



FOR GENERATIONS

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February 5, 2010

Ms. Erica M. Hamilton
Commission Secretary
British Columbia Utilities Commission
Sixth Floor – 900 Howe Street
Vancouver, BC V6Z 2N3

Dear Ms. Hamilton:

**RE: Project No. 3698586
British Columbia Utilities Commission (BCUC)
British Columbia Hydro and Power Authority (BC Hydro)
Southern St'at'imc Communities Electrification Project Application**

In accordance with BCUC Order No. G-163-09 (Exhibit A-1) BC Hydro files its Final Submission for the above noted application.

For further information, please contact Lyle McClelland at 604-623-4306.

Yours sincerely,

Joanna Sofield
Chief Regulatory Officer

Enclosure (1)

- c. BCUC Project No. 3698586 Registered Intervenor Distribution List.
Band Councils of the Skatin, Xa'xtsa and Samahquam First Nations
Lower St'at'imc Tribal Council
Indian and Northern Affairs Canada

BRITISH COLUMBIA UTILITIES COMMISSION

**IN THE MATTER OF THE *UTILITIES COMMISSION ACT*
R.S.B.C 1996, CHAPTER 473**

and

**British Columbia Hydro and Power Authority
Project No. 3698586/BCUC Order No. G-163-09
Southern St'at'imc Communities Electrification Project
Application**

**Counsel's Final Argument
On Behalf of
British Columbia Hydro and Power Authority**

February 5, 2010

TABLE OF CONTENTS

I.	INTRODUCTION.....	3
II.	THE RCE PROGRAM.....	4
III.	THE SOUTHERN ST'AT'IMC COMMUNITIES	5
IV.	THE GRID CONNECTION PROJECT	6
V.	THIRD PARTY CONTRIBUTIONS	7
	A. THE ST'AT'IMC CONTRIBUTION.....	7
	B. CANADA'S FINANCIAL CONTRIBUTION.....	8
VI.	PROJECT ALTERNATIVES/OPTIONS.....	8
	A. DIESEL AND OTHER LOCAL OPPORTUNITIES	8
	B. GRID CONNECTION ALTERNATIVES.....	9
VII.	RATE ZONE I RATES	10
VIII.	FIRST NATIONS.....	11
IX.	OTHER ISSUES.....	12
	A. GOVERNMENT'S ENERGY OBJECTIVES	12
	B. ENVIRONMENTAL AND SOCIAL ISSUES.....	12
	C. PROJECT RISKS	12
X.	CONCLUSION	12

1 **I. INTRODUCTION**

2 In accordance with the British Columbia Utilities Commission’s (**BCUC**) Order No. G-163-09
3 dated December 17, 2009, BC Hydro is filing its final submission in respect of the Southern
4 St’at’imc Communities Electrification Project (**Project**) Application, Exhibit B-1
5 (**Application**). This is the second Remote Communities Electrification (**RCE**) application, but
6 the first application in which the remote communities are First Nations. Since the Project
7 includes both distribution and transmission components, the Application was filed on behalf
8 of BC Hydro and British Columbia Transmission Corporation (**BCTC**).

9 The Project is described in Part III of this final submission. The Project is somewhat unique
10 for the RCE program because it is a grid connection project whereas most remote
11 communities will be non-integrated electricity systems similar to Toad River.

12 All four of the Southern St’at’imc Communities are listed on the Schedule to the *Remote*
13 *Communities Regulation (RC Regulation)*. As a result, BC Hydro is obligated to provide
14 electricity service after BC Hydro takes over the distribution systems in the communities.
15 Therefore, “need” for the Project is not an issue in this application.

16 BC Hydro is requesting, on behalf of BC Hydro and BCTC, two orders: first, an order
17 accepting that expenditures of \$12.1 million on the Project are in the public interest pursuant
18 to section 44.2(1)(b) of the *Utilities Commission Act (UCA)*; and second, an order that
19 customers in the Southern St’at’imc Communities are eligible to pay Rate Zone I rates under
20 the Electric Tariff.

