

DELIVERED BY HAND

July 23, 2003

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 2004 Capital Budget Application**

Enclosed are the original and eight copies of Newfoundland Power's Brief of Argument.

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

We trust the enclosed are in order.

Yours very truly,

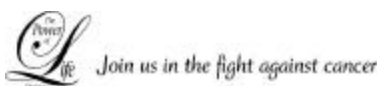
Gerard M. Hayes  
Senior Counsel

Enclosures

c. Maureen P. Greene, Q.C.  
Newfoundland & Labrador Hydro

Janet M. Henley Andrews, Q.C.  
Stewart McKelvey Stirling Scales

Joseph S. Hutchings, Q.C.  
Poole Althouse



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

**IN THE MATTER OF** an Application by  
Newfoundland and Labrador Hydro for  
approval of (1) its 2004 capital budget  
pursuant to s.41(1) of the Act; (2) its 2004  
capital purchases, and construction projects  
in excess of \$50,000 pursuant to s.41 (3) (a)  
of the Act; and (3) its estimated contributions  
in aid of construction for 2004 pursuant to  
s.41 (5) of the Act.

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**BRIEF OF ARGUMENT  
OF  
NEWFOUNDLAND POWER**

**JULY 23, 2003**

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1    **A.     INTRODUCTION**

2    **A.1    General**

3    Newfoundland & Labrador Hydro-electric Corporation's ("Hydro") is entitled to approval  
4    of those proposed improvements or additions to its property for 2004 as are shown in  
5    the record before the Board to be reasonably necessary for Hydro to meet its  
6    obligations to provide electrical service on a least cost basis as required by the Act. It is  
7    Newfoundland Power's submission that Hydro's proposal to replace its VHF mobile  
8    radio system, described at page B-71 of the Application, is not justified on the basis of  
9    the information contained in the record of this proceeding.

10  
11   **A.2    Submissions**

12   The information filed by Hydro in this proceeding does not justify the proposed capital  
13   expenditures for the replacement of its VHF mobile radio system.

14  
15   Hydro's preferred replacement mobile radio system, the Passport system, is not  
16   evaluated in either the business case document filed in support of Hydro's proposal or  
17   in the consultant's report appended to the business case document.

18  
19   Hydro's proposal is not the least cost of the alternatives presented. If an alternative  
20   other than the least cost alternative is proposed, the need for the additional features  
21   provided by the higher cost alternative should be demonstrated.

1 Hydro has not fully evaluated the option of extending the life of the existing conventional  
2 radio system and replacing equipment only when it is necessary to do so. This may be  
3 a least cost viable alternative to replacing the entire VHF radio system.

4  
5 In light of the significant variability among the cost estimates of the VHF radio systems  
6 evaluated by Hydro's consultant, an "order of magnitude" estimate of the cost of the  
7 proposed system is inadequate.

8  
9 The Board should not approve Hydro's proposal to replace its VHF radio system on the  
10 basis of the record of this proceeding. Before approval of the project is granted, Hydro  
11 should be required to justify the complete replacement of the existing system. If Hydro  
12 proposes an alternative that is not least cost, its filing should demonstrate more fully the  
13 need for the additional features provided by the higher cost alternative.

**B. THE VHF MOBILE RADIO REPLACEMENT PROJECT**

**B.1 Background**

Hydro's proposal for the total replacement of its VHF mobile radio system was initially presented in its 2002 capital budget application. In Order No. P.U. 7 (2002-2003), the Board declined to approve the project as submitted, noting that further justification was required.

Reference: Order No. P.U. 7 (2002-2003), page 98.

**B.2 Justification Presented**

Hydro's revised justification for the replacement of its VHF mobile radio system is summarized in a document entitled "Business Case for VHF Mobile Radio System Replacement, March 25, 2003", found in Section G, Tab 4, of the Application (the "Business Case"). The Business Case includes a report prepared by Custom Systems Electronics Limited (the "Consultant") entitled "Technical Report on the Newfoundland & Labrador Hydro Mobile & Radio Paging System Replacement" (the "Consultant's Report").

