastern University</b> <i>Bachelors in Science, Electrical Engineering</i>	Boston, MA 1973

## PROFESSIONAL AFFILIATIONS

Director, NSTAR Communications, Inc.	1997-2003
Director, Advanced Energy Systems, Inc.	2001-2003
Director, Neuco, Inc.	2001-2003
Director, United Telecom Council	1999-2003
Head, Business Development Division, United Telecom Council	2000-2003
Elected Commissioner – Reading Municipal Light Board	2005-present
Registered Professional Electrical Engineer in Massachusetts	

Exhibit RSH-2

Procurement Plan and Schedule – March 2, 2009

NARRAGANSETT ELECTRIC COMPANY  
d/b/a NATIONAL GRID  
R.I.P.U.C. DOCKET NO. \_\_\_\_  
SCHEDULE APS-1 – ATTACHMENT 1  
PAGE 1 OF 1

Attachment 1  
Proposed Procurement Plan & Schedule

	Jan-2010	Feb-2010	Mar-2010	Apr-2010	May-2010	Jun-2010	Jul-2010	Aug-2010	Sep-2010	Oct-2010	Nov-2010	Dec-2010	Jan-2011	Feb-2011	Mar-2011	Apr-2011	May-2011	Jun-2011	Jul-2011	Aug-2011	Sep-2011	Oct-2011	Nov-2011	Dec-2011	Jan-2012	Feb-2012	Mar-2012	
<b>Large C&amp;I RFPs</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
<b>Small Customer RFPs</b>	100%	100%	100%	50%	50%	50%	50%	50%	50%	25%	25%	25%	25%	25%	25%													
Nov-2009				50%	50%	50%	50%	50%	50%	25%	25%	25%	25%	25%	25%													
Feb-2010				50%	50%	50%	50%	50%	50%	25%	25%	25%	25%	25%	25%													
May-2010										25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Aug-2010										25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Nov-2010																25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Feb-2011																25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%

**NOTE:**  
Contracts shaded in gray are illustrative of the SOS plan.  
Final approval of the plan for 2011 will be in the March 2010 annual filing.

Exhibit RSH-3

Accelerated Procurement Plan and Schedule – March 2, 2009

NARRAGANSETT ELECTRIC COMPANY  
 d/b/a NATIONAL GRID  
 R.I.P.U.C. DOCKET NO. \_\_\_\_  
 SCHEDULE APS-4  
 PAGE 1 OF 1

**ACCELERATED PROCUREMENT PLAN & SCHEDULE**

	Jan-2010	Feb-2010	Mar-2010	Apr-2010	May-2010	Jun-2010	Jul-2010	Aug-2010	Sep-2010	Oct-2010	Nov-2010	Dec-2010	Jan-2011	Feb-2011	Mar-2011	Apr-2011	May-2011	Jun-2011	Jul-2011	Aug-2011	Sep-2011	Oct-2011	Nov-2011	Dec-2011	Jan-2012	Feb-2012	Mar-2012	
<b>Large C&amp;I RFPs</b>	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

	Jan-2010	Feb-2010	Mar-2010	Apr-2010	May-2010	Jun-2010	Jul-2010	Aug-2010	Sep-2010	Oct-2010	Nov-2010	Dec-2010	Jan-2011	Feb-2011	Mar-2011	Apr-2011	May-2011	Jun-2011	Jul-2011	Aug-2011	Sep-2011	Oct-2011	Nov-2011	Dec-2011	Jan-2012	Feb-2012	Mar-2012	
<b>Small Customer RFPs</b>																												
Aug-2009	50%	50%	50%	34%	34%	34%	34%	34%	34%																			
Nov-2009	50%	50%	50%	33%	33%	33%	33%	33%	33%	25%	25%	25%	25%	25%	25%													
Feb-2010				33%	33%	33%	33%	33%	33%	25%	25%	25%	25%	25%	25%													
May-2010										25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Aug-2010										25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%	25%
Nov-2010																					25%	25%	25%	25%	25%	25%	25%	25%
Feb-2011																					25%	25%	25%	25%	25%	25%	25%	25%

**NOTE:**  
 Contracts shaded in gray are illustrative of the SOS plan.  
 Final approval of the plan for 2011 will be in the March 2010 annual filing.