21 The Project extends BC Hydro’s existing system into the Southern St’at’imc Communities
22 through the construction of new facilities and the acquisition of existing systems under the
23 terms of the Grid Connection Agreement (Exhibit B-1, Appendix F). The Project is, therefore,
24 an “extension” under section 45(2) of the UCA and BC Hydro is deemed to have a
25 Certificate of Public Convenience and Necessity (**CPCN**) for the Project. BC Hydro notes
26 that the Project was identified as an “extension” in BC Hydro’s Annual Financial Report to
27 the BCUC filed on July 31, 2009 (Exhibit B-4, BC Hydro response to BCUC Information
28 Request (**IR**) 1.2.5).

1 The capital cost of the Project is well below the \$50 million threshold for BC Hydro capital
2 project filings. Nevertheless, BC Hydro filed the Application because the Southern St'at'imc
3 Communities are the first First Nation communities to receive electricity service under the
4 RCE program.

5 In the Application, BC Hydro noted that the Project is undergoing a *Canadian Environmental*
6 *Assessment Act (CEAA)* review. On February 2, 2010, the Canadian Environmental
7 Assessment Agency published the decision in respect of BC Hydro's CEAA Application for
8 the Project, stating that "after taking into account the implementation of appropriate
9 mitigation measures, the authorities are of the opinion that the project is not likely to cause
10 significant adverse environmental effects." As a result, federal authorities may "exercise any
11 power or perform any duty or function with respect to the project". BC Hydro is now in the
12 process of finalizing the necessary federal permits and authorizations (described in
13 Table 3-10 of the Application).

14 BC Hydro filed the following materials in this proceeding: Exhibit B-1 (Application) and
15 Exhibit B-4 (BC Hydro response to BCUC IRs (Exhibit A-2), BCSEA IRs (Exhibit C1-2) and
16 BCOAPO IRs (Exhibit C2-3)). BC Hydro respectfully submits that the filed materials clearly
17 demonstrate that the \$12.1 million in capital expenditure is in the public interest and should
18 be accepted by the BCUC. BC Hydro further submits that the customers in the Southern
19 St'at'imc Communities should be eligible to pay Rate Zone I rates in accordance with the
20 Electric Tariff.

21 II. THE RCE PROGRAM

22 The context of the BC Hydro RCE Program is described in sections 1.2 and 1.3 of the
23 Application.

24 In 2006, BC Hydro established the long-term objective "to provide appropriate electric
25 services to all remote communities on an equitable basis" and, in support of this, created the
26 RCE program. BC Hydro has identified 30 to 40 remote communities that may be eligible to
27 participate in the RCE program. In 2007, the British Columbia (**B.C.**) Government expressed
28 its support for the BC Hydro RCE program by way of Policy Action Items No. 27 and No. 28
29 of the 2007 Energy Plan, the RC Regulation and Special Direction No. 10. to the BCUC
30 (**Special Direction No. 10**) Under the RC Regulation, BC Hydro is obligated to provide

1 electricity service to anyone in a designated remote community who applies for service if
2 their premises are within 90 metres of a distribution system owned by BC Hydro in the
3 remote community.

4 III. THE SOUTHERN ST'AT'IMC COMMUNITIES

5 Sections 1.4, 1.5, 3.4 and 3.6 of the Application provide a description of the Southern
6 St'at'imc Communities and explain the Project in the context of the grievance negotiations
7 between the St'at'imc, BC Hydro and the Province of B.C.

8 In summary, the Southern St'at'imc Communities are First Nations communities located on
9 reserves in the Lillooet River Valley, and are comprised of the following communities:

- 10 • Port Douglas (Xa'xsta First Nation);
- 11 • Tipella (Xa'xsta First Nation);
- 12 • Skookumchuck (Skatin First Nation); and
- 13 • Baptiste Smith (Samahquam First Nation).

14 The Southern St'at'imc Communities form part of the St'at'imc. The St'at'imc, BC Hydro and
15 the Province of B.C. have for several years participated in negotiations to resolve historical
16 grievances related to BC Hydro's generation, transmission and distribution facilities located
17 within the traditional territory claimed by the St'at'imc (**Negotiations**). These facilities include
18 BC Hydro's 360 kV transmission line 3L2 which is located in close proximity to the Southern
19 St'at'imc Communities and crosses reserve lands.

