Info Session Date and Location
February 23, 2005
Sea to Sky Hotel
40330 Tantalus Way, Squamish, B.C.

Attendees

<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation/Interest/Organization</th>
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<tr>
<td>George Beer</td>
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<td>John K. Eucluser</td>
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<td>Lyall Fetherstonhagh</td>
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<td>Sarah Hunt</td>
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<td>Shamsher Kang</td>
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<td>Craig McConnell</td>
<td>Enviro-Guard Technology</td>
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<td>Doug Morrison</td>
<td>Interested party</td>
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<td>Jane Newlands</td>
<td>BC Transmission Corporation, Senior Advisor/Consultant, Public Engagement Process</td>
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<td>Tom Rankin</td>
<td>Interested party</td>
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<td>Nicola Temple</td>
<td>Interested party</td>
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<td>Arlene Shwetz</td>
<td>BC Hydro, Communications (observer)</td>
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BC Hydro/IEP Representatives

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<tr>
<th>Name</th>
<th>Organization &amp; Department</th>
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<tr>
<td>Charlotte Bemister</td>
<td>BC Hydro, Community Relations</td>
<td>Host/ Facilitator/ CR</td>
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<tr>
<td>Lindsay Fane</td>
<td>BC Hydro, Power Planning and Portfolio Management (P3M)</td>
<td>Technical Resource</td>
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<tr>
<td>Rohan Soulsby</td>
<td>BC Hydro, Power Planning and Portfolio Management (P3M)</td>
<td>IEP Presenter</td>
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<tr>
<td>Michael Harstone</td>
<td>Compass Resource Management (External Consultant)</td>
<td>Workshop Facilitator</td>
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<td>Elizabeth Panozzo</td>
<td>Consultant</td>
<td>Note Taker</td>
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Discussion Highlights

1. Introduction/Overview
Charlotte Bemister formally welcomed all attendees to the 2005 IEP and introduced the members of the IEP team. She then provided a brief introduction to the 2005 IEP process and outlined the agenda for the session before handing over the presentation to Rohan Soulsby.

2. IEP Presentation
Rohan Soulsby delivered a power point presentation to provide an overview of the 2005 Integrated Electricity Plan (IEP). He described what an IEP is and explained why it is needed, particularly in the context of BC Hydro’s business planning and regulatory process. He also outlined how BC Hydro does an IEP, with a description of the key steps in the IEP process (establish objectives, demand/supply balance, inventory of resource options, portfolio evaluation, action plan). Then he reviewed the 2004 IEP outcomes and highlights and feedback solicited from First Nations and stakeholders. Finally, he outlined the process and principles of stakeholder engagement for the 2005 IEP.

2.1 Questions and Discussion
Following is a summary of the points of clarification and discussion that took place during and after the presentation:

• What does an annual 1.5% growth in electricity consumption translate to? 1000 GWh/yr. This figure was referred to, by an attendee, as a shortfall; it is actually a figure for load growth.

• Demand and Supply Outlook. Rohan elaborated on the original, purely illustrative presentation slide with 2 slides showing actual projections of supply and demand for energy and capacity (energy has a temporal view, whereas, capacity is instantaneous). Both reflected the projected effects of the following planned programs and activities: Power Smart Program, Duke Point coming on stream in 2008, increased generation from Burrard Thermal in 2009, and finally Burrard Thermal being retired from production in 2014.

• Is Squamish included in the Lower Mainland Region for the purposes of IEP planning? Yes. (consultations were not held in Squamish for the 2004 IEP).

• Why is small hydro not indicated as a key resource option (RO) in the Lower Mainland Region? Will be answered in a post meeting note.

Post meeting note: Small hydro should have a check mark in the Lower Mainland portion of the “Key ROs by Region” table. In the 2004 IEP, there were 132 potential small hydro sites identified in the Lower Mainland. The table was updated for future sessions.

• How was the Vancouver Island Call for Tenders (CFT) defined? Concerns were expressed that the CFT was defined by resource option (i.e., natural gas generation). Rohan clarified that the Vancouver Island CFT was not limited to natural gas generation. It was open with respect to the technology to be used but was project specific in that it was scoped to ask for dependable capacity to be delivered within a
limited time frame. Only projects that could be completed in time to meet predicted shortfalls were considered.

- **Is liquid nitrogen being considered by BC Hydro as a thermal generation fuel (i.e., for Burrard)?** No. There is currently no utility scale generation using nitrogen. It is still a technology in development.

- **Reconciliation of BC Hydro’s goal of “no net environmental impact” when specific projects with known impacts are considered:** This concern was raised with respect to Site C. It was clarified that this is a long term goal. BC Hydro must still consider activities/projects that may impact the environment, but it must ensure that in the long run (i.e., 20 year planning period) there will be no net environmental impact. BC Hydro can work to mitigate environmental impacts.