Exhibit RSH-4

Comments of Richard S. Hahn in Docket 4041

Filed April 23, 2009

To: Steve Scialabba – Rhode Island Division of Public Utilities and Carriers

From: Dick Hahn – La Capra Associates

Date: April 23, 2009

RE: R.I.P.U.C. Docket No. 4041  
Rhode Island Standard Offer Service  
National Grid Accelerated Procurement Plan

This memorandum summarizes La Capra Associates' review of the National Grid Accelerated Procurement Plan, and of the related discovery received.

### Summary

On April 9, 2009, Narragansett Electric Company, d/b/a National Grid (“NGRID”) filed an Accelerated Procurement Plan (“APP”) as part of their efforts to procure Standard Offer Service (“SOS”) for Small Customers for 2010. Specifically, NGRID seeks approval from the Commission to enter into a fixed price financial swap contract in order to lock in a percentage of the energy portion of SOS supply to Small Customers for 2010 and part of 2011. This financial swap contract, which serves as a hedge against future increases in energy prices, is part of a proposed transition from 100% reliance on Full Requirements Service (“FRS”) to a managed portfolio approach. Later this year, NGRID intends to issue a solicitation for FRS for 2010. The value of the energy hedge will be combined with the FRS purchases to yield the actual SOS rates that Small Customers will pay in 2010.

Generally, La Capra Associates favors the approach proposed by NGRID. Based upon an analysis of market prices, this appears to be a favorable time to make purchases of electric energy. There are several issues and concerns identified by the review of this application, which are discussed in detail later in this statement. However, the benefits of acting now outweigh the need to address these issues and concerns at this time.

**Therefore, La Capra Associates recommends that the APP be approved as filed, with confirmation of the inclusion of interest as noted below.**

### Description of NGRID's APP

In its APP application, NGRID proposed to enter into a fixed price financial swap for a portion of the forecasted SOS energy requirements for Small Customers in 2010 and part of 2011. Specifically, NGRID proposes a financial swap contract for January 1, 2010 through September 30, 2010 (“period 1”) for 95% of the Small Customer energy requirements for that same time period. NGRID also proposes a financial swap contract for October 1, 2010 through March 31, 2011 (“period 2”) for 50% of the Small Customer energy requirements for that same time period. NGRID has indicated that it will seek to enter into additional financial swap contracts for period 2 later in 2010.

NGRID proposes to base the financial swap contracts on ISO-NE peak and off-peak Day Ahead Locational Marginal Prices (“LMPs”), as traded on the New York Mercantile Exchange (“NYMEX”). The NYMEX acronym for the ISO-NE peak LMP futures product is “NI”, and the ISO-NE off-peak LMP acronym is “KI”. These monthly futures are traded and settled daily for approximately the next five years. For years beyond the current and next year, settlements typically yield annual rather than monthly prices. Attachment A shows NYMEX futures prices for ISO-NE peak and off-peak LMPs as settled on April 16, 2009.

#### Overview of Current Market Prices

Futures prices for ISO-NE peak and off-peak LMPs reached all-time highs in July 2008, and have declined steadily since, recently achieving prices last seen four to five years ago. Attachment B shows the average of the futures prices for calendar year 2010 for settlement dates between April 16, 2008 and April 16, 2009. For example, if a twelve-month strip of ISO-NE peak LMPs for 2010 was purchased on July 5, 2008, the average price for calendar year 2010 would have been approximately \$115 per MWH. The same twelve-month strip purchased on April 16, 2009 would have cost an average of approximately \$63 per MWH. We concur with the Company’s decision to act at this time to lock in energy prices.