20 The Southern St'at'imc Communities have existing centralized electricity services in the
21 communities which makes them quite different from Toad River in that Toad River did not
22 have any centralized electricity service.

23 The Southern St'at'imc Communities own (or rent) and operate the existing diesel
24 generators and distribution systems. The cost of electricity service is funded by the bands
25 and their members. Indian and Northern Affairs Canada (**INAC**) pays to the bands an annual
26 financial contribution towards the cost of providing electricity based on an INAC funding
27 formula. The INAC contributions only cover a portion of the actual costs of providing
28 electricity service.

1 **IV. THE GRID CONNECTION PROJECT**

2 The Project is described in sections 1.9 and 3.6 of the Application. In summary, the Project
3 extends BC Hydro's existing system into the Southern St'at'imc Communities through the
4 acquisition of existing systems and the construction of new facilities. More specifically, the
5 three main components of the Project are:

- 6 1. The acquisition of existing on-reserve electricity distribution systems;
- 7 2. The construction of approximately 30 km of new distribution lines; and
- 8 3. The construction of the RCE Upper Harrison Terminal substation, adjacent to the
9 Upper Harrison Terminal, and the Sachteen substation.

10 The planned in-service date is December 31, 2010. As of the date of the Application,
11 BC Hydro had received 54 applications for service out of an estimated 67 potential
12 customers. Since there is already electricity service in the Southern St'at'imc Communities,
13 the customers are already interconnected to the existing distribution systems.

14 BC Hydro expects peak demand in the Southern St'at'imc Communities to range from
15 245 kilowatts (**kW**) to as high as 502 kW, and total annual electricity consumption to be
16 approximately 3,700 megawatt-hours (**MWh**). BC Hydro will be able to supply this small
17 incremental load by way of existing resources on the integrated system (Exhibit B-4,
18 BC Hydro response to BCUC IR 1.2.6).

19 After the Project is complete, the Southern St'at'imc Communities will be served by clean
20 power from BC Hydro's integrated electrical system, rather than diesel generation. This will
21 reduce (or eliminate) air and GHG emissions, noise, the risk of fuel spills and site
22 contamination, and the fuel price risks associated with diesel generation.

23 As noted in sections 3.7 and 3.9 of the Application, the total project cost is estimated to be
24 \$30.1 million (as spent dollars) (\$27.9 million present value (\$2010)) and the rate impact will
25 be less than 0.045 per cent in F2012 and less than 0.01 per cent by F2034.

26 The capital cost of the Project is considerably higher, on a per customer basis, than a diesel
27 generation project like Toad River. However, this does not account for the substantial

1 reductions in operating and maintenance (**O&M**) costs, particularly in terms of reduced fuel
2 costs. The present value cost (capital plus O&M) of the Project net of contributions is
3 \$207,000 per customer while the present value cost per customer in Toad River is \$363,000
4 (Exhibit B-4, BC Hydro response to BCUC IR 1.12.1.3). Similarly, after taking into account
5 the expected customer additions over the next 24 years, the present value cost of the
6 Project is \$93,000 per customer and \$233,000 per customer in Toad River (Exhibit B-4,
7 Response to BCUC IR 1.12.1.4).

8 **V. THIRD PARTY CONTRIBUTIONS**

9 Although the Project is estimated to cost \$30.1 million, BC Hydro is only asking the BCUC
10 for an order in respect of \$12.1 million. The balance of approximately \$18 million will be
11 funded by contributions from the St'at'imc and INAC.

12 **A. The St'at'imc Contribution**

13 As discussed in sections 1.5 and 3.5 of the Application, BC Hydro originally intended to
14 provide electricity service to the Southern St'at'imc Communities by way of diesel
15 generation. However, the Southern St'at'imc were not satisfied with continued reliance on
16 diesel generation given their proximity to BC Hydro's existing infrastructure and their long-
17 standing position in the Negotiations that the existing BC Hydro infrastructure had negative
18 impacts on their communities. The St'at'imc advised BC Hydro that connecting the Southern
19 St'at'imc Communities to the electric grid would be a critical component of a long-term
20 settlement agreement in the Negotiations.

