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August 21, 2009

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

Dear Ms. Hamilton:

**RE: British Columbia Utilities Commission (BCUC)  
British Columbia Hydro and Power Authority (BC Hydro)  
Toad River Electrification Project Application - Workshop Summary**

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BC Hydro is submitting a summary of the comments made at the workshop on the Remote Community Electrification (RCE) program and the streamlining of the regulatory process for the RCE program, in accordance with BCUC Letter No. L-53-09, July 23, 2009.

This summary of the workshop comments is divided into three sections. The first section identifies participants invited to the workshop and those who attended (Attachment 1). The second section summarizes the questions raised by participants related to the RCE program. The questions on Toad River that were asked in the workshop are also included. The third section summarizes the questions and comments raised by participants related to the streamlining of the regulatory process for the RCE program. Attachment 2 is the presentation slides of the workshop. Attachment 3 is a workshop handout on streamlining the regulatory process for the RCE program.

**1. Notice of Workshop and Attendance**

On August 14, 2009, BC Hydro held a workshop in the BCUC hearing room, inviting the following participants:

- BC Hydro F2009/F2010 Revenue Requirements Application intervenors;
- Northern Rockies Regional Municipality;
- Daylu Dena Council;
- Kwadacha First Nation;
- Dease River First Nation;
- Ross River First Nation;
- Liard First Nation;
- Kaska Dena Council; and
- Fort Nelson First Nation.

BC Hydro also placed workshop details on its external website and placed a notice of the workshop in the Vancouver Sun, the Vancouver Province, the Victoria Times Colonist and the Alaska Highway News.

BC Hydro is not aware of anyone who had an interest in attending the workshop but was not able to attend. The workshop participant list is provided as Attachment 1.

## 2. RCE Program Questions and Comments Summary

The following table provides a listing of the questions asked and answers given at the workshop.

Topic	Question	Answer
<b>Customers in Toad River</b>		
	How many people are in Toad River?	About 60 to 80.
<b>Application Timing</b>		
	Why is the Application being filed now after a commitment for service was made last spring?	BC Hydro wanted to have the distribution line in place before filing the Application.
	Does the order of filing after the line was constructed create a problem for the people that have invested in the distribution line in that it could become stranded?	Yes, this is why BC Hydro is interested in pursuing an alternative process for BCUC approval for future RCE applications. This current approach is resulting in the distribution line sitting unused in Toad River for a long time.
<b>Conditions for Service</b>		
	Was a commitment for service of electricity conditional on getting a CPCN?	The commitment for service by BC Hydro was on the condition that BC Hydro received a CPCN.
<b>First Nation Consultation</b>		
	Has consultation with First Nations been adequate?	BC Hydro is still in discussions with the Liard First Nation and will not construct the permanent diesel generation plant until, in BC Hydro's view, consultation has been adequate.
	When will BC Hydro confirm consultation has been adequate?	BC Hydro envisages in its final submission that it will communicate its assessment of consultation.

Topic	Question	Answer
	Has BC Hydro consulted with the Hereditary Chiefs or only the elected Chiefs?	For Toad River, BC Hydro has consulted with the elected members of the First Nations listed in the Application. The Liard First Nation has consulted with its membership in accordance with its internal protocol.
	What changes to the project occurred as a result of First Nation comments and have these resulted in a significant increase in cost?	The footprint of the generator station was reduced and moved to minimize impact on wildlife and wildlife habitat. This had some impact on costs because a retaining wall will now need to be installed. A rough estimate of this cost is \$100,000.
<b>Alternative Energy</b>		
	Has geothermal energy for the generation of electricity and heating been considered?	BC Hydro is aware of good geothermal resources near Toad River; however, geothermal plants for electricity generation are not available in the small size required for Toad River (geothermal plants are quite large). For heating, a ground source heat pump may be appropriate.
	Is there research done on other energy sources such as wind, solar and tidal and others for Toad River?	Yes, BC Hydro is considering putting in-stream, wind and solar energy.
	Is the 50 per cent alternative energy target based on the economics to replace diesel generation or will it be more expensive?	BC Hydro will look for the most cost-effective solution, based on the triple bottom line approach of economic, environmental and social. This approach will be used to develop a business case for alternative energy solutions.
	Is the 50 per cent goal on a program basis or community basis?	On a program basis.
	Will there be business cases for alternative energy projects?	Yes.