#### Accrual of Interest

In its proposed APP, NGRID will receive a lump sum payment or charge when the financial swap contract is unwound. If market prices have gone up since the contract was signed, NGRID will receive a lump sum payment. If market prices have gone down, NGRID will make a lump sum payment to the counterparty to the swap agreement. In the response to Division Data Request 1-4, NGRID states that interest will be accrued on these credits or charges. However, in the attachments to the responses to Division Data Request 1-4 and OER 1-6, which are provided as examples of how any lump sum payments or charges will flow through to customers, interest does not appear to be included. We assume that this omission resulted from a desire to keep the example simple, and that interest will be accrued in the actual calculations. We recommend that NGRID confirm that interest will be included. Interest should be calculated in a manner consistent with current practice for reconciling SOS costs.

#### Alternative Hedging Mechanisms

The financial swap contract approach proposed by the Company is but one of many approaches that could be used to address future SOS supply costs. For example, rather than settling a financial swap against NYMEX futures prices on the date of the FRS contract, the financial swap could be settled against actual ISO-NE prices as they occur from month to month. Under this approach, the Company would unwind its swap agreement each month during period 1, as opposed to the date of the FRS contracts. In response to Division Data Request 1-1, the Company stated that:



*“The point of settling the swap on the same date as the FRS contract award is to complement the pricing in the FRS contract which is based on that date’s market view of future prices. Settling the swap contract on the same date as the FRS contract award transfers the value of the hedged commodity prices in the financial swap to the Company’s customers and limits the risk that the FRS contracts obtained in the autumn of 2009 could result in significantly higher costs to customers. Settling the hedge against actual monthly commodity procurement prices would remove the hedge benefit from the FRS contracts and would not have the aspect of “locking in” energy prices before the FRS contracts are in place. Contracts for differences settling on actual prices, along with other financial and physical tools, could be used to hedge risk once a managed portfolio is established, but the Company has proposed this hedging combination for the start up of the 2010 supply portfolio.”*

While acknowledging that there is no single best manner in which to hedge future costs, there are some concerns about this response. The answer states that the Company could deploy contracts settled against actual prices in a managed portfolio, but couldn’t do it in the APP. There is no reason to believe that settling against actual prices could not be effectively done in the APP. We disagree that such an approach would remove the hedge benefit from FRS contracts. In fact, if prices continued to rise, settling against actual prices would yield a higher payment to NGRID, while the proposed FRS would lock in prices on the date of execution of that contract, which could yield lower prices to SOS customers.

Division Data Request 1-10 asked NGRID if FRS contracts could be solicited now, as opposed to waiting until later in 2010.

*“National Grid could solicit and execute a full requirements contract instead of entering into a fixed price financial swap. However, as set out in Section II.D. of the APP, National Grid perceives the following advantages to its proposal:*

- 1. Allows for an expedited solicitation, with a quicker bid turnaround time than FRS contracts, because the ISO-NE Internal Hub is a very liquid and transparent market;*
- 2. Allows for competitive and efficient pricing of energy during both the solicitation process and on the settlement date, due to the liquidity of the futures market for ISO-NE Internal Hub prices;*
- 3. Allows the Company to efficiently lock in energy prices for those time periods starting out more than twelve months from the award date (i.e. Oct 2010 through March 2011). The Company believes obtaining FRS contracts for periods that start more than twelve months into the future may have higher premiums in the fixed price contracts, due to the larger uncertainty in load forecasts, migration impacts, potential ISO market rule changes, and credit requirements;*

- 4. Allows for a broad spectrum of bidders (beyond that of FRS bidders) with potentially better credit ratings that could result in lower prices for customers;*
- 5. Allows the Company to provide energy price stability and effectively lock in commodity costs to customers in a similar manner as a FRS contract. The table in Attachment 2, Example of Hedging Process using Financial Contract, illustrates how a fixed price financial swap effectively achieves the same commodity costs as a FRS contract issued at the same time. Attachment 2 also shows that that the financial contract would hedge approximately 70% of the total commodity cost, locking in the energy component. The remaining components of total commodity costs, such as capacity, have less volatility. Capacity prices have been fixed seasonally through 2011 in the ISO-NE Forward Capacity Market; and*
- 6. Allows for the transition to a managed portfolio for procuring Standard Offer Service to be implemented more efficiently.”*