21 In the summer of 2007, BC Hydro proposed to connect the Southern St'at'imc Communities
22 to the grid to break the impasse in Negotiations. The proposal was viewed positively and
23 allowed the Negotiations to move forward.

24 As noted in section 3.5 and Table 3-5 of the Application, grid connection is a more costly
25 option for the Southern St'at'imc Communities than diesel generation. However, the
26 St'at'imc agreed in 2007 to make a financial contribution to the Project of \$9 million by way
27 of a set-off against a final settlement or court judgment (**St'at'imc Contribution**) which
28 represented, at the time, a reasonable estimate of the present value of the difference
29 between the cost of grid connection and the cost of diesel generation.

1 BC Hydro anticipates a final settlement with the St'at'imc in 2010. However, BC Hydro
2 acknowledges that it is possible that a settlement will not be achieved in 2010 or at all.
3 BC Hydro will address the impact of the overall settlement on ratepayers, including the
4 St'at'imc Contribution (which would form part of any such settlement), if and when a
5 settlement is achieved. However, if a settlement is not achieved and BC Hydro does not
6 receive the St'at'imc Contribution, this cost will not be borne by ratepayers (Exhibit B-4,
7 BC Hydro response to BCUC IR 1.9.1).

8 **B. Canada's Financial Contribution**

9 In 2008, consistent with Policy Action No. 28 of the 2007 Energy Plan, BC Hydro reached an
10 understanding with INAC whereby INAC agreed to pay \$8,993,000 towards the cost of
11 providing electricity service in the Southern St'at'imc Communities (**Canada's Financial**
12 **Contribution**). Canada's Financial Contribution represents a reasonable calculation of the
13 present value of what INAC would have paid to the Southern St'at'imc Communities had
14 they continued to provide their own electricity service. INAC may elect to make Canada's
15 Financial Contribution in one lump sum payment, or over a two to four year period
16 (BC Hydro notes that in subsequent First Nation communities, INAC contributions may be
17 up-front payments, like the Southern St'at'imc arrangement, or the payments may be a
18 combination of up-front payments plus a stream of annual payments over time). The 2008
19 arrangement in relation to the Southern St'at'imc Communities was subsequently formalized
20 in 2009 (Exhibit B-1, Appendix G). After Canada's Financial Contribution is paid, INAC will
21 no longer be responsible for making any further financial contributions towards the cost of
22 providing BC Hydro electricity service in the Southern St'at'imc Communities.

23 **VI. PROJECT ALTERNATIVES/OPTIONS**

24 **A. Diesel and Other Local Opportunities**

25 **Diesel.** Although BC Hydro originally contemplated the use of diesel generation to service
26 the Southern St'at'imc Communities, the St'at'imc clearly expressed their desire to be grid
27 connected and eliminate their reliance on diesel. In 2007, the St'at'imc agreed to make the
28 St'at'imc Contribution by way of set-off against any eventual settlement or court judgement.
29 After deducting the St'at'imc Contribution, the cost of the Project is equivalent to the cost of
30 diesel generation.

1 **Cloudworks.** Cloudworks, an independent power producer, owns and operates facilities in
2 the vicinity of the Southern St'at'imc Communities. BC Hydro had discussions with
3 Cloudworks in 2007 regarding the supply electricity to the Southern St'at'imc Communities
4 from Cloudworks' facilities. However, for the reasons set out in Exhibit B-4, (BC Hydro
5 response to BCUC IRs 1.3.1 and 1.3.2), Cloudworks was not interested in having BC Hydro
6 supply power to the Southern St'at'imc Communities through its facilities. BC Hydro
7 understands that Cloudworks was reluctant to enter into arrangements that would have the
8 effect of limiting its flexibility in operating its system, including the scheduling of outages.
9 Moreover, BC Hydro is reluctant to rely on a line owned by a third party to supply a
10 community, particularly if that third party is not a regulated public utility. BC Hydro would
11 have to rely on the third party to properly maintain its lines to ensure reliable electricity
12 service and to restore outages in a timely manner. There may also be challenges if the third
13 party ever experiences financial difficulties. And finally, BC Hydro does not consider placing
14 distribution lines on an existing transmission line to be a viable option for technical and
15 liability reasons (Exhibit B-4, BC Hydro response to BCUC IR 1.3.1).