The Consultant's Report reviews Hydro's mobile radio system requirements and recommends that Hydro acquire a standards-based trunked radio system. The Consultant's Report evaluates four trunked radio systems, and recommends the Transcript LTR system as the preferred option.

Reference: Consultant's Report, page 28.

1 The cost of the system recommended by the Consultant is estimated at \$5.7 million.  
2 Hydro's capital budget proposal is based on the estimated cost of a different system  
3 (the "Passport system") than the one recommended by the Consultant. The Passport  
4 system, which employs a technology protocol known as Passport, coincidentally, is also  
5 estimated at \$5.7 million.

6 Reference: Transcript, July 7, 2003, page 82, lines 15 – 20.

7  
8 The Consultant did not evaluate the Passport system, nor are the specific advantages  
9 and disadvantages of the Passport system reviewed in the Business Case. The  
10 Passport system is not even mentioned in the Business Case.

11 Reference: Transcript, July 7, 2003, page 113, lines 13 – 22.

### 12 13 **B.3 Alternatives**

#### 14 ***B.3.1 The Existing System***

15 The Business Case and the Consultant's Report do not justify, or even seek to justify,  
16 the Passport system proposed by Hydro as a replacement for its VHF mobile radio  
17 system.

18  
19 Hydro's evidence is that a conventional radio system would fulfil all of the functional  
20 requirements Hydro has for a mobile radio system.

21 Reference: Transcript, July 7, 2003, page 108, line 25 to page 109, line 9.

1 In response to a Request for Information from Newfoundland Power, Hydro provided  
2 several reasons for not evaluating the option of extending the life of the existing mobile  
3 radio system by replacing the switch immediately and staging the replacement of other  
4 equipment over time. The reasons were: (1) the repeaters had been manufacturer  
5 discontinued in 1996, and it was prudent to replace the complete infrastructure; (2)  
6 implementation of a new system would require the use of 12.5 KHz channels, which are  
7 not compatible with the current repeaters or radios.

8 Reference: NP-3.  
9

10 During testimony, Hydro provided additional information that suggests the reasons cited  
11 in the response to NP-3 for not evaluating the refurbishment of the existing system are  
12 not persuasive.  
13

14 Firstly, there are repeaters available for purchase that would be compatible with the  
15 existing system, that would be supported by the manufacturer, and for which spare  
16 parts would be available.

17 Reference: Transcript, July 7, 2003, page 116, line 2 to page 120, line 21;  
18 Transcript, July 9, 2003, page 100, lines 7 - 18.  
19

20 Secondly, the issue of moving to 12.5 KHz channels is not a major issue at this time,  
21 and it would not be an issue, in any event, if Hydro were simply replacing components  
22 of the existing system and not installing a new technology.

23 Reference: Transcript, July 7, 2003, page 119, line 9 to page 120, line 21.



1 The Industrial Customers' witness Mr. Stephen Barreca, who has extensive experience  
2 in the telecommunications industry, testified that the fact that certain components of the  
3 existing system are said to be at the end of their expected average life is not a sufficient  
4 basis for concluding that many of the components could not provide adequate functional  
5 service into the future. Mr. Barreca testified that changing the architecture of the  
6 system, as suggested by Hydro, forces the replacement of the repeaters and results in  
7 the immediate expenditure of the capital cost of a total system replacement; whereas it  
8 might be possible, if the current system architecture were maintained, to defer  
9 replacement of the various system components until they needed to be replaced. Mr.  
10 Barreca testified that the record of the proceeding did not make a strong case for total  
11 system replacement at this time.

12 Reference: Transcript, July 11, 2003, page 53, line 9 to page 54, line 11.

13  
14 None of the cost analyses filed in support of the proposed VHF radio system  
15 replacement consider retaining the current mobile radio system and extending its useful  
16 life by replacing the various components as dictated by their actual condition and failure  
17 history. All cost analyses, including the analysis contained in the supplementary  
18 evidence dated July 4, 2003, assume the replacement of the current VHF system with a  
19 new radio system, with costs based on the replacement of all equipment including all  
20 repeaters and end user radios.

