Info Session Date and Location
March 3, 2004
Sandman Hotel Inns and Suites
1944 Columbia Ave., Castlegar, B.C.

Attendees and Interests

<table>
<thead>
<tr>
<th>Names</th>
<th>Interest/Organization</th>
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<tbody>
<tr>
<td>Ruby Marsh</td>
<td>Public, Castlegar</td>
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<tr>
<td>Fred Marsh</td>
<td>Electrical Consumers Association, Castlegar</td>
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<td>Art Miner</td>
<td>Public, Castlegar</td>
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<tr>
<td>Brent Hancock</td>
<td>Independent Power Producer, Castlegar</td>
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<tr>
<td>Unidentified</td>
<td>Alberta resident, guest with Brent Hancock</td>
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<tr>
<td>Neil Murphy</td>
<td>Glacier Power, Maple Ridge</td>
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<td>Gary Petit</td>
<td>Public, Castlegar</td>
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<tr>
<td>Bill Duncan</td>
<td>Teck Cominco Metals Ltd., Trail</td>
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<td>Rick Chmielewski</td>
<td>Acres International, Castlegar</td>
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<td>Graham Kenyon</td>
<td>Public, Castlegar</td>
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BC Hydro/IEP Representatives

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<thead>
<tr>
<th>Name</th>
<th>Responsibility</th>
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<tr>
<td>Kristann Boudreau</td>
<td>Session Facilitator, BC Hydro, Vancouver</td>
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<tr>
<td>Samantha Petticrew</td>
<td>Technical Resource, BC Hydro, Vancouver</td>
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<tr>
<td>Sue Heaton</td>
<td>Session Host/Facilitator, Community Relations, BC Hydro, Castlegar</td>
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<tr>
<td>Allan Woo</td>
<td>Technical Support - Columbia River Issues, BC Hydro, Castlegar</td>
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<tr>
<td>Margaret Birch</td>
<td>Note Taker</td>
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Discussion Highlights
1. Introduction/Overview
Sue Heaton (Session Host) welcomed participants to the public evening information session and thanked them for attending. She asked each of the Integrated Electricity Plan (IEP) Team representatives to introduce themselves, followed by each participant introducing themselves.
2. IEP Presentation

Kristann Boudreau (Session Facilitator) gave a Power Point presentation overview of the Integrated Electricity Planning process for 2005. Various questions arose during the presentation:

What do you mean by ‘no net environmental impact’?  
This is one of BC Hydro’s bold goals. It involves exploring options where environmental impacts are avoided or mitigated.

Regarding the BC Hydro goals regarding ‘self-sufficiency’ and ‘no net environmental impact’, what can you tell me about staff or contractors completing Resource Smart upgrades at Mica, Site C, and G.M. Shrum power house union contracts.  
The 2005 IEP is addressing BC Hydro’s electricity supply needs for the next 20 years. Contract calls for Resource Smart upgrades are out now and are in the process of being awarded.

Are union people being used for work at Mica?  
Sue Heaton agreed to obtain the information if the participant would like it.

A participant expressed concern about quality of work and the need for apprenticeship-style programs.  
**Action:** Sue will provide information about this comment and an answer to the previous question in writing to Art Miner.

Does the slide in the presentation showing a generic example of the balance of supply and demand over the next 20 years assume that demand will continue to rise? 
Yes, based on BC Hydro’s current and best available forecasts. BC Hydro hopes to reduce the demand for power over time despite growth in population and the economy - but these are the current forecasts..

**Comment:** Power demand can decrease when prices increase; this action, in the future, would reduce higher rates being implemented.

BC Hydro needs to be able to supply a total amount of energy for every day of the year for British Columbia. The focus on this planning is on self-sufficiency and not for the purpose of export, the latter only being when it’s cost effective for BC Hydro to do so. The 2005 IEP addresses meeting the electricity supply needs of British Columbians.