16 **Tipella Micro-Hydro.** There is a micro-hydro site at Tipella, with a peak capacity of 30 kW.
17 However, as explained in Exhibit B-4, BC Hydro response to BCUC IR 1.3.3., the system is
18 not functional and would require a complete rebuild including replacement of the penstock,
19 intake screen and intake access bridge. The intake would have to be relocated because it is
20 inaccessible in the winter and frequently plugged. The facility is not sufficient to meet peak
21 energy and capacity needs, even in low demand months, and diesel generation back-up is
22 required. The micro-hydro system does not work in parallel with the diesel system, resulting
23 in frequent daily shut-downs as load increased above the capacity of the facility. In view of
24 the cost and operating challenges, this resource was abandoned as an option after the
25 decision was made to grid connect the Southern St'at'imc Communities.

26 **B. Grid Connection Alternatives**

27 As discussed at section 3.11 of the Application, BC Hydro considered five different grid
28 connection alternatives and ultimately selected Option 1. The main differences between the
29 options were the number of substations and the length of the distribution lines.

30 The analysis concluded that Options 1, 3 and 4 were the preferred options from a cost
31 perspective, with Option 3 being the lowest cost option (about \$3 and \$2.2 million less than

1 Options 1 and 4, respectively). All three of the options fell within the same cost “estimation”
2 range, in view of the accuracy of the estimates.

3 The main difference between Options 1, 3 and 4 is the fact that Options 3 and 4 have only
4 one substation, which reduces capital costs, but results in the requirement for considerably
5 longer distributions lines (54 km rather than 30 km for Option 1).

6 BC Hydro was concerned about implementing an option with longer distribution lines given
7 the remote nature of the Southern St’at’imc Communities and the probability of poor weather
8 conditions in the area. The extra length of distribution lines tends to reduce reliability and
9 increase operating and maintenance costs as a result of more, and longer, outages. As
10 noted in the Application, BC Hydro expects it may take about 30 hours to resolve any
11 outages in normal conditions. If the weather is poor, or crews are unavailable for whatever
12 reason, the time to resolve outages may take several days. Employee and contractor safety
13 is also a very important operational concern, particularly in view of the remote nature of the
14 communities and the poor winter conditions.

15 The evidence in this proceeding supports BC Hydro’s position that Option 1 represents the
16 optimal balance between financial costs, reliability, and important operational
17 considerations, such as safety, in view of the remote nature of the Southern St’at’imc
18 Communities.

19 **VII. RATE ZONE I RATES**

20 In BC Hydro’s submission, customers in the Southern St’at’imc Communities should be
21 eligible to pay Electric Tariff Rate Zone I rates as opposed to Rate Zone II (non-integrated
22 area) rates. The reasons are set out in Exhibit B-4, BC Hydro response to BCUC IR 1.1.1.1
23 and 1.1.2.1.

24 The crux of BC Hydro’s submission on this issue relates to the fact that had BC Hydro
25 proceeded with a two-step process, as described in Exhibit B-4, BC Hydro response to
26 BCUC IR 1.1.4.3, customers in the Southern St’at’imc Communities would have received
27 diesel generation service for a period of time at Rate Zone II rates and, after the subsequent
28 grid connection, would have received integrated service at Rate Zone I rates. By proceeding
29 directly to grid connection, total costs are reduced by about \$3 million, since there is no

1 need to upgrade or construct diesel generation facilities. It is therefore beneficial to
2 BC Hydro and its existing ratepayers to proceed directly to grid connection. It is unfair, in
3 BC Hydro's submission, for customers in the Southern St'at'imc Communities to pay Rate
4 Zone II rates simply because BC Hydro proceeded with the Project on a "one-step" rather
5 than "two-step" basis. If BC Hydro was to charge Zone II rates to customers in the Southern
6 St'at'imc Communities, they would be the only customers connected to BC Hydro's
7 integrated grid paying Rate Zone II rates (Exhibit B-4, BC Hydro response to
8 BCSEA IR 1.3.4).