- **Independent power production and concerns for sovereignty over public resources and self-sufficiency:** Concern was expressed that BC Hydro support of Independent Power Producers (IPPs) to supply incremental energy would affect B.C.’s sovereignty over publicly owned resources and might in effect be a form of privatization. There was strong support among attendees for public ownership of all assets to ensure security and self-sufficiency. The reply was made that the current BC Hydro requirement for incremental resource acquisitions to be made through independent power production, save for improvements to the existing BC Hydro system, is a matter of public policy as dictated by the provincial government’s 2002 Energy Plan.

- **Length of Independent power production contracts:** Further to the above, the average 20 year contract length that Independent Power Producers (IPPs) have to supply BC Hydro was viewed as too short. Rohan noted that some contracts are evergreen with annual renewal provisions, but generally, BC Hydro does not have the first right of refusal on most contracts. In reply to the concern expressed by attendees, that contracts be made longer, it was explained that IPPs would then be faced with assuming more risk, particularly price risk.

- **Do Independent Power Producers (IPPs) have rights to the transmission system after BC Hydro contract expiration?** It was clarified that the assets of the BC transmission system are still owned by BC Hydro, while the BC Transmission Corporation (BCTC) is responsible for the planning and management of those assets. In entering a contract with an IPP, BC Hydro will buy power from the IPP and arrange transmission. If, after 25 years, the IPP were to not renew its contract with BC Hydro, it would have to arrange its own transmission with the BCTC and pay for it.

- **What is the benefit to the public of BC if IPPs have the right to export power to the U.S. after their contracts with BC Hydro expires?** Rohan recognized that IPPs would be motivated by economics. However, given that BC Hydro pays the market rate for power from independent producers, with no cap set, and rates resulting from competitive calls, BC Hydro is likely to maintain its competitive advantage over other utility’s purchasing power. There ensued a discussion of the current rates IPPs receive for new energy production ($55-60/MWh, which is comparable to the $.065/KWh retail rate) relative to the wholesale cost of energy from heritage resources ($.025/KWh). As incremental energy sources are added over time to meet the growth in load, the average embedded cost for electricity will increase. Other utilities (i.e., in the U.S.) are also acquiring additional resources, but starting at a higher embedded energy cost.
As long as BC Hydro continues to acquire resources in a competitive way, it will maintain its competitive advantage.

- **Will stepped rates be implemented for industrial customers?** Currently, industrial customers are charged different rates for additional capacity, but there are no stepped rates in place for energy. BC Hydro will be submitting an application to implement stepped rates for industrial customers in 2 months. Currently there is only one rate of $0.036/KWh for industrial customers, and $0.065/KWh for residential customers.

- **Cheakamus Hydro facility compared to new run-of-river hydro generation by Independent Power Producers (IPPs) - which is better?** A participant who recognized the storage value of dam reservoirs asked the question. In response, the point was made that while reservoirs do provide the security of dependable capacity that may not be provided by smaller run-of-river hydro with limited storage, the efficiencies of modern units are much greater than older designs.

- **Why isn’t BC Hydro being more supportive of wind and other alternative energy resources?** This question was posed in light of the attendee’s view that a large public hydroelectric utility such as Quebec Hydro was more of an innovator in supporting alternative/emerging energy sources than BC Hydro. An attendee also suggested, that acquisition calls to the private sector be made specifically for wind power. In reply, some of the difficulties in utility wind generation were reviewed (an intermittent resource, distance from load, electricity storage issues, and associated higher cost). BC Hydro currently has one of the highest standards for clean incremental energy (50%). Recent acquisition calls to the private sector for new resources have resulted in one wind project successfully receiving an electricity purchase agreement.

**Post Meeting Note:** Through the 2005 IEP, BC Hydro and consultants have identified and mapped B.C.’s potential wind resources and made the information available on both the BC Hydro website and on CD (by request). BC Hydro has not focused on supporting specific renewable technologies (such as wind), rather our strategy is to identify and apply the liabilities and values related to environmental performance within an open and competitive acquisition process.

- **What about clean energy financial credits?** A participant recommended this as an incentive to encourage green energy production.

- **How actively is BC Hydro pursuing Power Smart? How many more savings can be realized?** Power Smart has considerable potential for ongoing energy savings and is the largest resource option being pursued by BC Hydro. Nevertheless, it needs to meet the economic test. Costs for Power Smart are capped; therefore it cannot be supported if it costs more than it saves. This led to a discussion of customer inefficiencies (i.e., lights being left on at facilities) and the use of rates to encourage conservation. BC Hydro cannot mandate customer conservation, but a significant portion of the Power Smart program is aimed at education.

- **What is the benefit of independent power production in B.C. as opposed to importing energy?** If BC Hydro will have to buy at market rate in any case, the benefit of independent power production was questioned. Rohan outlined the benefit in terms of security of supply (beyond the market issues), since power produced by the private
sector in B.C. would not be impacted by the legislations and policies of other jurisdictions.

3. Group Exercise
Due to the limited number of participants, this exercise was conducted with the whole group rather than in break out groups. Charlotte Bemister asked attendees to consider what their values and preferences around energy resources were and to consider the kind of trade-offs they would be willing to make.

