

NSUARB P-887(16)

NOVA SCOTIA UTILITY AND REVIEW BOARD

**IN THE MATTER OF A HEARING INTO NOVA SCOTIA POWER INCORPORATED'S
2017-2019 FUEL STABILITY PLAN AND BASE COST OF FUEL RESET UNDER THE
FUEL ADJUSTMENT MECHANISM (FAM) AS REQUIRED UNDER THE *ELECTRICITY
PLAN IMPLEMENTATION (2015) ACT***

**DIRECT EVIDENCE OF
JONATHAN WALLACH
ON BEHALF OF
THE CONSUMER ADVOCATE**

Resource Insight, Inc.

MAY 2, 2016

1 **I. Introduction**

2 **Q: Please state your name, occupation, and business address.**

3 A: My name is Jonathan F. Wallach. I am Vice President of Resource Insight, Inc.,
4 5 Water Street, Arlington, Massachusetts.

5 **Q: Please summarize your professional experience.**

6 A: I have worked as a consultant to the electric-power industry since 1981. From
7 1981 to 1986, I was a research associate at Energy Systems Research Group. In
8 1987 and 1988, I was an independent consultant. From 1989 to 1990, I was a
9 senior analyst at Komanoff Energy Associates. I have been in my current
10 position at Resource Insight since September of 1990.

11 Over the past thirty years, I have advised clients on a wide range of
12 economic, planning, and policy issues including: electric-utility restructuring;
13 wholesale-power market design and operations; transmission pricing and policy;
14 market valuation of generating assets and purchase contracts; power-
15 procurement strategies; risk assessment and management; integrated resource
16 planning; cost allocation and rate design; and energy-efficiency program design
17 and planning.

18 My resume is attached as Exhibit JFW-1.

19 **Q: Have you testified previously in utility regulatory proceedings?**

20 A: Yes. I have sponsored expert testimony in 75 federal, provincial, or state
21 proceedings in the U.S. and Canada, including in Nova Scotia in NSUARB P-
22 887(2), P-887(6), and P-887(7). Exhibit JFW-1 provides a detailed listing of my
23 previous testimony.

1 **Q: Please summarize your experience with regard to the Fuel Adjustment**
2 **Mechanism (FAM).**

3 A: I have assisted the Nova Scotia Consumer Advocate in its oversight of the FAM
4 process since full implementation of the FAM on January 1, 2009. During that
5 time, I have participated in FAM technical conferences and meetings of the
6 FAM Small Working Group (SWG) on the Consumer Advocate's behalf,
7 reviewed and evaluated all FAM reports and FAM-related filings, reviewed
8 material filed in the FAM data room located in the offices of Nova Scotia Power
9 Inc. (NS Power or "the Company"), and assisted the Consumer Advocate in its
10 interventions in various General Rate Application, Base Cost of Fuel (BCF), and
11 FAM proceedings. Finally, I provided direct evidence in NSUARB P-887(2)
12 regarding the FAM incentive mechanism, in NSUARB P-887(6) regarding the
13 allocation of demand-related purchased power costs to the residential class, and
14 in NSUARB P-887(7) regarding the process for deriving the 2017 Actual
15 Adjustment (AA) and Balancing Adjustment (BA).

16 **Q: On whose behalf are you testifying?**

17 A: My testimony is sponsored by the Nova Scotia Consumer Advocate (CA).

18 **Q: What is the purpose of your testimony?**

19 A: On March 7, 2016, NS Power filed an application for approval of a plan to
20 stabilize fuel costs ("Fuel Stability Plan Application" or "Application") over the
21 three-year period from 2017 through 2019 ("Rate Stability Period"). In
22 accordance with the provisions of the *Electricity Plan Implementation (2015)*
23 *Act* (EPIA), the Fuel Stability Plan:

- 1 • Forecasts the annual Base Cost of Fuel, including the estimated annual
2 recovery of the Maritime Link assessment, over the Rate Stability Period.¹
- 3 • Proposes to increase base rates in each year of the Rate Stability Period by
4 a constant percentage amount in order to recover the projected increase in
5 the Base Cost of Fuel from 2016 through 2019.
- 6 • Proposes a plan to hedge the costs of forecasted fuel requirements over the
7 Rate Stability Period (“Fuel Hedging Plan”).