Topic	Question	Answer
	Would BC Hydro install the alternative energy projects or would these be put out for independent bids?	BC Hydro would like to put this out for IPPs to bid on. The concern BC Hydro has is that in the scan done by BC Hydro of the province looking for emerging technologies and to see if IPPs would be interested, no IPPs applied in the size range that BC Hydro would need. It appears not to be attractive to IPPs since the size of generation is small and because it is costly to access the remote communities.
	Can alternative energy projects for multiple communities be bid on to make it more attractive?	Yes, however this does not reduce the costs to access the remote communities.
	Will the community have the opportunity to develop the alternative energy power station?	When BC Hydro has permission to supply Toad River it will discuss this with the community.
	What is the cost per kilowatt hour for run-of-river hydro?	The exact cost is not yet determined but it is expected to be on par with diesel.
<b>Energy Costs</b>		
	What is the cost of electricity in Toad River?	A workshop participant suggests that it is around \$900 MWh.
	What is the cross-subsidy from current ratepayers to Toad River customers?	About \$29,000 per customer
<b>Diesel Generation</b>		
	Why the need for three generators and not just two?	BC Hydro's non-integrated area has adopted what is called an N-1 reliability criteria which means the single largest generator could be offline and there would still be enough capacity to meet peak load. So the two 275 kW units could achieve N-1 reliability criteria. The third generator is included to obtain better fuel efficiency at lower loads.

Topic	Question	Answer
	What dollar savings would be involved to have two generator units instead of three?	The incremental cost of each of these generator units is approximately \$100,000 to \$130,000. Much of the \$2.3 million cost of the generator station is for the support infrastructure such as the fuel tanks, building and controls and would not be avoided if the station had only two generator units.
	What savings with spare parts would occur with only two diesels?	Regarding ongoing maintenance costs, BC Hydro does not expect to run all three units at the same time and therefore maintenance should not be substantially more for three units versus two units.
	What kind of generators will be installed in Toad River?	The generators are John Deere units.
	Are the generators assembled in B.C.?	There is a good local supply infrastructure for diesel engines but BC Hydro does not know where the units are manufactured.
<b>Electric Tariff</b>		
	Why reject from the DSM plan rates for the RCE program and Toad River that would support the balance between electricity and heating fuels?	Rate changes are not part of the mandate for the RCE program. Additionally the residential Zone II rates are already inclining.
	Is BC Hydro cutting off power from people's homes who can't make their payments and has anyone died as a direct result of this?	BC Hydro staff at this workshop are not able to answer this question.
<b>Demand Side Management</b>		
	What measures is BC Hydro thinking about and how will they be delivered?	BC Hydro has consulted with 24 households in Toad River to understand what these customers have currently in their homes. Based on this, lighting, appliances, and block heaters are areas being looked at. Exactly how BC Hydro will deliver energy efficiency programs to Toad River has yet to be determined (i.e. the bundle of incentives, the value attributed and the means of getting the product to Toad River customers).
	Is the avoided cost of fuel \$.3/kWh?	Yes.

Topic	Question	Answer
	Are the DSM costs in the financial calculation for Toad River?	No it is not since it is deferred capital and BC Hydro does not expect to lose money on DSM.
<b>Fuel Switching</b>		
	Is propane extensively used in Toad River?	Yes.
	What is BC Hydro doing to ensure propane remains a viable fuel after electrification?	As part of the Power Smart for Remote Communities Program, BC Hydro will do everything it can, within its mandate, to make sure the community is as overall fuel efficient as possible.
<b>Other Topics</b>		
	Has BC Hydro informed the community of the impact on the natural resources within Toad River and provided full disclosure of the impacts of its services?	Because the Liard First Nation, expressed the interest in speaking to BC Hydro, BC Hydro fully disclosed everything about the project to Liard First Nation including walking the site with them.
	Is Toad River incorporated or not?	Toad River is not incorporated, but is within the Northern Rockies Regional Municipality (NRRM).
	If by taking electric service from BC Hydro does the community become incorporated?	No, Toad River does not become incorporated by taking service from BC Hydro.
	Do other municipal services such as waste water treatment follow the supply of electricity by BC Hydro?	It is not BC Hydro's role to provide these services.
	Why was the workshop not held in Toad River?	BC Hydro has held several workshops in Toad River. This workshop is specific for the Application to the BCUC and so is being held in Vancouver so BCUC staff and intervenors can attend.
	Why aren't the First Nations from the area around Toad River at the Workshop?	They could be if they wanted to. They were informed and they chose not to attend.
	The map shows the name Muskwa-Kechika, but this name does not appear for any of the First Nations. Why?	Muskwa-Kechika is not the name of a First Nations, but is the name of the land and resource management area established by the Province and is managed with a Board which includes First Nations representation.