**Question 1:** In developing future electricity resources, what are the most important factors to you?

Participant comments are as follows:

- **Security and public ownership of all power** (including new incremental resource acquisitions):
  - Public ownership was considered key to providing security of energy supply.
  - Public ownership would allow potential economic gains in power sales to accrue to the province, rather than possibly having to rely on imports in the future at high market rates.
  - No to IPPs; once the resource is in private ownership it is gone, a lost opportunity for us to build ourselves later.
  - High voltage power ownership.

- **Price signals to encourage conservation:**
  - Green rates.
  - Traditional vs. green rates for electricity (allow the market to choose and support green options).
  - Green energy certificate program (currently available for industrial customers); extend this to residential users.
  - Time of use rates (peak vs. off-peak rates). BC Hydro has a time of use metering pilot project involving 1000 households in the works.

- **Invest in Power Smart** (to increase opportunities to reduce load):
  - Energy audits - BC Hydro currently does conduct such audits.
  - Refitting street lights with power smart bulbs - opportunities for large savings.
  - Some participants would even like to see conservation legislated.

- **Limit run-of-river projects:**
  - Gold rush mentality in the private sector is resulting in the best sites going to independent power production, limiting opportunities for public power in the future.

- **Diverse and broad energy mix with least environmental impact:**
  - Concern was expressed that new resource acquisitions would be concentrated in small hydro and natural gas. The group was reminded of the many resource options being considered in the IEP and that recent calls have been designed to incorporate a wide range of technologies.
• Alternative and new energy sources:
  - Design calls for new resource acquisitions for the full range of options (e.g., calls specifically designed for wind).
  - Political will needs to be displayed to support and implement alternative green energy sources.
  - Potential for wind power generation on Vancouver Island; support technological development of wind generation.
  - Nuclear energy was supported by one participant, but was precluded from being used by the 2002 Energy Plan.

• Cost effectiveness:
  - There is no rush for new technology, if it is not economically viable.

• Reliability:
  - Very important.
  - Disagreement with how BC Hydro is going about providing reliable supply (reliance upon independent power production). Rohan Soulsby reminded the group that BC Hydro planned to provide a certain level of contingency to meet its goal of supplying reliable electricity.

• Environmental concerns:
  - Clean, environmentally sound green energy sources.
  - Kyoto and green house gases/ local emissions.

• NAFTA challenge:
  - Implications for bulk water sales were compared to electricity sales.
  - Concern that sale of power by IPPs to the U.S., once contracts with BC Hydro expire, will be equivalent to the sale of a resource and subject to a NAFTA challenge, giving U.S. utilities the right to demand power at our domestic rate.
  - Concern with devolution of BC Hydro and the loss of autonomy over transmission (BCTC/BC Hydro split and tie into Grid West).
  - Larger vs. smaller projects. There was some discussion over what would be preferred; different individuals had different ideas depending upon whether or not assets were publicly owned (especially comparing large hydro, to small hydro).
  - A participant commented that the issues of which technology and where, should be determined by BC Hydro as they have the appropriate technological information. Michael Harstone responded that BC Hydro is trying, through the IEP process, to gain an understanding of stakeholders’ values around a whole suite of resource options and their impacts, to inform the IEP planning process.

Question 2: Which of these factors would you be willing to pay more for?

Participant comments are as follows:

• Sovereignty: A participant suggested that the public would end up paying less if public ownership of all power was ensured, as the public would not have to pay higher North American market prices.
4. Questions and Discussion

- **Geothermal power:** How many projects are under development? One major one. Why has Meagre geothermal potential not been developed? Because hydro power is comparatively inexpensive, utilities in locations such as California offer wind subsidies because they are also faced with much higher energy costs and have more leeway in the types of energy sources they can develop.

- **Would power from independent power production on the Skagit River tie in directly to the U.S.**? The Skagit treaty would influence this.

- **Order of priority in developing resources.** A concern was expressed that, while less clean resources will need to be brought on stream eventually, priority should be given to reliable, clean, environmentally sound options.

- **Develop marginal resources to address regional energy needs.** A participant suggested the development of wind energy in locations with high wind potential to deliver power to minor load centres located close to the source.

- **Are there other jurisdictions/countries with a central utility similar to BC Hydro that has state owned as well as privately owned power facilities?** Yes, Denmark and other European countries, as well as other Canadian and U.S. owned utilities. No IPPs are currently selling power outside of B.C.

4. **Summary of Meeting and Next Steps**

Charlotte Bemister informed the group that notes from tonight’s session would be summarized and posted, together with the presentation materials, on the BC Hydro IEP website.

The results of this meeting would be related to the workshop taking place the following day, which interested individuals were welcomed to attend.

Attendees were asked to complete feedback forms to indicate how this consultation process was valued and/or how it could be improved. Rohan Soulsby reminded the group of opportunities to participate in IEP sessions being held in September.

Finally, Charlotte thanked everyone for attending and providing feedback.

**Contact Details**

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