21 Reference: Business Case, Appendix A.  
22 Production: Supplementary Evidence.  
23 Transcript, July 9, 2003, page 89, line 23 to page 91, line 11.

**B.3.2 Least Cost Alternative**

Of the alternatives analyzed in the Business Case, Hydro is not proposing to implement the least cost option. The least cost option is a conventional radio system.

Reference: Transcript, July 7, 2003, page 109, line 19 to page 110, line 5.  
Business Case, page 10.  
Business Case, Appendix A.4.

One of the cost analyses summarized in the Business Case is a comparison of a conventional radio system and a trunked radio system.

Reference: Business Case, page 10.

The analysis assumes that a complete system replacement is required. The analysis indicates that the conventional radio system is the least costly of the two options presented, with the total cost of the trunked radio system being approximately \$230,000 higher than the cost of a conventional system.

Reference: Business Case, Appendix A.4.

It is Hydro's evidence that the "intangible" or "unquantifiable" benefits of a trunked radio system justify proceeding with an option that is not least cost.

Reference: Transcript, July 7, 2003, page 89, line 18 to page 91, line 10; page 109, line 19 to page 110, line 11.

In response to a Request for Information from Newfoundland Power requesting a detailed explanation of the benefits of a trunked mobile radio system over a conventional one, Hydro listed a number of additional features a trunked radio system

1 would provide. These features include privacy, individual calling, and remote unit  
2 registration. Hydro's response did not indicate the necessity for these features in its  
3 new mobile radio system.

4 Reference: NP-2.

5  
6 Hydro's response to NP-2 states that the distributed design topology of the proposed  
7 system, referring to the lack of a central switch in the Passport system, and the "known  
8 channel efficiencies of a trunked radio system in a multi-channel environment" both lend  
9 to increased overall efficiency. Hydro has not estimated the cost benefits of the  
10 additional features provided by a trunked radio system.

11 Reference: NP-2

12 Transcript, July 7, 2003, page 112, lines 6 – 10.

13 Transcript, July 7, 2003, page 112, line 11 to page 113, line 6.

### 15 **B.3.3 Cost of Passport System**

16 The cost estimates of the alternatives presented on the record of this proceeding show  
17 significant variability. The four VHF systems evaluated by Custom Systems Electronics  
18 Limited in the Consultant's Report range from approximately \$5.7 million to \$11.8  
19 million.

20 Reference: Consultant's Report, Attachment 5.

21  
22 The high cost of two of the systems evaluated is attributable to the fact that they are  
23 designed to a public safety standard, while Hydro requires a system designed to the  
24 lower public service standard. Hydro acknowledged, however, that there is a difference

1 of over \$2.0 million in the cost of the two public service systems evaluated in the  
2 Consultant's Report.

3 Reference: Transcript, July 7, 2003, page 96, line 20 to page 79, line 13.

4  
5 Hydro has not completed a detailed design for a new VHF radio system, and does not  
6 intend to make a final decision on the specific technology of the proposed system until a  
7 detailed design is completed; however, Hydro currently believes that the Passport  
8 system, which was not evaluated in the Consultant's Report nor in the Business Case,  
9 is the most cost-effective solution that meets its requirements.

10 Reference: Transcript, July 7, 2003, page 113, lines 7 – 22.

11  
12 The cost of the Passport technology system is estimated at \$5.7 million. This estimate  
13 is an "order of magnitude" estimate that is less detailed than the estimates contained in  
14 the Consultant's Report.

15 Reference: Transcript, July 7, 2003, page 114, line 21 to page 115, line 12.

#### 17 **B.3.4 Cost Contribution**

18 Hydro and the provincial government's Department of Works, Services & Transportation  
19 ("WS&T") share the use of the existing VHF radio system. Hydro does not have a firm  
20 agreement with WS&T in relation to WS&T's use of the proposed new VHF system.