8 The Consumer Advocate has asked me to comment on NS Power’s request
9 for approval of its proposed Fuel Stability Plan. Specifically, my testimony
10 addresses the following aspects of the Fuel Stability Plan:

- 11 • The forecast of natural gas prices for the years 2017 through 2020.
- 12 • The proposed allocation of the Maritime Link assessment to customer
13 classes.
- 14 • The proposed annual increase in the BCF rate for the residential class.
- 15 • The proposal for a Fuel Hedging Plan.

16 **Q: Do you have any preliminary comments regarding the proposed Fuel**
17 **Stability Plan?**

18 A: Yes. According to recent press reports, Nalcor Energy’s chief executive officer
19 and entire board of directors abruptly resigned on April 20, 2016. During a press
20 conference the following day, the new CEO announced that he will initiate a full
21 review of the Muskrat Falls hydroelectric project and the associated agreements
22 related to the Nova Scotia Block. These developments raise the concern that
23 deliveries of Nova Scotia Block power might not commence in April of 2018, as

¹ The Application also provides the Company’s forecast of the Base Cost of Fuel for 2020.

1 currently anticipated by NS Power, or perhaps at any time during the Rate
2 Stability Period.

3 On May 27, 2016, NS Power will file an update to its Fuel Stability Plan
4 (“Update Filing”), including a refreshed forecast of the Base Cost of Fuel during
5 the Rate Stability Period using current market prices.² The Company should
6 include in the Update Filing an assessment of the potential implications of a
7 delay in Nova Scotia Block deliveries, along with an alternative forecast of the
8 Base Cost of Fuel based on a sensitivity case which assumes that the start of
9 Nova Scotia Block deliveries is delayed to 2020.

10 **II. Natural Gas Price Forecast**

11 **Q: How did NS Power forecast the price of natural gas during the Rate** 12 **Stability Period and in 2020?**

13 A: In general, NS Power relied on the fuel forecasting methodology set forth in the
14 FAM Plan of Administration (POA) to forecast natural gas prices for the years
15 2017 through 2020.³ Specifically, the Company forecasted natural gas prices
16 based on contract prices for any gas supply contracts in place between 2017 and
17 2020 and on a forecast of market prices for open gas requirements in excess of
18 contract supply. The forecast market price of gas for open volumes, in turn, was
19 estimated based on prevailing forward prices for the Henry Hub and basis
20 components of the natural gas price, with an adjustment to the basis price based
21 on NS Power’s estimate of market premiums or discounts.

² According to NS Power’s response to Industrial Group IR-18(e), the updated BCF forecast will also reflect the impact of the Province’s removal of the must-run requirement for the Port Hawkesbury Biomass Plant.

³ The FAM fuel forecasting methodology is described in Appendix B of the FAM POA.

1 **Q: Do you have any comments regarding the Company's forecast of the**
2 **market price for natural gas?**

3 A: Yes. First, with respect to the market premium / discount adjustment, I note that
4 NS Power has not documented how the price adjustment was derived in each
5 year between 2017 and 2020.

6 According to the FAM POA:

7 As there is no published information which can be used as the reason for
8 forecasting the premium or discount that Maritimes consumers pay relative
9 to market basis indices, NS Power will use the historical premium/discount.
10 Given the variability in the natural gas market, the prior year's
11 premium/discount historical information will be most relevant. NS Power
12 will provide the rationale for any deviation from the prior year's
13 premium/discount.⁴

14 As there was no available historical information for the year immediately
15 prior to 2017 (or thereafter) at the time that the Company forecast the market
16 premium / discount, it is not clear the extent to which NS Power relied on
17 information from previous years or what adjustments were made to such
18 historical data for forecasting purposes. The Company should therefore include
19 in the Update Filing a detailed description of the assumptions and calculations
20 relied on to derive the market premium / discount price adjustment.

21 Second, New England basis forward prices for the winter months of 2017
22 and 2018 have dropped sharply since NS Power developed its BCF forecast for
23 the Fuel Stability Plan Application. Consequently, we can expect that the natural
24 gas price forecast in the Update Filing will reflect lower basis prices than in the
25 current forecast.⁵ Moreover, if these forward pricing trends continue, actual

⁴ FAM Plan of Administration, Appendix B, June 12, 2015, p. 11. Emphasis added.

