



5th Session, 37th Parliament

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REPORT OF PROCEEDINGS  
(HANSARD)

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SELECT STANDING COMMITTEE ON  
CROWN CORPORATIONS

Vancouver

Monday, December 6, 2004

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KEN STEWART, MLA, CHAIR

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**SELECT STANDING COMMITTEE ON  
CROWN CORPORATIONS**

Vancouver  
Monday, December 6, 2004

- Chair:* \* Ken Stewart (Maple Ridge-Pitt Meadows L)
- Deputy Chair:* \* Harry Bloy (Burquitlam L)
- Members:*
- Daniel Jarvis (North Vancouver-Seymour L)
  - Harold Long (Powell River-Sunshine Coast L)
  - \* Dennis MacKay (Bulkley Valley-Stikine L)
  - \* Karn Manhas (Port Coquitlam-Burke Mountain L)
  - \* Ted Nebbeling (West Vancouver-Garibaldi L)
  - \* Barry Penner (Chilliwack-Kent L)
  - Gillian Trumper (Alberni-Qualicum L)
  - Rod Visser (North Island L)
  - Dr. John Wilson (Cariboo North L)
  - \* Joy K. MacPhail (Vancouver-Hastings NDP)
  - \* Paul Nettleton (Prince George-Omineca Ind)

*\* denotes member present*

*Clerk:* Craig James

*Committee Staff:* Jonathan Fershau (Acting Committee Research Analyst)

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*Witnesses:*

- Moira Chicilo (British Columbia Transmission Corporation)
- Yakout Mansour (British Columbia Transmission Corporation)
- Jane Peverett (British Columbia Transmission Corporation)
- Bob Reid (Chair, British Columbia Transmission Corporation)
- Diana Stephenson (British Columbia Transmission Corporation)



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## MINUTES

# SELECT STANDING COMMITTEE ON CROWN CORPORATIONS



Monday, December 6, 2004  
ICBC Concourse  
Morris J. Wosk Centre for Dialogue  
580 W. Hastings Street  
Vancouver, British Columbia

**Present:** Ken Stewart, MLA (Chair); Harry Bloy, MLA (Deputy Chair); Dennis MacKay, MLA (telephone conference call); Karn Manhas, MLA; Barry Penner, MLA; Ted Nebbeling, MLA; Joy MacPhail, MLA; Paul Nettleton, MLA

**Unavoidably Absent:** Daniel Jarvis, MLA; Harold Long, MLA; Gillian Trumper, MLA; Rod Visser, MLA; Dr. John Wilson, MLA.

**Others Present:** Jonathan Fershau, Committee Researcher

1. Pursuant to its terms of reference the Committee reviewed British Columbia Transmission Corporation.

Witnesses

- o Bob Reid, Board Chair
  - o Jane Peverett, CFO and VP, Corporate Services
  - o Yakout Mansour, Senior VP, System Operations and Asset Management
2. The Committee met *in camera* to consider its review of British Columbia Transmission Corporation.
  3. The Committee continued to meet *in camera* to consider its First Report to the House this session.
  4. The Committee met in public session.
  5. **Resolved**, that the Committee's First Report to the House this session be adopted.
  6. **Resolved**, that the Chair deposit a copy of the First Report with the Clerk of the House as soon as practicable.
  7. The Committee adjourned at 1:01 p.m. to the call of the Chair.

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Ken Stewart, MLA  
Chair

Craig James  
Clerk Assistant and  
Clerk of Committees





MONDAY, DECEMBER 6, 2004

[1010]

The committee met at 10:07 a.m.

[K. Stewart in the chair.]

**K. Stewart (Chair):** Good morning, everybody. If we can call this meeting to order.... I don't have a light, so I trust we're on. This morning we have before us the British Columbia Transmission Corporation.

We'll do introductions in just a sec, Bob. Just a little bit of background on the format that we use here. You have up to one hour for a formal presentation. You certainly don't have to take the full hour. We'll hold our questions until the hour is over, unless there's a procedural question — which we don't try to encourage unless it's really, really important. Then what we'll do is have questions from the members for.... We have an hour slated, and we can go a little longer if need be.

