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DELIVERED BY HAND

May 12, 2006

Board of Commissioners
of Public Utilities
P.O. Box 21040
120 Torbay Road
St. John's, NL A1A 5B2

Attention: Ms. Cheryl Blundon
Board Secretary

Ladies & Gentlemen:


Re: Newfoundland and Labrador Hydro Low Sulphur Fuel Application

Enclosed are the original and 14 copies of Newfoundland Power's Submission.

An electronic and paper copy will be forwarded to each registered intervenor directly.

We trust the enclosed are in order.

Yours very truly,


Gerard M. Hayes
Senior Counsel

Enclosures

c. Geoff Young
Newfoundland & Labrador Hydro

Joseph S. Hutchings, Q.C.
Poole Althouse

Paul Coxworthy
Stewart McKelvey Stirling Scales

Thomas J. Johnson
Consumer Advocate
O'Dea Earle Law Offices



Join us in the fight against cancer.

IN THE MATTER OF the *Public Utilities Act*, (the “Act”); and

IN THE MATTER OF an Application by Newfoundland and Labrador Hydro for the approval pursuant to Section 71 of the Act, of the cost of Low Sulphur Fuel as a fuel cost component to be recovered through the Rate Stabilization Plan charged to Newfoundland Power Inc. and the Island Industrial Customers

**SUBMISSION
OF
NEWFOUNDLAND POWER INC.**

MAY 12, 2006

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1 **A. INTRODUCTION**

2 **A.1 General**

3 Newfoundland & Labrador Hydro-electric Corporation ("Hydro") is entitled to approval of
4 the recovery through the Rate Stabilization Plan ("RSP") of fuel costs for its Holyrood
5 Thermal Generating Station ("HTGS") as are shown in the record before the Board to be
6 reasonably necessary for Hydro to meet its obligations to provide electrical service on a
7 least cost basis as required by the Act.

8
9 In determining what is reasonably necessary for Hydro to meet its obligations on a least
10 cost basis, the Board is required by Section 16 of the Act to consider Hydro's
11 obligations to comply with the law, including environmental regulatory requirements.

12
13 **A.2 Newfoundland Power's Interest**

14 Newfoundland Power's participation as an intervenor in this proceeding relates to its
15 interest in the proposed recovery by Hydro through the RSP of the additional costs
16 associated with a change in the sulphur content of the No. 6 fuel burned at the HTGS
17 from 2 per cent to 1 per cent sulphur. If Hydro's application is approved, it will have the
18 effect of increasing, effective July 1, 2006, the fuel costs to be recovered from
19 Newfoundland Power's customers through rates.

1 **B. BACKGROUND**

2 The HTGS produces between 30 and 40 per cent of Hydro's annual electrical energy
3 requirements on the island of Newfoundland. Although stack emissions have been
4 subject to environmental regulatory controls for a number of years, annual modelling
5 has indicated that ground level contamination of sulphur dioxide, nitrogen oxides and
6 particulate emissions have exceeded regulatory limits.

7
8 Reference: Pre-filed Testimony, page 5; Transcript, May 5, 2006, page 44, line 11 to
9 page 46, line 17.

10
11 Stack emissions from the HTGS have also been the subject of complaints from
12 members of the public, particularly residents of the local area. These include
13 complaints regarding odour, smoke and soot, as well as complaints from individuals
14 with health concerns.

15
16 The provincial Department of Environment and Conservation ("the Department"), which
17 is responsible for the regulation of air pollution emanating from the HTGS, has
18 negotiated prior compliance agreements with Hydro respecting the environmental
19 aspects of the operation of the HTGS. Those agreements have been superseded by a
20 Certificate of Approval dated February 2, 2006 (the "Certificate of Approval"). It is a
21 condition of the Certificate of Approval that Hydro comply with the ambient air quality
22 standards established under the *Air Pollution Control Regulations, 2004* (the "AAQS").
23

1 Reference: Transcript, May 5, 2006, page 59, line 15 to page 60, line 9.

2
3 By letters dated February 2, 2006 and February 9, 2006, the Department notified Hydro
4 that it had been deemed non-compliant with the AAQS.