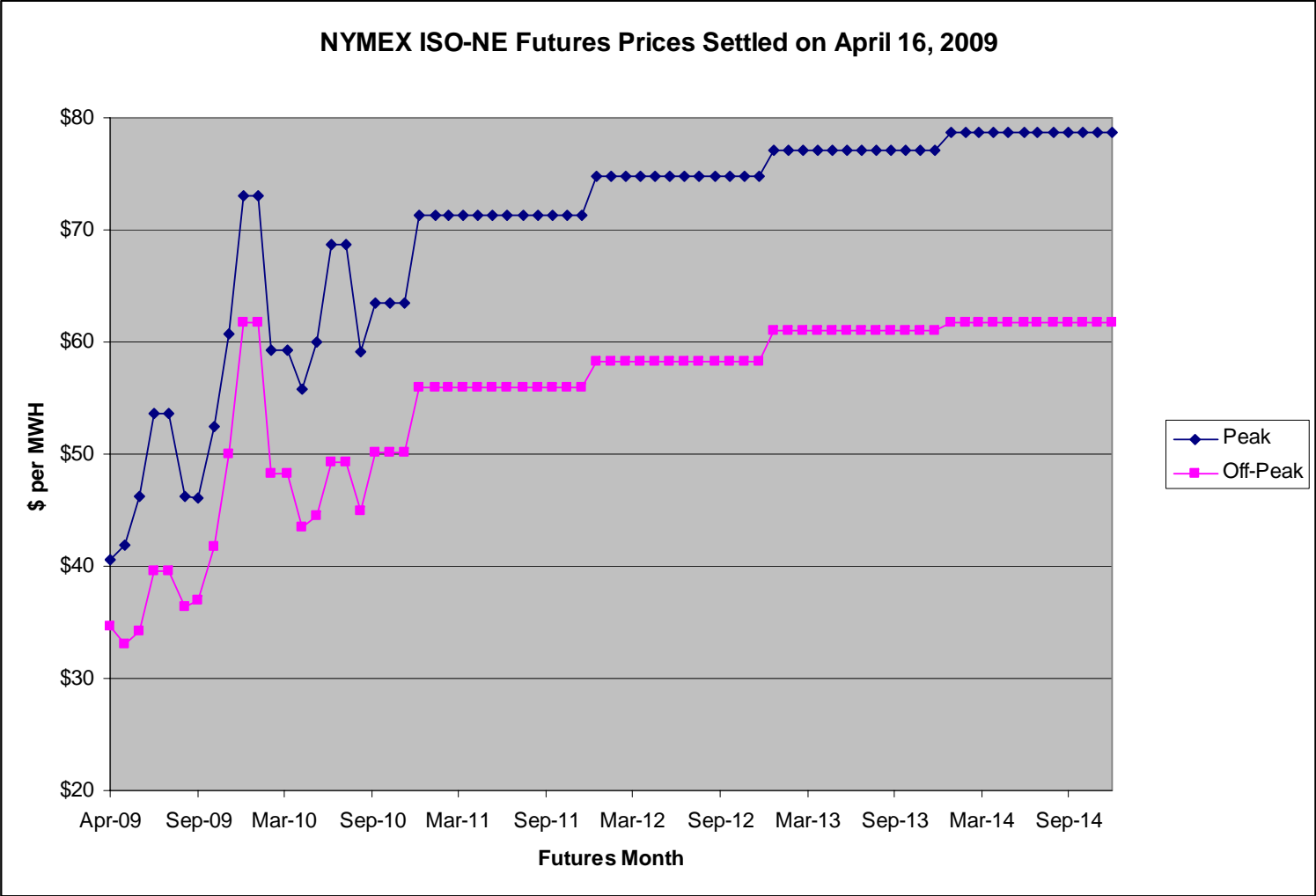
We concur with some of the reasons offered. For example, we do believe that purchasing blocks of energy, as opposed to FRS, could allow a larger, more diverse pool of bidders. There are some concerns here as well, some of which were expressed to NGRID during discussion about their proposed plan. It is not clear how the Company could expect to implement a financial swap, which may not have been used previously in Rhode Island, more expeditiously than a FR contract, which has been used before. At this stage, this point may be moot. Both approaches can be effective in efficiently locking in energy prices. Also, it isn't clear that FR contracts for SOS supply to the Small Customer class would face significant migration risk, as NGRID states elsewhere that this risk is small.