If there's any question that's asked of you for which you don't have the full answer today, we certainly do accept written responses through the Clerk's office. We usually have about a two-week window after a session. At that time, also, if there are questions that we didn't get to from the membership of the committee or if there are questions they think of later, they will submit them to you in writing. That goes through the Clerk's office, and everyone on the committee gets copies of them. It's not a private communiqué between you and an individual member.

It's all part of our open and transparent process that takes place here. As a result of our open and transparent process, you'll notice that behind us we have Hansard. Within a matter of days — they've been very quick lately — you will be able to go on line to the committees portion on our website and be able to look up all the things you wish you would have said and those that you wish you wouldn't have, because they'll be in written form there. If there's a clarification that you need to make with regard to an answer or response, feel free to submit that through the Clerk's office.

At this point what we have today.... We have members present here. We're just waiting for one member who is hung up in traffic, but we will be starting. We also have Dennis MacKay on the phone line today from....

Where are you today, Dennis?

**D. MacKay:** I'm in Burns Lake this morning.

**K. Stewart (Chair):** Burns Lake. Okay. John Wilson may also be joining us from the Cariboo.

At this point in time I'd just like to start with introductions. Again, my name is Ken Stewart. I'm the Chair of the committee, and I'm from Maple Ridge–Pitt Meadows.

**C. James:** Craig James, Clerk of Committees and Clerk Assistant in the Legislative Assembly.

**B. Reid:** Good morning. I'm Bob Reid, chair of the British Columbia Transmission Corporation.

**J. Peverett:** Good morning. I'm Jane Peverett. I'm the CFO for British Columbia Transmission Corporation.

**Y. Mansour:** Good morning. I'm Yakout Mansour, senior vice-president of asset management and system operations at BCTC.

**J. Fershau:** Jonathan Fershau, committee research analyst.

**T. Nebbeling:** Ted Nebbeling, MLA for West Vancouver–Garibaldi — including beautiful Whistler, where it is snowing like crazy.

**B. Penner:** Are the power lines still standing, Ted?

**T. Nebbeling:** Some of them.

**B. Penner:** I'm Barry Penner, MLA for Chilliwack–Kent.

**P. Nettleton:** Paul Nettleton, MLA for Prince George–Omineca.

**J. MacPhail:** Joy MacPhail, Vancouver–Hastings.

**H. Bloy (Deputy Chair):** Harry Bloy, Burquitlam.

**K. Stewart (Chair):** We have two ladies in the back. Would you like to introduce yourselves?

**M. Chicilo:** Good morning. Moira Chicilo, director of communications for BCTC.

**D. Stephenson:** Diana Stephenson, corporate coordinator for British Columbia Transmission Corporation.

**K. Stewart (Chair):** Bob, we'll turn the show over to you. You've got an hour, if you need it.

### British Columbia Transmission Corporation

**B. Reid:** First, let me begin by conveying regrets from Michael Costello, who was planning to be here this morning and take a major portion of the presentation. I spoke with Michael late last evening. He's at his home in Victoria, and he has the flu. I must tell you he's beyond being somewhat ill. He sounded awful in our telephone conversation. He was willing, if I thought it essential for him, to drag himself out of his sickbed and come and be with us this morning. I encouraged him not to, and I expect that he'll make a speedy recovery and be back in the office sometime mid-week. He does send his regrets. He felt very badly

about this occurrence, but it is simply one of those things.

I'd also like to begin by thanking the committee for providing British Columbia Transmission Corporation with an opportunity to appear before you and to respond to your questions. I will review the material contained in the first eight slides until we get into the difficult material, at which time I'll move it over to Jane and then subsequently to Yakout to complete the presentation. I of course would be happy to participate in the response to the questions following.

We have given you the requisite pile of slides. The first, slide 2, simply lists the agenda or the items which we will talk about today. The third slide, which really begins the content of the presentation, talks about who we are. It simply points out that BCTC is an independent Crown-owned utility that was created to operate, manage and develop the province's electric transmission system for the benefit of its citizens.