⁵ According to NS Power's response to Liberty IR-3, the Fuel Stability Plan Application used forward basis prices from November of 2015 to forecast natural gas market prices, whereas the Update Filing will use forward basis prices from March of 2016.

1 natural gas prices during the Rate Stability Period could fall well below levels
2 forecast in the Update Filing.

3 **Q: Would ratepayers benefit in the event actual prices are below forecast?**

4 A: Not necessarily. As I discuss in Section V, the primary objective of the proposed
5 Fuel Hedging Plan is to minimize expected deviations between forecasted and
6 realized fuel prices. Thus, the Fuel Hedging Plan would protect ratepayers when
7 actual prices exceed forecast levels, but would deny ratepayers the opportunity
8 to benefit when actual prices fall below forecast levels. In addition, the proposed
9 Fuel Hedging Plan would expose ratepayers to the risk of economic loss when
10 excess hedges are unwound in a falling-price environment.

11 **III. Maritime Link Cost Allocation**

12 **Q: How does NS Power propose to allocate to FAM customer classes the
13 revenue requirements associated with the Maritime Link assessment?**

14 A: The Company proposes to allocate Maritime Link revenue requirements in the
15 same manner as revenue requirements for hydro generation owned by the
16 Company. Specifically, NS Power proposes to classify a portion of Maritime
17 Link revenue requirements equal to the system load factor as energy-related and
18 to classify the remainder as demand-related. According to Appendix G of the
19 Fuel Stability Plan Application, under NS Power's approach, about 56% of
20 Maritime Link revenue requirements would be classified as energy-related and
21 allocated in proportion to each customer class's contribution to annual system
22 energy requirements. The remaining 44% would be classified as demand-related
23 and allocated in proportion to the average of peak demands for the three winter
24 months.

1 **Q: Is NS Power’s proposal a departure from past practice?**

2 A: Yes. As NS Power explains:

3 Deliveries of energy and capacity under the Nova Scotia Block represent
4 out-of-province long-term firm imports. The Board’s decision in the 2013
5 COS proceeding did not specifically address treatment of firm imports as
6 capacity constraints on the New Brunswick tie have put a limit on
7 utilization of firm contracts for the last several years. Therefore, imports
8 are currently treated as 100% energy under the assumption that the majority
9 of them fall into an interruptible category.⁶

10 **Q: What is NS Power’s rationale for classifying and allocating Maritime Link**
11 **revenue requirements in the same fashion as for Company-owned hydro**
12 **plant costs?**

13 A: The Company explains that:

14 Given that purchases under the Nova Scotia Block provide for delivery of
15 both energy and capacity and their costs do not vary with the amount of
16 energy delivered to NS Power, they are proposed to be treated in the same
17 manner as NS Power-owned hydro generation.... This approach is
18 consistent with the treatment of purchases from wind and biomass
19 generation sources, which are also being treated in the same manner as
20 similar generation owned by NS Power.⁷

21 **Q: Is this a reasonable argument for the Company’s proposed approach?**

22 A: No. The justification for NS Power’s commitment to the Maritime Link is very
23 different from the justifications for NS Power’s construction and purchase of
24 domestic hydro. The Company had adequate capacity to serve projected system
25 loads indefinitely when it committed to the Maritime Link. Instead, the
26 Maritime Link investment was justified on the basis of a number of economic
27 benefits, including:

⁶ NS Power response to Industrial Group IR-29(a).

⁷ Nova Scotia Power Inc., *2017-2019 Fuel Stability Plan Application*, March 7, 2016, pp. 91-92.

- 1 • Avoiding fuel costs by displacing generation from NS Power’s thermal
2 plants.
- 3 • Reducing import costs by procuring Surplus Energy at prices lower than
4 conventional economy imports through New Brunswick.
- 5 • Reducing spending on fixed O&M by allowing for the retirement of
6 Lingan 2.
- 7 • Starting in 2020, avoiding investments in or purchases from new wind
8 plants for the purposes of meeting the 40% Renewable Energy Standard in
9 2020.