5
6 Reference: Information #2; Response to Information Request CA 5 NLH.

7
8 In an effort to bring itself into compliance with the AAQS, Hydro has switched the fuel it
9 burns at the HTGS from 2% sulphur to 1% sulphur fuel. The Application proposes that
10 Hydro be permitted to recover the cost of 1% fuel as a prudent fuel purchase
11 expenditure to be recovered through the Rate Stabilization Plan (RSP).

12 13 **C. ENVIRONMENTAL REGULATION**

14 **C.1 Ambient Air Quality Standards (AAQS)**

15 The AAQS applicable to the HTGS are contained in Section 3 of the *Air Pollution*
16 *Control Regulations, 2004* made under the *Environmental Protection Act*, RSN 1990,
17 c. E-14.2 (the "EPA"). Those regulations establish permissible levels of ground level
18 contamination for a number of polluting substances, including sulphur dioxide and
19 nitrogen oxides.

20
21 Compliance with the AAQS for these substances is determined based on the results of
22 a prescribed plume dispersion model. The most recent modelling results have

1 predicted exceedances for 2004 above the AAQS for both sulphur dioxide and nitrogen
2 oxide. The exceedances were predicted for “a very low percentage of the time”.

3
4 Reference: SENES Consultants Limited, *Final Report – CALPUFF Air Dispersion*
5 *Modelling SO₂, CO, NO_x and TSP Emissions of 2004 for the Holyrood Thermal*
6 *Generating Station*, October 2005, page ES-1, provided in response to Information
7 Request IC 1 NLH.

8
9 The Department’s notification to Hydro in February 2006 that Hydro had been deemed
10 non-compliant with the AAQS was based on the most recent results of the plume
11 dispersion modelling of the HTGS stack emissions.

12
13 Reference: Response to Information Request CA 5 NLH.

14
15 In December 2005, Hydro’s ambient air monitoring network detected three consecutive
16 instances of actual ground level concentrations of sulphur dioxide in excess of the limits
17 prescribed by the AAQS.

18
19 Reference: Response to Information Request PUB 6 NLH; Transcript, May 8, 2006,
20 page 15, line 3 to page 16, line 4.

1 **C.2 Certificate of Approval**

2 The Certificate of Approval was issued by the Department pursuant to the EPA on
3 February 2, 2006. The Certificate of Approval contains detailed terms and conditions
4 governing air contaminants, including conditions for the determination of compliance
5 with the AAQS. The Certificate of Approval specifies the application of a variety of
6 policies and procedures set out in Guidance Documents issued by the Department.

7
8 Reference: Information #2; Department of Environment and Conservation, Certificate
9 of Approval dated February 2, 2006 (attached to Pre-filed Testimony at Tab 3).

10
11 **C.3 Guidance Document**

12 The Certificate of Approval provides that stack emissions testing and dispersion
13 modelling be done in accordance with the *Compliance Determination Guidance*
14 *Document (GD-PPD-009.02)* (hereinafter, “the Guidance Document”). The stated
15 objective of the Guidance Document is to “set out and define the procedures that the
16 Department of Environment and Conservation will follow in determining whether a
17 facility is in compliance with Section 3 of the Air Pollution Control Regulations.”

18
19 Reference: Response to Information Request CA 18 NLH.

1 **D. PROPOSED SOLUTION**

2 **D.1 Alternatives Considered**

3 The record of the proceeding discloses a number of alternatives considered by Hydro to
4 achieve compliance of the HTGS with the AAQS. The principal alternatives were: (a)
5 continue use of the current fuel type (2% sulphur), address particulate emissions by
6 installing electrostatic precipitation (ESP) equipment, and address sulphur emissions by
7 installing flue gas desulphurization (FGD) equipment; and (b) switch to low sulphur (1%
8 sulphur) fuel.