Our specific responsibilities are listed on slide 3. We have responsibility for the reliability of the transmission system and grid operations and for designing and administering the wholesale transmission tariff. We'll speak more about that tariff later in the presentation. We're responsible to maintain and manage the transmission assets. We're responsible to plan the development of the transmission system so that it is prepared for the future requirements of British Columbia. We are responsible to direct investment in transmission projects following, of course, approval from the British Columbia Utilities Commission, which oversees or regulates us.

The fourth slide lists the mission, vision and strategy of the British Columbia Transmission Corporation. These are — I'm sure, as you look through your material — non-distinguishing, but there are some very important ideas contained in them. One is, in the mission statement, the notion of independence — meaning that we are not integrated with or owned by or beholden to any generation source in the province. "Fair and open access to the grid" means that it is part of our responsibility to make sure that all generators have equal access to the grid. The notion of creating value and new opportunities is also very much at the heart of the mission statement. The vision and strategy are set out.

Slide 5. I'm going to take a bit of a different twist, talking about this slide, and begin to describe what it is that you and the citizens of British Columbia should expect from the Transmission Corporation.

[1015]

You should expect a transmission system that contributes to a secure, reliable and low-cost supply of electricity. You should expect, with the formation of an independent transmission company, that reliability will improve and that costs for maintaining the system will decline. You should expect an increase in the contribution that the electric power sector makes to British Columbia's economy. You should expect that access to markets for B.C.-produced electricity is improved — and, along with that, trade revenues. You should ex-

pect that new private sector and public sector investment in electric generation will occur.

You should expect that large industrial users of electricity will be provided with new options to manage energy costs. Of course, as you know, the industrial base of our province — mining, forestry, oil and gas — is a large consumer of electricity and a large consumer of energy, broadly speaking. Energy forms a very large part of their cost base. The new energy policy, particularly as exercised through the Transmission Corporation, is to provide those users with new options to manage those energy costs. And of course you should expect continued public ownership of the core assets, including the Transmission Corporation.

Our mandate statement on slide 6 talks about how we will do this and how we will achieve these expectations — firstly, through a focus on the operation, maintenance and planning of the transmission system. We are no longer a little piece in the middle of a large corporation that has its attention firmly fixed on generation on the one side and on serving distribution customers on the other. We're no longer the forgotten piece in the middle. We have an unrelenting day-by-day focus on the transmission business.

We expect to achieve improvements in system reliability and lower costs, which of course means lower rates than otherwise would have been experienced. We have a firm commitment to the safety of both our workers and our neighbours. We plan to make significant investments in the transmission system in order to achieve the expectations I've laid out, and we plan to ensure that British Columbia's generators and large users have open access to new opportunities to the benefit of their businesses.

Slide 7 simply makes the case for independence. It talks about, in a general way — and I'm sure you'll want to probe this more through questions at the conclusion of the presentation — why it is important to bring transmission out from inside a regulated utility to achieve the objectives and expectations that I've spoken about. It talks about the ability now to focus on transmission, the ability to secure and maintain access to export and of course import markets, and the creation of new opportunities and new options for large users — all of which occur as a result of an independent corporation and cannot occur, at least as readily, inside an integrated utility.

The last slide that I'll talk about is our milestones to date. Since the launch of BCTC just a very few months ago, we have now made a seamless transition to a new governance structure — organizational structure. I must say, on behalf of the board, that we are extremely pleased with the management team that we have been able to assemble at the Transmission Corporation. I would argue that it is certainly second to none insofar as enterprises in our province, or nationally or even internationally. We have a remarkable set of employees, many of whom have transferred to us from B.C. Hydro and many of whom, as well, are new and have come to us with varied backgrounds. We have a terrific team at the Transmission Corporation.

We have worked very hard in our early days to engage with our customers and to operate in an open and transparent fashion. I think you would find in polling our customers — including B.C. Hydro, IPPs, large industrial users — that the one thing they will say about us is: "These people are very open." We carry out extensive consultations when we are ready to make major moves. We understand our customers very well, and we are focused very much on providing them with good service and doing the right things to make sure that the objectives I spoke of earlier are achieved.