10 **Q: How would these costs be classified if they were not avoided by the**
11 **investment in Maritime Link?**

12 A: Avoided fuel costs and lower costs of economy imports would be classified as
13 100% energy-related. Any reduction in fixed costs of the Lingan plant due to the
14 retirement of Lingan 2 would be classified based on the system load factor (56%
15 energy-related; 44% demand-related). Finally, avoided wind costs would be
16 classified as either 100% energy-related for ERIS resources or 83% energy-
17 related for NRIS resources.

18 **Q: Has NS Power derived a classification scheme based on the economic**
19 **benefits from the Maritime Link investment?**

20 A: Yes. In Attachment 1 to its response to Industrial Group IR-29(b), the Company
21 outlined an approach that would classify Maritime Link revenue requirements in
22 the same fashion as “fossil fuel generation displaced by deliveries under the
23 Nova Scotia Block.” Under this scheme, 93% of Maritime Link revenue

1 requirements would be classified as energy-related and the remaining 7% would
2 be classified as demand-related.⁸

3 As noted by the Company in Attachment 1 to its response to Industrial
4 Group IR-29(b): “This is the least rate disruptive approach from a cost
5 methodological standpoint as it would treat Nova Scotia Block costs in exactly
6 the same manner as displaced fossil fuel generation costs.”

7 **Q: Does NS Power express any concern about classifying and allocating**
8 **Maritime Link revenue requirements commensurate with the economic**
9 **benefits from the investment?**

10 A: Yes. In Attachment 1 to its response to Industrial Group IR-29(b), the Company
11 expresses two concerns. First, NS Power asserts that “this approach would not
12 reflect cost causation as Nova Scotia Block provides both energy and capacity.”
13 This claim is inconsistent with the fact that 7% of Maritime Link revenue
14 requirements would be classified as demand-related under this benefits-driven
15 classification scheme.⁹

16 Second, NS Power asserts that its benefits-based approach “would not be
17 consistent with the Company’s position on treatment of purchases and imports
18 in the 2013 COS proceeding and the approved COS methodology.” In fact, the
19 Board did not accept the Company’s position on treatment of purchases. Instead,
20 the Board-approved classification of both in-province purchases (about 80%

⁸ While NS Power does not explain the nature of the 7% of displaced fossil generation costs that are classified as demand-related, it may include fixed generation costs that would be avoided by the investment in Maritime Link.

⁹ In fact, a 7% demand-related classification implies that 16% of the costs avoided by Maritime Link are capacity-related. Such capacity costs would be classified based on system load factor as 56% energy-related and 44% demand-related. Thus, if 16% of total avoided costs were avoided capacity costs, then 7% of total avoided costs (16% x 44%) would be classified as demand-related.

1 energy-related in aggregate) and imports (100% energy-related) is more like NS
2 Power's estimate of the benefit-based classification (93% energy-related) than
3 the Company's proposed classification (56% energy-related).

4 **Q: What would be the impact on the allocation of Maritime Link revenue**
5 **requirements to the residential class if such costs were classified as 93%**
6 **energy-related?**

7 A: Compared to the allocation under the Company's proposed classification,
8 classifying 93% of Maritime Link revenue requirements as energy-related would
9 reduce the allocation to the residential class by about \$8.4 million in 2018, \$8.6
10 million in 2019, and \$8.7 million in 2020.

11 **Q: What do you recommend with regard to the classification and allocation of**
12 **Maritime Link revenue requirements for 2018 and 2019.**

13 A: Maritime Link revenue requirements should be classified and allocated to
14 customer classes in proportion to the benefits to customer classes from the
15 Maritime Link investment. Accordingly, the Board should reject NS Power's
16 proposal to classify Maritime Link revenue requirements in the same fashion as
17 Company-owned hydro plant costs. Instead, Maritime Link revenue
18 requirements should be classified as 93% energy-related and 7% demand-related
19 based on the Company's classification of Maritime Link benefits. Consistent
20 with the treatment of other non-biomass purchases, the energy-related portion of
21 Maritime Link revenue requirements should be allocated in proportion to each
22 class's contribution to annual system energy requirements and the demand-
23 related portion should be allocated in proportion to the average of peak demands
24 for the three winter months.

1 **IV. Annual BCF Rate Increase**

2 **Q: Please summarize the Company's forecast of BCF and total base rates.**

3 A: Table 1 shows the Company's forecast for 2016 through 2020 of BCF rates on
4 average for all FAM customer classes and for the residential class.¹⁰ I derived
5 Table 1 based on data provided in NS Power's response to CA IR-2.