9
10 Reference: SGE Acres, *Air Emissions Controls Assessment – Holyrood Thermal*
11 *Generating Station Final Report*, February 2004, page 1-2.

12
13 An engineering consultant's report recommended that Hydro adopt the use of 1%
14 sulphur fuel at the HTGS.

15
16 Reference: SGE Acres, *Air Emissions Controls Assessment – Holyrood Thermal*
17 *Generating Station Final Report*, February 2004, page 6-3.

18
19 Other identified options, such as the use of fuel additives, staging the adoption of low
20 sulphur fuel, and fuel switching on a seasonal basis, were determined by Hydro to be
21 inadequate, either because they would not achieve compliance with the AAQS or they
22 would not be practically feasible.

1 Reference: Transcript, May 8, 2006, page 4, line 2, to page 6, line 12; page 10, line 25
2 to page 13, line 5; page 89, line 19 to page 92, line 8.

4 **D.2 Least Cost**

5 A cost analysis that compared switching to low sulphur fuel to implementing FGD
6 technology at the HTGS determined that switching to low sulphur fuel is the least cost
7 option of the two considered.

8
9 Reference: SGE Acres, *Air Emissions Controls Assessment – Holyrood Thermal*
10 *Generating Station Final Report*, February 2004, Appendix B.

11
12 Increasing operating costs by switching fuel at the HTGS is preferred by Hydro over
13 investing in capital improvements such as FGD equipment or other emission scrubbing
14 technology because it allows Hydro to respond to changed circumstances, such as the
15 future availability of a supply of natural gas or the construction of a transmission infeed
16 from Labrador, and avoid the large sunk costs associated with expensive capital
17 improvements.

18
19 Reference: Pre-filed Testimony, page 6, lines 14 to 21; Transcript, May 8, 2006, page
20 112, line 10 to page 115, line 3.

21
22 There is no controversy in the record of the proceeding that the switch to 1% sulphur
23 fuel is the least cost option of those considered to achieve compliance with the AAQS.

D.3 Effectiveness of 1% Fuel in Reducing Air Pollution

The relationship between the sulphur content of fuel burnt at the HTGS and the level of sulphur dioxide emitted is a direct one. The switch from 2% sulphur to 1% sulphur fuel at the HTGS is therefore expected to reduce the level of sulphur dioxide emissions by approximately 50 per cent.

Reference: Pre-filed Testimony, page 2, line 22 to page 3, line 2.

Because of the many variables affecting the plume dispersion modelling, in particular meteorological conditions, it is uncertain whether the switch to 1% fuel will bring Hydro into compliance with the AAQS with respect to sulphur dioxide emissions.

Reference: Transcript, May 5, 2006, page 36, line 6 to page 37, line 12.

The switch to 1% sulphur fuel is expected to reduce the level of nitrogen dioxide and bring Hydro into compliance with the AAQS with respect to nitrogen oxides.

Reference: Transcript, May 5, 2006, page 113, line 23 to page 117, line 24.

The switch to 1% sulphur fuel is expected to reduce overall particulate emissions at the HTGS by between 40 and 60 per cent.

1 Reference: Transcript, May 5, 2006, page 138, lines 13 to 21; SGE Acres, *Air*
2 *Emissions Controls Assessment – Holyrood Thermal Generating Station Final Report*,
3 February 2004, page 6-1.

5 **E. THE GUIDANCE DOCUMENT**

6 The letter from the Department to Hydro dated February 9, 2006 formally notifying
7 Hydro of its deemed non-compliance with the AAQS states that the HTGS will be
8 deemed non-compliant “until such time as acceptable modeling based on current stack
9 testing data, or approved compliance monitoring in areas of exceedances,
10 demonstrates compliance.” The letter directs Hydro to the Guidance Document for
11 further information.