In the interest of moving forward at a time when market prices are favorable, we will not pursue these issues further here, but may re-visit them in future filings.

#### Transition to Managed Portfolio

NGRID should be commended for its upcoming transition to a managed portfolio approach and reducing or eliminating 100% reliance on FRS. We believe that a managed portfolio approach is more likely, in the long run, to produce better results in terms of lower, more stable SOS prices, especially for the Small Customer class.

Attachment A



**Attachment B**

**NYMEX ISO-NE Hub Futures Prices for 2010**

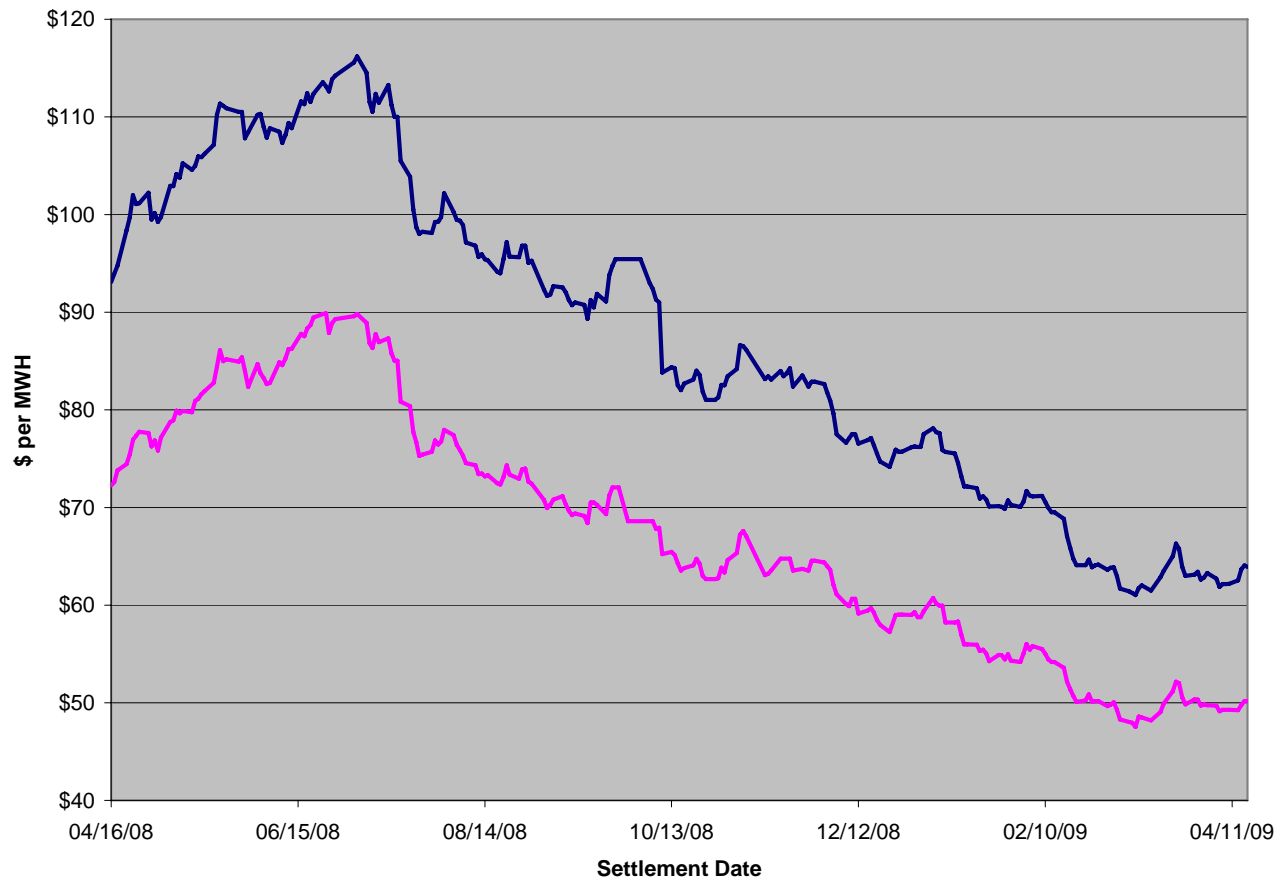


Exhibit RSH-5

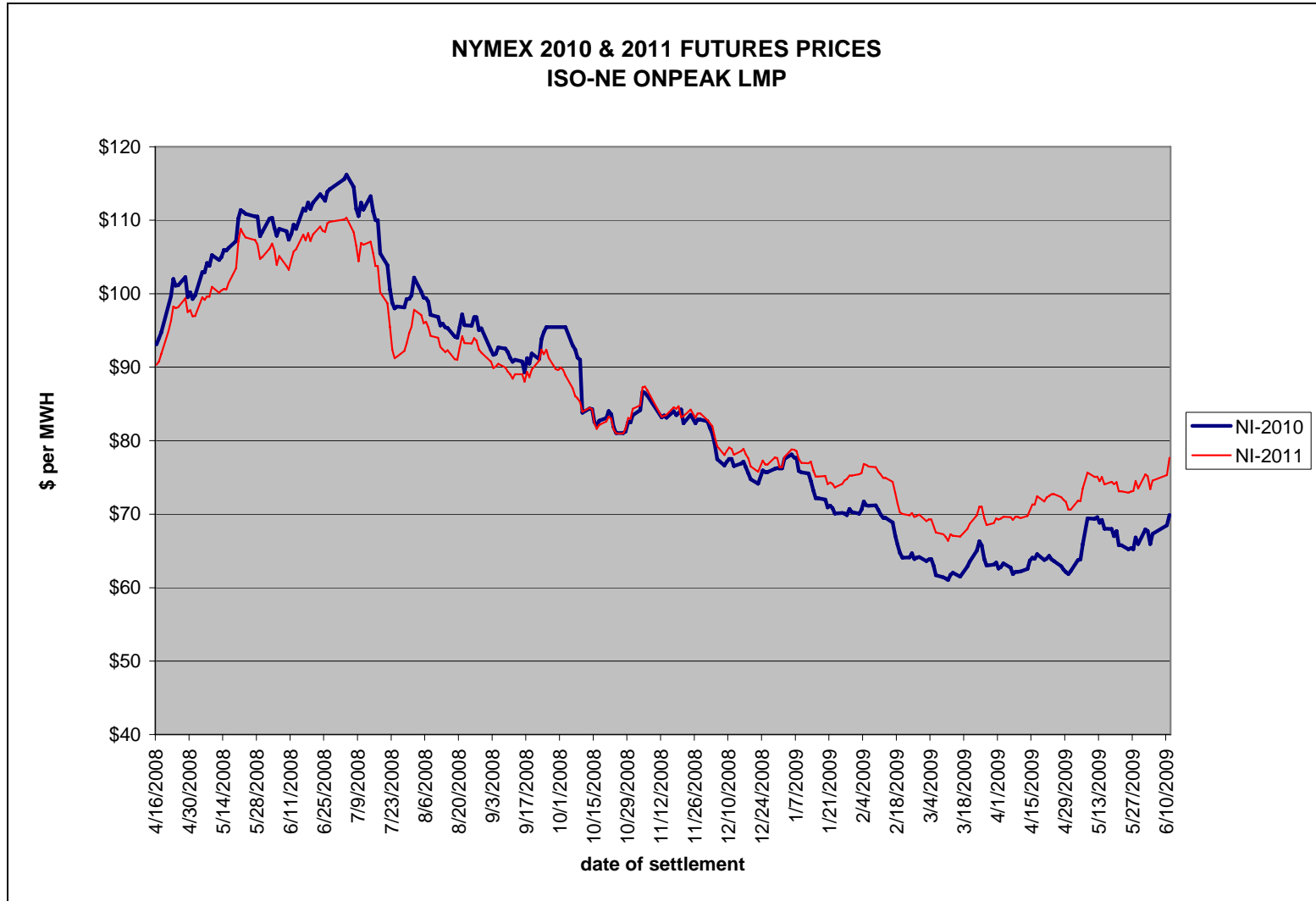
Procurement Plan and Schedule – April 29, 2009