6 **Table 1: Forecast of BCF Rates**

| | FAM Class Average Rate (\$/kWh) | Percent Change | Residential Rate (\$/kWh) | Percent Change |
|-------------|--|---------------------------|--|---------------------------|
| 2016 | 0.054 | | 0.055 | |
| 2017 | 0.049 | -8.2% | 0.051 | -8.1% |
| 2018 | 0.066 | 32.6% | 0.069 | 36.9% |
| 2019 | 0.066 | 1.2% | 0.070 | 0.9% |
| 2020 | 0.069 | 4.6% | 0.073 | 4.1% |

7

8 As indicated in Table 1, NS Power is currently forecasting about an 8%
9 drop in the residential BCF rate from 2016 to 2017, followed by a steep 37%
10 increase from 2017 to 2018.

11 **Q: Does NS Power's rate forecast for the years 2017 through 2020 reflect any**
12 **recovery of FAM over- or under-recoveries in 2016?**

13 A: No. The Company assumes that the AA and BA riders are reset to zero in the
14 years 2017 through 2020 for the purposes of forecasting rates. However,
15 according to the Company's response to CA IR-4, NS Power will file in
16 November of 2016 a request for recovery or reimbursement of 2016 AA and BA
17 amounts during the Rate Stability Period.

¹⁰ The BCF rates shown for 2016 reflect recovery of the 2016 AA and BA riders.

1 **Q: What is NS Power’s proposal for recovering forecasted increases in the**
 2 **Base Cost of Fuel over the Rate Stability Period?**

3 A: Tables 2 and 3 provide the BCF and base rates, respectively, proposed by NS
 4 Power in order to comply with the Section 6 of the EPIA mandating that the
 5 forecasted increase in the Base Cost of Fuel over the Rate Stability Period be
 6 recovered in equal annual increments. As indicated in Table 2, NS Power
 7 proposes to increase the residential BCF rate by around 4% annually from 2016
 8 to 2019. This percentage increase in the residential BCF rate is equivalent to a
 9 1.5% annual increase in the total base rate for the residential class.

10 **Table 2: Smoothed BCF Rates**

| | FAM Class Average Rate (\$/kWh) | Percent Change | Residential Rate (\$/kWh) | Percent Change |
|-------------|--|---------------------------|--|---------------------------|
| 2016 | 0.054 | | 0.055 | |
| 2017 | 0.056 | 3.3% | 0.058 | 4.3% |
| 2018 | 0.058 | 3.3% | 0.060 | 4.2% |
| 2019 | 0.059 | 3.3% | 0.062 | 4.1% |
| 2020 | 0.069 | 16.7% | 0.073 | 16.9% |

11

12 **Table3: Smoothed Base Rates**

| | FAM Class Average Rate (\$/kWh) | Percent Change | Residential Rate (\$/kWh) | Percent Change |
|-------------|--|---------------------------|--|---------------------------|
| 2016 | 0.140 | | 0.158 | |
| 2017 | 0.142 | 1.3% | 0.161 | 1.5% |
| 2018 | 0.144 | 1.3% | 0.163 | 1.5% |
| 2019 | 0.146 | 1.3% | 0.165 | 1.5% |
| 2020 | 0.156 | 6.8% | 0.176 | 6.4% |

13

1 **Q: Do you have any concerns regarding the Company's proposal for**
2 **smoothing residential BCF rates over the Rate Stability Period?**

3 A: Yes. I am concerned about the magnitude of the rate increase in 2020 under the
4 Company's proposal. As forecasted by NS Power, the residential BCF rate
5 would jump by about 17% and the residential base rate would increase by more
6 than 6% from 2019 to 2020. Thus, three years of comparative rate stability
7 would be followed by a steep increase in residential rates.

8 **Q: Are you recommending an alternative to the Company's proposal for**
9 **smoothing residential rates during the Rate Stability Period?**

10 A: Not at this time. I understand that the Consumer Advocate intends to pursue this
11 issue further with NS Power once the Company files its refresh of the BCF
12 forecast and revised proposal for smoothing BCF rates on May 27, 2016.