12
13 Reference: Response to Information Request CA 5 NLH.

14
15 The letter further states that the Department is willing “to continue discussing options for
16 reducing emissions and compliance agreements to allow time for Hydro to implement
17 mitigative measures.”

18
19 Reference: Response to Information Request CA 5 NLH.

20
21 According to paragraph 9 of the Guidance Document, if non-compliance with the AAQS
22 is determined, a facility may elect to enter into a compliance agreement with the
23 Department for one of two purposes. The first purpose identified is to attain compliance

1 within a reasonable timeframe. The second purpose identified is to establish a
2 compliance ambient monitoring network at locations of maximum predicted non-
3 compliance, which would be used to monitor air quality for a further 2-year period to
4 assess compliance.

5
6 Reference: Response to Information Request CA 18 NLH.

7
8 Hydro attempted to negotiate a compliance agreement with the Department, for the
9 purpose of attaining compliance within a reasonable timeframe, during discussions
10 leading to the issuance of the Certificate of Approval, and the Department insisted on
11 terms that were not acceptable to Hydro.

12
13 Reference: Transcript, May 8, 2006, page 39, line 17 to page 41, line 5; page 58, line
14 11 to page 62, line 24.

15
16 Hydro did not pursue a compliance agreement with the Department for the purpose of
17 establishing a compliance ambient monitoring network for further monitoring at locations
18 of maximum predicted non-compliance.

19
20 Reference: Transcript, May 8, 2006, page 63, line 13 to page 65, line 20.

21
22 It was Hydro's evidence that there are practical obstacles to establishing a compliance
23 ambient monitoring network in the area of the HTGS.

1 Reference: Transcript, May 5, 2006, page 117, line 25 to page 122, line 8.

2
3 It is unclear on the record whether the establishment of such a network pursuant to
4 paragraph 9 (b) of the Guidance Document would provide Hydro with additional time to
5 establish compliance with the AAQS solely by further monitoring, or whether the
6 Department would require some action on Hydro's part to improve ambient air quality in
7 addition to further monitoring.

8
9 Reference: Transcript, May 5, 2006, page 117, line 25 to page 123, line 12; page 143,
10 line 24 to page 145, line 9; page 151, line 1 to page 156, line 13; page 165, line 7 to
11 page 166, line 3; page 166, line 23 to page 168, line 20; Transcript, May 8, 2006,
12 page 118, line 5 to page 122, line 14.

13
14 It was Hydro's evidence that entering into a compliance agreement with the Department
15 for the purpose of establishing a compliance ambient monitoring network for further
16 monitoring pursuant to paragraph 9 (b) of the Guidance Document would not be a
17 prudent thing to do, in light of public complaints, the fact that the ambient air monitoring
18 system has recorded incidents of actual ground level concentrations of pollutants
19 exceeding the AAQS, and that nothing would be gained as a result of such an exercise.

20
21 Reference: Transcript, May 8, 2006, page 42, line 11 to page 44, line 12; page 65,
22 lines 15 to 25.

1 Paragraph 11 of the Guidance Document provides that where it is not practical to
2 establish a compliance ambient monitoring network at locations of maximum predicted
3 non-compliance, the facility may apply to the Department to establish such a network at
4 alternate locations.

5
6 Reference: Response to Information Request CA 18 NLH.

7
8 There is no evidence on the record of the proceeding that Hydro had discussed with the
9 Department the possibility of establishing a compliance agreement as contemplated by
10 paragraph 11 of the Guidance Document.

11
12 The Department has not ordered Hydro to switch to 1% sulphur fuel at the HTGS, and
13 there is no regulatory requirement to do so.

14
15 Reference: Transcript, May 5, 2006, page 78, lines 14 to 21; page 157, lines 2 to 6.