Topic	Question	Answer
	Has BC Hydro sold off power projects to other corporations?	No.
	Is there rent paid to the original people who own that land?	No.
	How did BC Hydro acquire the land?	BC Hydro acquired the land from the Crown.
	Why shouldn't we have free power?	BC Hydro is unable to speak to this question as part of this workshop.
	What is the value of the Indian and Northern Affairs Canada (INAC) contract?	There is no contract between BC Hydro and INAC. INAC has documented its support of the RCE program and the contributions it will make if asked to by First Nations communities. BC Hydro believes the INAC contribution when all 34 First Nation communities are served by BC Hydro would be around \$20 million (NPV) for the operation, maintenance and fuel costs and \$35 million (NPV) for generation capital.

### 3. RCE Regulatory Process Process

BC Hydro started this section of the workshop by distributing the Discussion Document (Attachment 3).

BC Hydro suggested two approaches which are:

- In the submissions for the Toad River proceeding, intervenors and BC Hydro can offer thoughts around a process which the BCUC could then take away and use to develop a RCE process; or
- After the written submissions, BC Hydro could meet with intervenors to discuss and come up with some alternatives. Then BC Hydro would provide a proposal to the BCUC in a process separate from the Toad River application.

Workshop participants seemed to support an exemption (section 45(4) of the *Utilities Commission Act*) from requiring CPCNs. However, there was a desire among a number of intervenors to establish rules/criteria/conditions that might trigger a filing despite the exemption.

Workshop participants were also of the view that any such criteria and or conditions that would need to be developed can not be finalized until after: i) the BCUC issues its

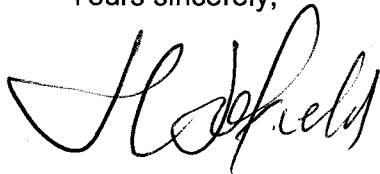
decision on Toad River Electrification Project; and ii) an application for a First Nations community electrification project has been filed with the BCUC.

Since intervenors appear to want a streamlined regulatory process to be determined only after a decision on the Toad River project, and after a First Nations application has been filed, BC Hydro is of the view that the second proposed approach is more appropriate, with timing to be determined.

BC Hydro will provide, on Friday, August 28, 2009, further comments on developing a streamlined regulatory process for the RCE program.

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

Yours sincerely,



Joanna Sofield  
Chief Regulatory Officer

Enclosures (3)

- c BCUC Project No. 3698500 (BC Hydro F2009/F2010 Revenue Requirements Application) Registered Intervenor Distribution List

Fort Nelson First Nation; Kaska Dena Council; Liard First Nation; Ross River First Nation; Dease River First Nation; Kwadacha First Nation; Daylu Dena Council



# Toad River EPA Workshop Summary Attachment 1

## Workshop Participant List

	Registrant	Company/Organization
1	Eugene Kung	BCOAPO et al
2	Bill Andrews	BCSEA et al
3	Tom Hackney	BCSEA et al
4	Brian Williston	BCUC
5	Don Flintoff	BCUC
6	Peter Mason	Biomass Energy Developments
7	Ronald Mitchell	Biomass Energy Developments
8	Colin Fussel	C Fussel Consulting
9	David Craig	CECBC
10	Mack Majur	Fraser Valley
11	Douglas Fugge	Fugge Family
12	Diane Perry	Green Party B.C.
13	Brian Wallace	JIESC
14	Mary Anne Perry	Lake Babine Nation
15	Ronnie West	Lake Babine Nation
16	Capilano	Sovereign Squamish Nation Government
17	David Hill	Sovereign Squamish Nation Government
18	Irene Gravgenhortst-Kratiramoq	Sovereign Squamish Nation Government
19	Dhelo Qhete	Sovereign Squamish Nation Government
20	Jim Weimer	Weimer Consulting