13 **V. Fuel Hedging Plan**

14 **Q: What is the primary objective of the Fuel Hedging Plan proposed by NS**
15 **Power?**

16 A: As stated in the Fuel Stability Plan Application, the proposed Fuel Hedging Plan
17 is designed "to provide rate stability for customers."¹¹ However, the primary
18 focus is not on rate stability during the Rate Stability Period, when rates will be
19 perfectly stable by design, but on rate stability when the Rate Stability Period
20 ends. Consequently, the primary objective is to minimize the probability of
21 substantial under-recovery of fuel and purchased-power (F&PP) costs during the
22 Rate Stability Period in order to minimize the risk of rate shock in 2020 due to
23 the recovery of deferred F&PP under-recoveries.

¹¹ Application, p. 81.

1 **Q: How does NS Power plan to achieve its primary objective?**

2 A: According to the Company's response to Liberty IR-9(a), NS Power intends to
3 hedge 75-100% of individual fuel requirements with a combination of financial
4 and physical contracts in order to minimize the risk that actual fuel costs will
5 exceed forecasted amounts for the portfolio as a whole:

6 For each fuel type, NS Power will target hedging 75-100% of forecast
7 consumption during the Rate Stability Period. The actual amount hedged
8 will vary depending on the availability of suitable cost-effective hedges.

9 **Q: What precisely does NS Power mean when it states that it will hedge 75-
10 100% of F&PP requirements "during the Rate Stability Period"?**

11 A: That is not clear. The Company does not specify how far in advance it proposes
12 to reach the 75-100% target range (which could range from one day to three
13 years in advance) or whether it will seek to achieve the target range every day,
14 every month on average, or every year on average.

15 **Q: How did NS Power determine its hedge target of 75-100% of forecasted fuel
16 requirements?**

17 A: The Fuel Hedging Plan does not describe specifically how it was determined
18 that a hedge target of 75-100% of forecasted fuel requirements provides an
19 appropriate level of risk mitigation for ratepayers. Presumably, the hedge target
20 would have been determined based on an assessment of ratepayers' tolerance for
21 the risk of F&PP cost deferrals. In this case, it appears that NS Power assumed
22 that ratepayers have effectively zero tolerance for deferral risk and therefore that
23 the appropriate strategy would be to hedge as much of expected fuel
24 requirements as feasible and cost-effective:

1 Maximum price stability is achieved when the proportion of fuel costs
2 hedged reaches 75-100% of forecast fuel requirements... Maximizing the
3 level of fuel cost stability through hedging 75-100% of forecast fuel
4 requirements will provide the greatest degree of fuel cost stability to
5 customers.¹²

6 In response to CA IR-29(a), NS Power offers one other justification for
7 maximizing hedge amounts:

8 Presently, the forward curves for many fuels exhibit a very low amount of
9 contango during the Rate Stability Period, i.e. there is only a small amount
10 of escalation in forward prices. This will allow NS Power to hedge
11 commodity costs for the entire period without paying a significant premium
12 for longer dated futures, providing further stability for customers.

13 However, it is not clear why NS Power makes this claim. Contango refers
14 to the situation where the forward price of a commodity is higher than the
15 expected spot price at the maturity of the contract. The Company has not
16 provided any basis for estimating future spot prices or provided any evidence
17 that current forward prices are not much higher than estimates of future spot
18 prices.

19 Instead, NS Power appears to use the term “contango” to refer to a
20 situation where there is little escalation in forward prices, and therefore little
21 difference between current spot prices and market prices for long-dated forward
22 contracts. However, it is not clear why this situation provides an opportunity for
23 maximizing hedge amounts.¹³

¹² NS Power response to CA IR-29(a).

¹³ If future spot prices were not expected to decline from current levels, then a situation of “contango” in the Company’s sense would provide NS Power the opportunity to purchase forward contracts without paying a significant premium over future spot prices. However, as noted above, NS Power has not provided any basis for expecting future spot prices to be about the same as current spot prices.