[1020]

We have an unending focus on operational excellence, because it is through this that costs will be reduced and reliability will be improved. Here I speak of a recent WECC audit, which gave top marks to the new Transmission Corporation for its maintenance and operating processes and asset management and baseline audit, currently underway, which will give us new instruments to measure performance of the company and report on the performance of the company.

One of the great focuses of the board of directors that's been assembled through the Transmission Corporation is establishing baselines so that we can breathe life into concepts such as lower costs and improved reliability. We have put in place world-class environment and safety management systems and have already received an acknowledgment of our prowess in this area from the Canadian Electricity Association, and we have already begun to observe improvements in reliability.

**H. Bloy (Deputy Chair):** What does WECC stand for?

**B. Reid:** Western Electricity Coordinating Council, which is all of the interconnected utilities that operate in Canada and the U.S. on the western side of the continent. That's a formal organization. As we know, when they sneeze in Los Angeles, the lights can flutter in British Columbia. So it is important that the reliability of the system be managed and handled on an integrated basis, because we are all hooked together. It was interesting to note that a few years ago, when we had an ice and snow load that collapsed the tower in the central part of Vancouver Island, the lights actually did flicker in Los Angeles.

I'll now turn it over to Jane to continue the presentation.

**J. Peverett:** On page 9, I thought I would introduce you to what the transmission system is. It consists of all the high-voltage lines in the province, the towers that hold them up and the substations that change the voltage, and it covers about 18,000 kilometres in British Columbia. The net book value of the assets is about \$2.5 billion, and that makes them about 25 percent of the total electricity assets that are owned by the province.

**B. Penner:** That's your estimated cost to replace?

**J. Peverett:** No, that is the book value that we have on the books. The estimated cost to replace is something more in the neighbourhood of \$10 billion.

The system is largely built to move electricity from the north and the interior into the lower mainland and to the Island, of course serving the communities along the way. We are connected to both the neighbouring Alberta and U.S. systems. We also have five control centres. These are the areas or the centres from which we control the flow of electricity throughout the entire province 24 hours a day, seven days a week in real time.

As a new entity focused entirely on transmission, we're committed to developing meaningful transmission performance measures. The chair has mentioned to you already how focused our board of directors is on this. What we're finding is that traditionally both we and other electricity companies have had integrated utility measures, so transmission has been a part of a big electricity company, and many of the measures have measured the performance of the entire company. So what we've been doing is working with other electricity companies to determine what the most effective performance measures are for just transmission and putting them in place so that we can measure our performance over time against ourselves and also our performance relative to other transmission companies.

**T. Nebbeling:** I'll ask a quick question. The revenue and the expenditures are.... The revenue is lowered, and expenditures are higher. Is that because we haven't done a full year yet?

**J. Peverett:** What we're looking at here is the net income as opposed to the revenue. Are you speaking of the \$138 million?

**T. Nebbeling:** No, no. I just thought if that were.... I only want to hear if that one is because it's not a full year or it is just....

**J. Peverett:** No, these are comparable. They're both full years.

What we are showing you here is the performance measures we used for fiscal '04, the year that ended March 31 of 2004. They are the measures that were developed when transmission was a part of B.C. Hydro, and we carried them forward into BCTC so that we would have, in total, continuity of performance measures that had been established for B.C. Hydro. We are looking at these measures now. We have modified them somewhat for fiscal '05, the year that we are in now, and anticipate further modifications as we move forward and get measures which are truly representative of transmission.

[1025]

I'll very quickly go through these measures, and then we can talk more about them later, if you're interested. The net income was a little less than we had targeted, and that is because the financing and depreciation costs associated with the assets were higher than

had been budgeted for last year. Operating costs were lower than had been budgeted. The operating cost per kilowatt-hour per kilometre was slightly higher than we had budgeted. Again, operating costs were lower than budgeted, but throughput through the system was also lower, so the cost per unit was higher. Achieving transmission capacity offered was on target. That is how much of the time we're actually able to move the electricity on the capacity as we had planned to.