You show a general example of the supply and demand balance - can you show us a chart based on real numbers for the next 20 years?  
Kristann displayed a chart prepared for the workshop to be held the following day to illustrate the current supply and demand outlook. By 2015 there is an anticipated drop in power supply of approximately 6,000 gigawatt-hours when the Burrard gas-fired generating station in the Lower Mainland reaches the end of its economic life. This significant supply drop is anticipated in about ten years and furthers the importance to look ahead 20 years. It can take five to six years to develop alternate power sources.
Note: Sue advised that this situation for developing an IEP is a reality and not political; we have many aging facilities that need to be examined for alternatives to replace or upgrade them.

What will be done with Burrard Thermal?
A number of options could be considered. It could be torn down or it may be refurbished to use a few of the units.

What is small versus large hydro?
“Small hydro” is up to 50 megawatt hours (MW) per project site. “Large hydro” includes all projects greater than 50 megawatts. BC Hydro is currently seeking bids for 1,000 gigawatt hours of independent power that could be comprised of a few or many individual projects.

Why prepare a 2005 IEP now when BC Hydro just did an IEP in 2004?
BC Hydro has a number of large documents it needs to file with the BC Utilities Commission (BCUC). Two of the bigger ones are the Integrated Electricity Plan and the Revenue Requirements (that is, request for rate changes). Since the same team of people inside BC Hydro works on both, BC Hydro is trying to alternate the years when it works on each one. So BC Hydro plans to review and provide the IEP to the BCUC every two years in 2005, 2007, 2009, etc. If needed, rate increase applications will be filed every other two years in 2006, 2008, 2010, etc. The other reason BC Hydro is repeating the IEP process so soon is because the 2004 IEP process did not include a preferred portfolio of resource options: that is one of the key goals of the process this year.

What is meant by the “triple bottom line?”
This refers to consideration of economic, social and environmental perspectives in making decisions.

What about Site C?
This project is a resource option, but no formal proposal has been put forward to advance at this stage. It would require cabinet approval according to the Heritage Act. Such a project would require a lot of discussion, as well as approval under federal and provincial environmental assessment processes.

Does the IEP consider coal from Cranbrook as a potential source for power? Provided there is good scrubbing and less impact on air quality, coal is a good power source. It is included as an option in the 2004 IEP Resources Option Database.

No one appears to be present from Celgar Pulp Company to talk about their cogeneration project, which sells energy to FortisBC. Celgar was invited to participate in this session.

How involved are FortisBC and BC Hydro with respect to power generation?
They are separate companies; FortisBC buys about 40 per cent of its power (that is, 200 megawatts) from BC Hydro annually, which makes up the shortfall of their own power generation.
Participant comment: Check out Glacier Power’s web site for details on current power demands.

Participant comment: The Provincial IEP Committee is comprised of 17 members, and local manager, Russ Leslie, City of Nelson/Nelson Power is a member.

Participant comment: One participant advised that he would be in favour of users in Vancouver (and the Lower Mainland) being charged higher power prices.

Why not put a hydroelectric generating plant on Duncan Dam? The costs for a transmission line infrastructure would be significant.

3. Group Discussion
The facilitator posed three key questions to help the group brainstorm ideas and generate discussion. The comments provided were noted on flip charts and are included below.

3.1 Question 1: What sources of electricity would you like to see considered?
- Coal and natural gas, provided air emissions are controlled.
- Wind power should have been an option many years ago, since it helps to control air emissions.
- Tidal power considerations - may be viable in along some parts of West Coast of Vancouver Island.
- Re-examine nuclear power. (Note: Kristann advised that current provincial policy has indicated “no nuclear sources”. ) A participant commented though that it should at least be included for comparison purposes.
- More small hydro from independent power producers.
- Pursue cogeneration further.
- Generation add to Duncan Dam.
- Unit for burning garbage - like in the Spokane area, Washington State burning biomass with garbage, agricultural waste.
- Power Smart: use rates to encourage conservation, install automatic switching technology which won’t allow you to use certain appliances at certain times of the day.
- Distributed solar.
- Hydrogen fuel cells.