NARRAGANSETT ELECTRIC COMPANY  
d/b/a NATIONAL GRID  
R.I.P.U.C. DOCKET NO. 4041  
SCHEDULE APS-1 – ATTACHMENT 1  
PAGE 1 OF 1

**Attachment 1**  
**Proposed Procurement Plan & Schedule**

	Jan-2010	Feb-2010	Mar-2010	Apr-2010	May-2010	Jun-2010	Jul-2010	Aug-2010	Sep-2010	Oct-2010	Nov-2010	Dec-2010	Jan-2011	Feb-2011	Mar-2011	Apr-2011	May-2011	Jun-2011	Jul-2011	Aug-2011	Sep-2011
<b>Large C&amp;I RFPs for FRS Contracts</b>																					
Nov-2009	100%	100%	100%																		
Feb-2010				100%	100%	100%															
May-2010							100%	100%	100%												
Aug-2010									100%	100%	100%										
Nov-2010												100%	100%	100%							
Feb-2011															100%	100%	100%				
May-2011																		100%	100%	100%	
<b>Small Customer RFPs for FRS Contracts</b>																					
Nov-2009	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%											
Aug-2010										100%	100%	100%	100%	100%	100%						
Feb-2011																100%	100%	100%	100%	100%	100%
<b>Small Customer RFPs for Financial Swap Contracts</b>																					
May-2009	100%	100%	100%	100%	100%	100%	100%	100%	100%	50%	50%	50%	50%	50%	50%						
Tentative Sep-2009										50%	50%	50%	50%	50%	50%	25%	25%	25%	25%	25%	25%
Tentative Dec-2010																25%	25%	25%	25%	25%	25%
Tentative Apr-2010																25%	25%	25%	25%	25%	25%
Tentative Oct-2010																25%	25%	25%	25%	25%	25%

Exhibit RSH-6



## Exhibit RSH-7

### Narragansett Electric 2008 Load Data Summary

rate class	AVERAGE CUSTOMER				no. of customers	CLASS TOTAL			
	annual KWH	min KW	avg KW	max KW		annual MWH	min MW	avg MW	max MW
A16/A60	7,269	0.4	0.8	1.9	414,794	3,014,988	149.3	343.2	804.7
C06	12,296	0.7	1.4	3.4	44,105	542,302	28.7	61.7	147.8
S10/S14	17,939	0.0	2.0	6.0	3,860	69,253	0.0	7.9	23.1
G02	168,678	9.9	19.2	37.1	8,200	1,383,206	81.3	157.5	304.1
	<u>198,913</u>	<u>10.6</u>	<u>22.6</u>	<u>46.4</u>	<u>56,165</u>	<u>1,994,761</u>	<u>110.0</u>	<u>227.1</u>	<u>474.9</u>
G32/B32	2,100,612	132.5	239.1	389.5	996	2,093,149	132.0	238.3	388.1
G62/B62	35,757,919	1,979.5	4,070.8	6,867.7	16	581,429	32.2	66.2	111.7
	<u>37,858,530</u>	<u>2,112.0</u>	<u>4,309.9</u>	<u>7,257.2</u>	<u>1,013</u>	<u>2,674,578</u>	<u>164.2</u>	<u>304.5</u>	<u>499.8</u>