This is followed by three different measures of reliability. One measures the number of interruptions. One measures the time of the interruption. The third one is the combination of the first two and the one we're going forward with in the future. It was better than we had planned. The average interruption was 2.12 hours rather than four.

We have the WECC reliability compliance. Were we compliant with all of the measures that WECC lays out for us? We were, and we had planned to be.

On the next page we have the final few of the performance measures. The first one is the number of preventable environmental incidents. We were targeting to have no more than five and managed to have only two. We also have been tracking on the customer side of things the number of complaints that are escalated to the vice-president's level. This gives us an indication of how many times the staff who report to the vice-president can't satisfy that customer. We had three complaints escalated to the VP, as opposed to a target of five.

We also measure our response time to customer requests and, in particular, to independent power producers. We found that we were able to meet the target response time to the IPPs 100 percent of the time last year.

We also take a look at some employee measures. We measure the commitment of the employees to the objectives of the corporation. We were essentially on target there. We had set out that we wanted to be, on a scale of five, at a measure of 3.75, and we managed 3.7. We also look at the frequency of preventable accidents. We target no accidents, and we managed to achieve no accidents.

On the next page we have a graph that shows the primary reliability index that we've been using for transmission. This is SAIDI, which is the combination of the other two indices and measures the number of hours of interruption at the average delivery point. I'll note a couple of things here. The top line shows BCTC's asset performance over a number of years and compares it to the average for all Canadian utilities. You can see that transmission performance in British Columbia has traditionally been not quite as reliable as the average, but it is very definitely trending to an improvement and getting closer to the average.

It's important to note that the British Columbia assets are very long-line assets with mountainous terrain and lots of trees, and our performance compares very favourably to the other two utilities that have similar conditions. Those would be the other two largely hydro-based utilities where you've got the hydro dams

far away from the load. We compare favourably in terms of reliability to each of Quebec and Manitoba.

We are very aware of the government's objective to keep electricity rates low, and therefore we are very conscious of cost management and make it a focus for ourselves. We participated in the recent B.C. Hydro revenue requirement application in front of the British Columbia Utilities Commission. Our costs were a part of that application, and the commission ruled that BCTC's costs were prudently incurred.

[1030]

The point-to-point transmission rates that we charge were also a part of that or fall from the revenue requirement decision, and the result of the decision is that point-to-point rates in 2005 will decrease by 4 percent. We will be filing a revenue requirement application for fiscal '06 rates by the end of this year, and we're reflecting in that a 2 percent efficiency gain. Equally, as we go through this year, we have a very high focus on asset management, and we have set ourselves a target of increasing the amount of work we get done within the existing budget by 5 percent.

The chair had also mentioned that we will be filing an application, or we have now filed an application, for BCTC's first tariff. Our tariff is the terms and conditions under which our customers take service on the transmission system. I wanted to highlight some of the things we've done in this tariff application that we think will improve the electricity market and further develop it in British Columbia.

We have proposed a B.C. clean rate. This is a new rate structure that we think will foster the development of clean energy in British Columbia. We've also proposed a shaped service. This will allow our customers to obtain a greater portion of firm service on a long-term basis. It allows us to contract more of the service on a long-term, firm basis, increasing the revenues from the existing assets.

We've also proposed what we call a deferral credit. This is a credit to independent power producers who locate in areas on the system that allow us to defer the construction of new transmission capacity. It really is intended to, and we believe it will, result in more cost-effective development of our system.

We have proposed an open season process. Through the open season process, we will cluster new power projects that are proposed that will reduce the upgrade costs and the study costs that any one customer has to bear. We believe that is more efficient planning of the system and also lowers costs to any customer — any IPP, in particular — trying to develop new generation capacity in the province.

Finally, we have developed a proposal whereby BCTC would be able to buy ancillary services from any qualified supplier rather than just buying them from B.C. Hydro. Through this we hope to provide a new market for independent power producers to sell us energy.