21 Hydro has been advised in writing that WS&T will share in the cost of the system,  
22 although the degree of participation and the funding process remained to be decided.

23 Reference: PUB-21.

1 The relative usage of the current radio system is evident in a summary of radio call  
2 traffic attached to the Consultant's Report. Hydro acknowledged on cross-examination  
3 that the usage of the existing VHF mobile radio system, based on the number and total  
4 length of calls, is approximately two-thirds attributable to WS&T and one-third  
5 attributable to Hydro.

6 Reference: Consultant's Report, Attachment 4, Revised.  
7 Transcript, July 7, 2003, page 123, line 2 to page 124, line 17.

8  
9 Hydro proposes to recover one-half of the costs of the proposed mobile radio system  
10 from WS&T, which is based on the number of radios in use. Hydro and WS&T each  
11 have approximately 350 VHF mobile radios in use. Hydro believes it is fair to recover  
12 the costs of the radio system on this basis because the cost of the system does not vary  
13 with usage.

14 Reference: Transcript, July 7, 2003, page 75, lines 14– 18; page 128, line 19 to page  
15 131, line 16.  
16

17 Hydro, in cross-examination, agreed generally that the Board must consider the fairness  
18 of sharing the benefits of a capital investment by a utility with a related party, but  
19 reiterated its view that its proposal for cost recovery was fair in light of the fixed cost of  
20 the system and its concern that charging a higher rate might expose it to regulation as a  
21 common carrier.

22 Reference: Transcript, July 7, 2003, page 134, line 1 to page 135, line 6.  
23

24 Hydro's concern that it might be deemed to be a common carrier by Industry Canada if  
25 it charged WS&T a higher rate is based on Hydro's interpretation of an Industry Canada

1 directive that it cannot charge a “fee for use”. Hydro did not offer definitive evidence of  
2 Industry Canada’s position on the issue.

3 Reference: Transcript, July 7, 2003, page 129, line 32 to page 131, line 16.

4

5 Although WS&T has indicated in a letter to Hydro that it intends to participate in the  
6 funding of the proposed radio system, the degree of their participation and the funding  
7 of their participation in the project remain uncertain.

8 Reference: Transcript, July 7, 2003, page 131, line 17 to page 133, line 4.

1    **C.    CONCLUSION**

2  
3    Hydro proposes to acquire a mobile radio system that is not evaluated in the principal  
4    documents filed in support of its proposal.

5  
6    Hydro's preferred system is the Passport system, which is not the least cost of the  
7    alternatives presented. The least cost system is a conventional radio system, which is  
8    capable of providing all of the functionality Hydro requires in a mobile radio system.

9  
10    The option of extending the life of the existing conventional radio system and replacing  
11    equipment only as needed has not been fully evaluated.

12  
13    The additional features that would be provided by a trunked radio system have not been  
14    shown to be necessary.

15  
16    The costs of the alternatives evaluated by the Consultant show significant variability,  
17    and the current cost estimate of the Passport system is an "order of magnitude"  
18    estimate, which is less detailed than the estimates contained in the Consultant's Report.

19  
20    The contribution to the funding of the proposed new system by the other major user of  
21    the system remains uncertain.

22  
23    In the circumstances, the proposed replacement of Hydro's VHF mobile radio system is  
24    not justified based on the record before the Board in this proceeding. The Board should

1 not approve the proposal on the basis of the record of this proceeding. Hydro should be  
2 given leave to re-file a proposal to address its mobile radio system requirements that  
3 fully justifies the decommissioning and complete replacement of the existing  
4 conventional radio system. If Hydro proposes an alternative that is not least cost, its  
5 filing should demonstrate more fully the need for the additional features provided by the  
6 higher cost alternative.

7  
8  
9 **RESPECTFULLY SUBMITTED** this 23<sup>rd</sup> day of July, 2003.

10  
11 **NEWFOUNDLAND POWER INC.**

12  
13  
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