9 BC Hydro notes that the 25-year present value difference between Rate Zone I rates and
10 Rate Zone II rates (which are higher) is \$244,000; the annual difference is therefore
11 relatively small.

12 BC Hydro acknowledges that the BCUC may come to the conclusion, in light of the wording
13 of Special Direction No. 10, that it cannot issue an order to the effect that customers in the
14 Southern St'at'imc Communities may pay Rate Zone I rates. If that is the case, then
15 BC Hydro respectfully requests that the BCUC simply decline to issue an order at all, rather
16 than ordering that customers in the Southern St'at'imc Communities must pay Rate Zone II
17 rates.

18 **VIII. FIRST NATIONS**

19 Chapter 4 and Appendices M1 - M16 of the Application provide detailed evidence on
20 BC Hydro's consultations with First Nations in respect of the Project. The Project is, of
21 course, intended to primarily benefit First Nations in the Southern St'at'imc Communities.
22 Before the filing of the Application, all of the identified First Nations either expressly
23 supported the Project or took no position. All identified First Nations were provided with
24 copies of the Application and none have intervened or expressed any concerns about the
25 Project or the Application.

26 BC Hydro submits that the evidence clearly demonstrates that consultations with First
27 Nations have been reasonable and adequate to this stage of the Project.

1 **IX. OTHER ISSUES**

2 **A. Government’s Energy Objectives**

3 As noted in section 3.12.1 of the Application, the Project addresses, and is consistent with,
4 all relevant government energy objectives, as defined in section 1 of the UCA.

5 **B. Environmental and Social Issues**

6 These issues are addressed in sections 3.10.1 and 3.10.2 of the Application. BC Hydro
7 submits that there are two key points:

- 8 • The Project has significant positive social and environmental benefits insofar as grid
9 connection is important both to resolving historical grievances with the St’at’imc and
10 to eliminating the Southern St’at’imc Communities’ reliance on diesel generation;
11 and
- 12 • The Project has undergone a thorough CEAA review and the responsible federal
13 authorities have concluded that the Project is not likely to cause significant adverse
14 environmental effects, after taking into account the implementation of appropriate
15 mitigation measures.

16 **C. Project Risks**

17 Section 3.14 of the Application describes all of the short-term implementation and long-term
18 operating risks associated with the Project. There are no material risks that cannot be
19 reasonably addressed or mitigated.

20 **X. CONCLUSION**

21 BC Hydro submits that the \$12.1 million in expenditures is in the public interest under
22 section 44.2(1)(b) of the UCA because:

- 23 • In view of the St’at’imc Contribution, the cost of the Project is equivalent to diesel
24 generation and, as between grid connection alternatives, the Project represents the
25 optimal balance between financial costs, reliability, and important operational
26 considerations such as safety, given the remote nature of the Southern St’at’imc
27 Communities;

- 1 • The Project will be an important catalyst towards a final resolution of historical
2 grievances with the St'at'imc which is important and beneficial to BC Hydro and all
3 BC Hydro ratepayers; and
- 4 • The Southern St'at'imc Communities will be able to stop their reliance on diesel
5 generation and instead use clean power from BC Hydro's integrated system. This will
6 reduce or eliminate air and GHG emissions, noise, and the risk of fuel spills and site
7 contamination, in addition to the fuel price risk associated with diesel generation.
8 This is not only consistent with the government's energy objectives in the UCA, but is
9 also important to those who live in the Southern St'at'imc Communities.

10 Finally, BC Hydro submits that it is fair and appropriate for customers in the Southern
11 St'at'imc Communities to pay the same Rate Zone I rates for their service as other BC Hydro
12 customers who receive electricity service from the integrated electricity system.

13 ALL OF WHICH IS RESPECTFULLY SUBMITTED

14 Dated: February 5, 2010

15 BRITISH COLUMBIA HYDRO AND POWER AUTHORITY

16
17
18

Per:



Ken Duke
Solicitor & Counsel