I'm going to turn this over now to Yakout Mansour, who will take you through some of the things we're looking at in the future, some of the challenges we see

on the horizon and how we're planning to deal with them.

**Y. Mansour:** I'm glad to be here as well. We have many challenges, and I will highlight the big ones. The first one is that the transmission system is aging. We all know that our system was built between 1940 and 1980, or at least the bulk of it, and so is anywhere between 25 and 60 years of age. A large chunk of it is nearing the end of its life. That's the first challenge.

When we face a challenge like this, one of two things.... We can do things the same way and inject more money to do more things or drastically change the paradigm of doing things. That's why BCTC adopted a transmission-focused new approach to asset management. This is a structure of the company; a structure of the work; a structure of the management of the project, including maintenance, work replacement or growth. If we don't do that and do it the old way, dealing with a challenge like this would be significantly more expensive.

The asset management program that we'll put in place does not have anything similar in the industry today. When we started on that concept, actually, we went around the industry and did not find anything in total that we could learn from the electricity transmission and the utility industry. We went to industries that have good asset management programs as managed approaches. We looked at the nuclear industry. We looked at the petrochemical industries. We found that any industry that faced big risk focused on a very focused approach in asset management.

[1035]

We sought the help of major international consulting firms to help us put together the program, which basically, in a nutshell, optimizes asset performance. It looks at and identifies those assets for which life can be extended in a less costly way than actual replacement.

We are targeting reducing costs for the same amount of work. We're developing long-range asset management plans to meet the growth needs and the high expectation for reliability and power quality of the service, and we're improving the information we have to give to the regulators through our regulatory process.

Over the course of the few regulatory hearings that we've gone through so far in our first year, the number of information requests we received is about 2,000. You can imagine that if we do not have the information available and the regulators and the public expect us to answer 2,000 questions, within a few months, I think, nothing else will happen. The signal was very clear that things will be done in a way that we archive all the information ready for the regulatory submission.

**K. Stewart (Chair):** If I could just stop there; I just want to check and see who's on our telephone.

Are you still with us, Dennis?

**D. MacKay:** Yeah, I'm still here.

**K. Stewart (Chair):** John, did you get on line at all yet?

Okay. Thanks, Dennis. And you can hear us okay?

**D. MacKay:** Yep.

**K. Stewart (Chair):** Okay, great. Thanks. Sorry. Go ahead.

**Y. Mansour:** The next challenge is an interesting one. It's in the heart of the concept of our structure. B.C. had a clear advantage in the west and, in particular, the northwest in electricity trade, both ways — selling and buying. Some years we're net exporters; some years we're net importers. Either way, being at the end of a larger system like the western system, we face every congestion point in the system going from point A to point B. All the congestion in the way, we face it there.

We also face the so-called pancake rates, meaning every time you pass through a utility or a jurisdiction, they charge you a fee. By the time you go from B.C. to anywhere or you import from anywhere to B.C. and you accumulate, or pancake, all of those rates together, it becomes very uneconomical and sometimes prohibitive. It either takes a big chunk of the economic product.... Sometimes, it actually gets to be prohibitive, even though the actual commodity could be economical.

Our solution or our way of facing this challenge is getting involved in shaping the regional structure in the west and particularly in the northwest. For your information, the rules that we're operating under today, which are.... In order for B.C. Hydro to obtain a power marketing authorization, B.C. Hydro — and specifically the transmission part of B.C. Hydro and BCTC — has to follow the same rules and similar tariffs to those of the United States. When that happened in 1996, B.C. and B.C. Hydro did not have any say in those rules. Those rules were imposed, and you either took them or you didn't play the game.

What we're trying to do in the new scheme of things is to shape that regional structure and get involved and influence the development of those rules. Otherwise, we would inherit something that may be disadvantageous for us. We tested that for a short while in 1999, when we did not sit at the table. The result of the first year of not sitting around the table was a direction that was in every possible respect disadvantaging B.C. That's why we had no way but to get involved in shaping the restructuring activities both in the west and the northwest.