Participant comment: How serious is BC Hydro about Power Smart? Is it the price that drives the whole thing? We will never reach a stage of providing low cost power. For example in New Zealand, users were imposed with automatic switching systems; people bought at the price of generation based on increasing rates the further they were from the source.

3.2. Question 2: What factors are important for planning?
- Impacts of wind power on birds and bats.
- Air emissions.
- Fisheries impacts from large hydro.
- Diversity.
- Locating industrial areas close to power sources.
• Load-shaping to avoid needing more capacity.
• Reliability of new technologies like wind.
• Proximity to load.
• Factor in new sources of demand such as electric cars.
• Pay for cost of transporting fuel or incur transmission losses? There is trade-off and a choice to be made.
• Gas pipeline versus electrical pipeline to the island - a lot of debate. Currently a gas pipeline.
• Efficiency of industrial resources.
• Separate BC Transmission Corporation (BCTC) and BC Hydro entities make planning less integrated and more costly.
• Reliability.
• Focus on resources with long term potential.
• Do not use gas as a source of electricity generation.
• Reliability of Western Canada grid and diversity of resources.
• Maintain transmission system integrity and reliability.
• Efficiency of individual sources.
• Renewability of resource (don’t use finite resources like natural gas): focus on resources with longer term potential.
• Long-term planning for issues like the Kyoto Protocol and future generations.

Participant comment: There is a question of reliability of equipment that is used for wind power; its costs are being masked by the subsidies, for example, in Denmark. They do not have the proper infrastructure to maintain and repair broken turbines located offshore in the water.

You have not done any ranking, just listed everything down. Ranking will occur during the full-day workshop being held the following day.

3.3. Question 3: Are there any factors you are willing to pay more for?
• We should not have to pay anything more.
• If large load centres need more energy, then new resource options should be located in their area.
• Also consider implementing regional rates that reflect transmission losses, that is, Lower Mainland pays more to get their power from facilities in the Columbia system.
• Energy will never be “low cost” despite what considerations are applied; if you include all the impacts it affects the price regardless.

Questions, Answers and Further Feedback
Participant comments:
• We need to integrate planning such that the portfolio of new power sources develops links with a transmission infrastructure being there to distribute it. It was much better before when BC Hydro had the transmission network and not separate with British Columbia Transmission Corporation (BCTC). BCTC is just a bureaucracy that will eventually cost BC people added power costs. It’s all about the move to de-regulation that is the problem. You don’t get integrated planning with the separate entities. It should be based on a total
network basis. (Note: If you have concerns you can file a complaint with BCUC. BCUC regulates BCTC as it does BC Hydro.)

- BC Hydro is unique in this area that it produces power, but it does not supply power directly to the Kootenays area: Fortis BC does. BC Hydro has a good infrastructure all around BC yet the Kootenays area is dependent on Fortis BC which has an aging system.
- Alberta is profiting selling natural gas across to the United States. But it’s a limited resource that will be costly to Canadians.

**Question:**

Why are the terms of the signed contracts between Independent Power Producers (IPPs) and BC Hydro being kept confidential (that is, the price that BC Hydro is paying to IPPs for power)?

BC Hydro will not provide any details according to current privacy information laws. However, it is public information that BC Hydro will pay up to $0.055 per kilowatt-hour.

- A participant advised that you need only inquire with the IPABC (Independent Power Producer Association of BC) office and they should be able to provide the information. Furthermore, Sue Heaton advised the tender documents do remain confidential with BC Hydro only advising as to how many megawatts they are getting from any IPP. The limit per megawatt can be provided; the absolute costs cannot be divulged.

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

Kristann concluded the session with a final slide indicating the address for the section of BC Hydro’s website ([www.bchydro.com/iep](http://www.bchydro.com/iep)) that covers information about the Integrated Electricity Plan (IEP). Information available at that site includes the meeting notes for this and other regional sessions which will be posted in the coming few weeks. A contact phone number and an e-mail address were provided as well.

The BC Hydro team remained for another half hour to respond to any further questions on an informal basis.