Toad River Electrification Project Application

Workshop

August 14, 2009

**BC**hydro 

## Objectives of the Workshop

1. Review the context for remote community electrification
2. Review and answer questions on the Toad River application
3. Review and answer questions on the RCE Program
4. Discuss options to streamline RCE regulatory process

- Toad River is the 1<sup>st</sup> application to the BCUC under the RCE program
- Orders Sought in Application:
  1. Certificate of Public Convenience and Necessity (CPCN) for Toad River;  
and
  2. Amendments to Electric Tariff.

## Context: The RCE Program

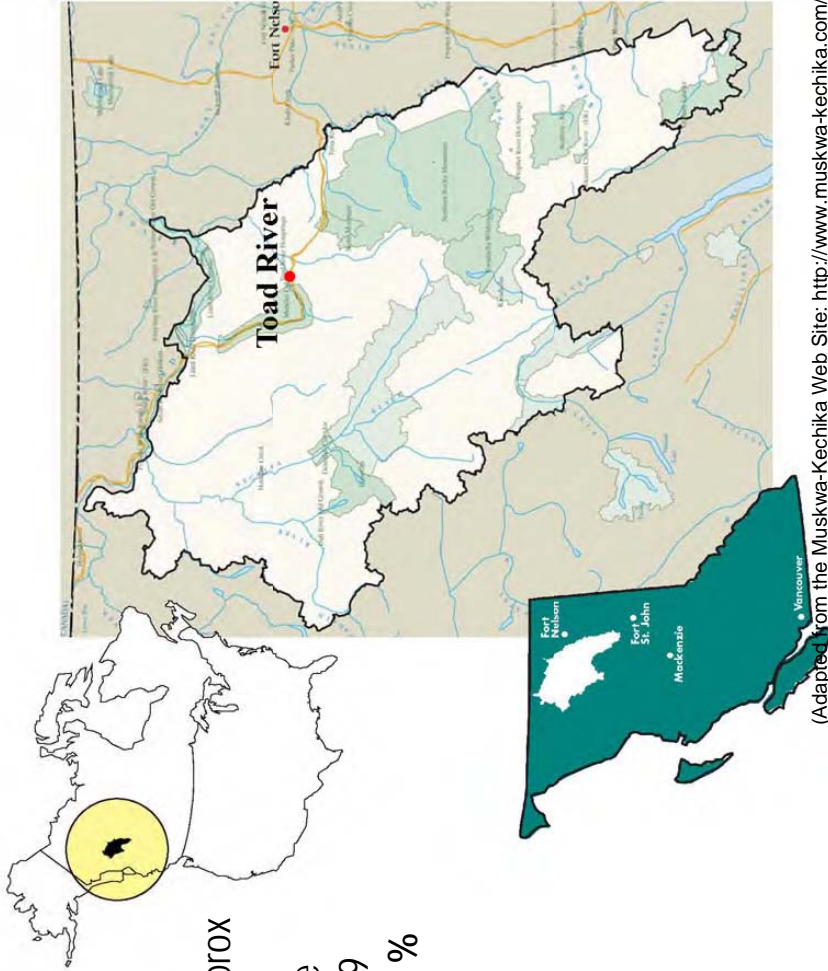
- Initiated in 2005 after remote community electrification was identified as a long term goal in BC Hydro's F2006-F2008 Service Plan.
- Prime objective arising from this goal is for BC Hydro to provide reliable, safe, cost effective electric utility service in all willing and eligible remote communities by 2017.