16
17 **F. SUBMISSION**

18 It is Newfoundland Power's submission that it is proven on the record of the proceeding
19 that, in accordance with the EPA, Hydro has been determined to be non-compliant with
20 the AAQS.

1 It is Newfoundland Power's submission that it is proven on the record of the proceeding
2 that, of the options considered by Hydro for achieving compliance with the AAQS,
3 adopting the use of 1% sulphur fuel at the HTGS is the least cost option.
4

5 It is Newfoundland Power's submission that the wording of paragraph 9 (b) of the
6 Guidance Document appears to present the option, in the case of determination by the
7 Department of non-compliance with the AAQS, of further ambient air monitoring to
8 determine compliance. The record of the proceeding shows that Hydro did not pursue
9 the feasibility of that option in relation to the determination of non-compliance of which it
10 was formally notified in February 2006.
11

12 It is Newfoundland Power's submission that the key matter of controversy in the
13 Application is the impact of paragraph 9(b) of the Guidance Document. The Board's
14 consideration of this, in the context of the overall record of this proceeding, appears
15 central to its decision regarding Hydro's recovery of the additional cost of 1% sulphur
16 fuel through the RSP at this time.
17

18 There is no specific evidence before the Board indicating that further ambient air
19 monitoring could reasonably be expected to alter the HTGS's current non-compliance
20 with the AAQS. But it is perhaps the **absence** of specific evidence indicating that
21 further ambient air monitoring could **not** reasonably be expected to alter the HTGS's
22 current compliance with the AAQS that is at the heart of the matter surrounding the
23 impact of paragraph 9(b) of the Guidance Document on the Application.

1 The central question therefore for the Board on the issue of paragraph 9(b) of the Guidance
2 Document is the sufficiency of the evidence referred to on page 13 of this Submission to
3 justify the exclusion of further ambient air monitoring as a reasonably viable alternative to
4 dealing with HTGS's current non-compliance.

5
6 Newfoundland Power submits that in determining the Application, the Board should
7 apply broad regulatory policy in a manner that permits Hydro a reasonable opportunity
8 to recover its prudent costs of environmental compliance. In the circumstances of the
9 Application, the Board can apply such a policy by either:

- 10 (i) determining, on the basis of the record before it, that further ambient air
11 monitoring by Hydro could not be reasonably expected to alter the HTGS's
12 current non-compliance with the AAQS and making the order requested in
13 the Application; or
14 (ii) deferring Hydro's recovery of the additional cost of 1% sulphur fuel until
15 the Board is satisfied that further ambient air monitoring is not, in the
16 circumstances of HTGS's current non-compliance, a reasonably viable
17 alternative.

18
19 **G. TIMING ISSUE**

20 The Rate Stabilization Clause in Newfoundland Power's Schedule of Rates, Rules and
21 Regulations provides for an annual rate stabilization adjustment, effective the 1st day of
22 July in each year (the "Rate Stabilization Adjustment").

1 Section 70 (1) of the Act effectively requires that Newfoundland Power apply annually to
2 the Board for approval of changes in its schedule of rates, tolls and charges resulting
3 from the Rate Stabilization Adjustment. The orderly implementation of the resulting
4 rates on July 1st of each year typically requires Newfoundland Power to commence
5 inputting and testing the rates in its billing system by mid-June.

6
7 The Rate Stabilization Adjustment reflects, among other things, the fuel costs to be
8 recovered from Newfoundland Power through the RSP. The fuel costs to be reflected in
9 the Rate Stabilization Adjustment effective July 1, 2006 are dependent on the outcome
10 of the Application. Newfoundland Power therefore respectfully requests that the timing
11 of the Board's consideration of the Application include consideration of requirements for
12 the timely implementation of the Rate Stabilization Adjustment on July 1, 2006.

13
14 **RESPECTFULLY SUBMITTED** this 12th day of May, 2006.

15
16 **NEWFOUNDLAND POWER INC.**

17
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