1 **Q: Is there any potential downside to hedging 75-100% of forecast fuel**
2 **requirements?**

3 A: Yes. If fuel requirements are lower than forecast, NS Power may have excess
4 fuel (or financial hedges) to sell back into the market. If the market price for
5 these hedges had dropped between the time that NS Power purchased them and
6 the time it liquidated them, there would be a net cost from unwinding excess
7 hedges that would be deferred to 2020.¹⁴

8 The risk of disposing of hedges at a loss is not academic. For example,
9 forward prices for winter 2015/16 Algonquin basis contracts declined
10 dramatically from 2014 to 2016.¹⁵ In this case, if NS Power had hedged most or
11 all of its expected gas needs for the winter of 2015/16 one or two years in
12 advance and actual requirements were less than expected, the Company would
13 have had to unwind excess hedges at a loss.

14 **Q: How will the Company measure a particular hedge instrument's**
15 **effectiveness at reducing the risk of deviations from forecasted fuel costs?**

16 A: According to NS Power's response to CA IR-30(b), hedge effectiveness will be
17 measured in terms of the reduction to the portfolio-wide Value at Risk (VaR)
18 from entering into the hedge.

¹⁴ Customers would also have foregone the negative deferral that would have resulted from the lower price for a later purchase. It may be reasonable to forego this opportunity to benefit from lower prices in order to hedge against the risk of higher prices. However, care must be taken when hedging price risk not to increase the risk of losses when actual requirements deviate from forecasted levels.

¹⁵ This decline in basis expectation may have been due to increases in gas transportation capacity during this period, changing expectations for gas demand from electric generators, or other factors.

1 **Q: How will NS Power determine the cost-effectiveness of a particular hedge**
2 **purchase?**

3 A: Again, this is not clear. According to NS Power's response to CA IR-30(c), the
4 Company will determine the cost-effectiveness of a hedge by comparing the
5 increase in costs expected to result from executing the hedge against the
6 reduction in fuel cost variability (expressed as VaR) expected to result from
7 executing the hedge:

8 The expected direct increase in the total fuel and purchase power will be
9 estimated, as well as the expected reduction in portfolio level VaR. Should
10 an increase in fuel costs be expected as a result of executing the hedge, it
11 would only be entered if there is a commensurate decrease in VaR resulting
12 from the hedge.

13 However, NS Power has not specified how it intends to trade off increased
14 cost against reduced VaR. In particular, the Fuel Hedging Plan does not specify
15 how an increase in direct costs (e.g., a direct hedge cost of \$1 million) would be
16 compared against a reduction in potential under-recoveries at a specified
17 probability level (e.g., a \$1 million reduction in VaR at 10% probability.)
18 Instead, in response to Liberty IR-64(a), NS Power offers the general statement
19 that it "will weigh the balance between the benefit of the reduction in fuel cost
20 variability and the costs of entering these hedges."

21 **Q: What is NS Power's request to the Board with respect to the proposed Fuel**
22 **Hedging Plan?**

23 A: As stated in the Company's response to Liberty IR-6(a):

24 NS Power is seeking approval of the Fuel Hedging Plan, which contains the
25 key strategies and mechanisms expected to be used. This includes, but is
26 not limited to, the strategy to hedge 75-100% of the forecast fuel
27 requirements during the Rate Stability Period, the periodic rebalancing of
28 hedge portfolio, and the products listed in Appendix C to the Fuel Hedging
29 Plan.

1 **Q: Should the Board approve the proposed Fuel Hedging Plan?**

2 A: Not at this time. As discussed above, NS Power has not provided a reasonable
3 basis for approving a hedge target of 75-100% of F&PP requirements, or even
4 adequately described what it means by hedging “75-100% of the forecast fuel
5 requirements during the Rate Stability Period.” Nor has the Company explained
6 in any detail how it will measure hedge cost-effectiveness.

7 Instead, the Board should direct NS Power to meet with the FAM Small
8 Working Group in order to provide members with further details on its hedge
9 target and strategy and to solicit member feedback.¹⁶ The Board should further
10 direct NS Power to re-file a Fuel Hedging Plan after due consideration of
11 feedback from members of the FAM Small Working Group.

12 **Q: Does this conclude your direct evidence?**

13 A: Yes.

¹⁶ The proposed Fuel Hedging Plan has been discussed at prior meetings of the FAM Small Working Group. However, NS Power’s presentations during those discussions did not offer any more details than provided in the Application regarding the selection of the 75-100% hedge target, the specifics of how that target would be implemented, or how hedge cost-effectiveness would be measured.