## Context: The RCE Program

- BC Energy Plan 2007
  - Electricity Policy Actions 27 & 28 (Appendix C)
- *Remote Communities Regulation* (Appendix D)
- Special Direction #10 (Appendix E)

## The Toad River Project

- Distribution system (NRRM, community of Toad River)
- Diesel generation (BC Hydro)
- Expected peak load 235kW, approx 850 MWH annual consumption
- 27 customer applications to date
- Target in-service date: Fall 2009
- **Cumulative Rate Impact: 0.03 %**
- Revenue Requirement F2011: \$800,000



(Adapted from the Muskwa-Kechika Web Site: <http://www.muskwa-kechika.com/>)

## Cost of Providing Service to Toad River

Generator Capital	\$2,238,000
25 Year NPV	\$9,800,000
First Year O&M	\$168,000
First Year Fuel	\$236,000
First Year Revenue	\$75,000



## **Toad River: Current Activities**

- Demand Side Management
- Alternatives / Renewables
- First Nations
- Temporary generators

## Eligibility Criteria

Community must be on the schedule to the *Remote Communities Regulation*.

If a community is not already on the schedule, BC Hydro may recommend to the Province that it add the community if it meets the following criteria:

- ✓ is currently off-grid in a remote area;
- ✓ has 10 or more permanent year-round residences;
- ✓ applies to participate in the RCE Program; and
- ✓ is able to demonstrate substantial community support.

## RCE Community Characteristics

- 34 Communities
  - 21 First Nations (“on reserve” communities)
  - 13 Civic

Population and load much smaller than existing NIA communities

Average NIA dwellings: 500

Average RCE dwellings: 26

## Who pays for what

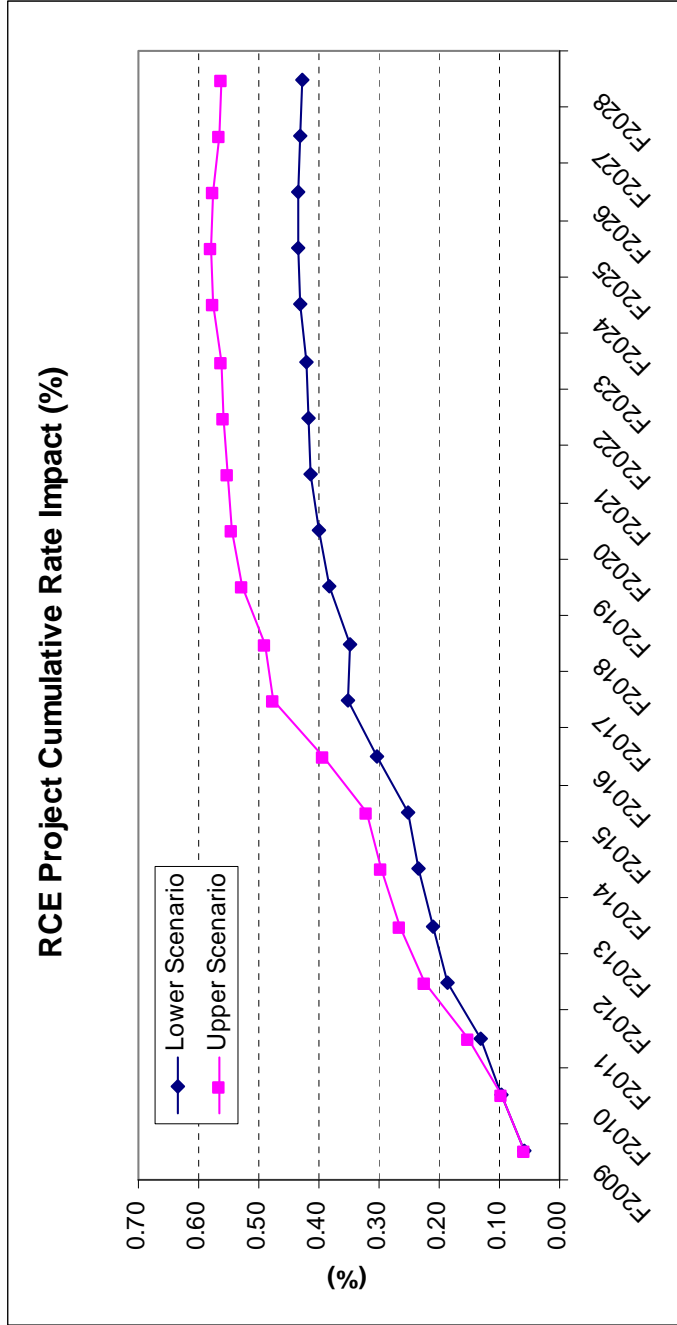
Pre-Electrification (RCE Program)	
Capital	<ul style="list-style-type: none"> <li>– Thirty-four (34) communities are electrified between F2009 and F2017.</li> <li>– INAC to fund the construction or upgrade of distribution line and generation assets in First Nations communities.</li> <li>– Civic communities to fund the construction or upgrade of distribution line assets in civic communities.</li> <li>– BCH to manage and fund generation in civic communities.</li> </ul>
Post-Electrification (BC Hydro utility service)	
Capital	<ul style="list-style-type: none"> <li>– BCH to plan, manage and fund upgrades / replacements to BC Hydro-owned plant in all communities consistent with contemporary practices in existence in BC Hydro.</li> </ul>
O&M and COE	<ul style="list-style-type: none"> <li>– BCH to manage and fund Operations &amp; Maintenance of electrical works (both distribution and generation) and COE, net of INAC funding, consistent with contemporary practices in existence in BC Hydro.</li> </ul>
Customer Revenues	<ul style="list-style-type: none"> <li>– BCH to bill customers per the Electric Tariff</li> </ul>

### Estimated Program Cost:

RCE Program (Pre-Electrification Phase, F2007-F2017, F2009 NPV \$M)		15-20
Program Staff & Delivery (OMA)		
Pre-electrification Capital		<u>10-25</u>
<b>RCE Program Total</b>		<b>25-45</b>
BC Hydro Utility Service (Post-Electrification, F2010-F2028)		
Incremental Labour and Long-Term Electricity Planning		5
Gross O&M and COE		75-90
Plant upgrade/replacement		20-30
Less:		
INAC Funding (partial offset for First Nations O&M & COE)		(20)
Customer Revenue		<u>(10-20)</u>
<b>BC Hydro Utility Service</b>		<b>70-85</b>
<b>Net 20-Year NPV For Confirmed Program Costs</b>		<b>95-130</b>

### Rate impact forecast

- range from 0.1-0.6% from F2010 to F2028



RCE Alternative Energy and Emerging Technology Strategies



- IPP Attraction
- Site-specific studies are required to determine the viability of these programs
- Pilots for micro sized off-grid clean energy technology
- Wind, wave, in-stream, and tidal are unproven in BC
- This new technology could also be useful for NIA communities

	Proven Tech	Supported Tech			Emerging Tech		
		Small Hydro	Biomass	Wind	Wave	In-Stream Hydro	Tidal
Number of projects	8	6	6	1	2	2	
Total Capital Cost (M\$)	30	30	4	2	1	2	
% of Total Projected RCE Electricity Demand	25%	30%	10%	1%	1%	1%	

Source – Resource Option Scan, 2007 (Desk Study to identify possibilities for further study)

- Regulatory streamlining opportunities



**Remote Communities Electrification Program  
Regulatory Options - Discussion Document**

**A. Comments received about Toad River application / RCE regulatory process:**

- Disproportionate effort, cost and application size
- Bundle applications rather than one application at a time.
- File earlier
- File for the entire RCE program

**B. Regulatory context**

- The large majority of RCE communities will be new service areas that will not be physically interconnected to the existing BC Hydro system.
  - Certificate of public convenience and necessity.
  - Tariff amendment to include specific communities.

**C. Objectives:**

- Reduce the cost, size and number of RCE applications (proportionality).

**D. Options**

- Option 1. Individual applications.
- Option 2. "Bundled" applications (2+ at a time)
- Option 3. Blanket RCE program exemption.

**E. Blanket RCE Program Exemption (Option 3)**

- Section 45(4) of the UCA allows the commission, by regulation, to exclude utility plant or categories of utility plant from s. 45(1) [requirement for a CPCN].
- The costs of RCE program and electrical service would be in revenue requirement applications.

**F. Process**

- Is a full written hearing necessary for each application?
- Can the form of application be simplified?
- What information does the Commission and intervenors want included with each application? Business case? CEP? First Nation consultations?
- Should applications be filed earlier in the project process?
- BC Hydro may not be able to coordinate all applications, and information to be filed, so as to "bundle" the applications and file them concurrently.