What we hope in that regional coordination is to get coordinated planning between ourselves and our neighbours for upgrading the expansions that benefit the entire interconnection and definitely us, removing the congestion problems so that we can send and receive electricity at the lowest rate and not have the prohibitive old rules to prohibit us from doing so. We would have better access to markets for trade for B.C. — not just B.C. Hydro but all the independent produc-

ers — and streamlined access to all transmission facilities in the northwest.

[1040]

That, again, is another interesting issue. For someone today — let us say Powerex or any developer in B.C. — to actually just sell anything or buy anything at any given point in time, they have to phone and reserve the capacity with every utility on the way. So in one sense you have the product, and you don't know who has transmission or not. Sometimes you commit, and you face the fact that you actually cannot transmit it. This way, it is actually a very difficult problem, especially for those who are not sophisticated. Big organizations like B.C. Hydro or Powerex can get around it with staff, technology, investment, because their volume is big. When you talk about the small producers or small players, the effort is just so excessive. Our goal — getting to a point where regional coordination and planning, both in the operation and in the long term — is to streamline that access process.

The next challenge is security. The world after 9/11 is different. It became even more different after the August 14 blackout in the northeast. Security under extreme conditions, both cybersecurity and the system security, were heightened by these two events — some more than others, depending on the application.

In our focused strategy to deal with them, we developed new standards that are aligned with newly developed standards by the industry and by North American organizations like NERC and WECC. Cybersecurity standards have been developed over the last few months. Some of the best practices for real-time operations to deal with problems of extreme conditions... We had extensive training on restoration procedures just in case something happened. Most importantly, we learn from others — a lot. We learned from the northeast. We learned from the Nova Scotia blackouts and others. I don't know if I'm fortunate or unfortunate, but I have been part of steering just about every investigation worldwide of large blackouts over the last five or six years. It is time-consuming. It is exhausting, but we learn an amazing amount from it. It pays dividends very nicely.

I would be happy to share with you some of the lessons learned at the end of this, if you are interested, to just show you a sample of what we learned when it comes to those major events.

The next challenge is: how do we meet the demand for transmission in the future? In the past, it was big but simple. We knew where the generation was. We knew where the next generation was. We knew in five years where the generation would come from, and we knew where the ten-year generation was going to come from. The world today is different. B.C. Hydro or load-serving entities.... They go for the least-cost supply. It could be any player, and it could be anywhere.

There are also some new technologies, whether in renewables or even in the traditional fossil-based technology. So the technology of those generations is smaller, but it is complex as well. It is not as simple as the big one.

Operations are challenging. When you have many distributed generations everywhere, getting to be in control of the operation on a minute-by-minute basis is quite a challenge. So what do we do? We can wait until we know exactly where the generation is coming from, and that would be too late. So what we do is scenario planning instead of deterministic planning. Scenario planning is: where could they come from? You develop scenarios of where the generation could be, both in location and in amount. Where do we get it from? Very extensive consultation. I will go through the consultation level that we go through so we can actually learn from those who have ideas of where those resources can come from, both on the customer side and the supply side.

[1045]

As Jane mentioned, the tariff and the rule of access that were designed for the old model are not suitable for the new technology and the new model. So we have to help those new industries to come forward — again, in the most economic way. It requires innovation and tariff design. We were blessed by new government special direction No. 9, which basically set the mandate for the commission. Part of the commission mandate is to look at investments proposed by BCTC or the transmission provider before all the facts are in and all the assumptions are proved. It's not necessary to build it before that time, but at least the cost incurred is getting to a point where we know where we're heading and it can be recovered in the rates.

We're investing a lot of time learning around new technologies. Wind looks very innocent. It's a kind of little thing in there. It's less sophisticated. It looks simple, but technologically it's very complex when it comes to how to connect wind generators to the transmission system.

Just like our transmission system.... It is not like our staff was born between 1940 and 1980, but certainly, they are aging. About 18 percent of our workforce is eligible to retire today. A much larger part will be eligible to retire over the next five years. You can't get them when you need them, or you can't replace them when you need them. It needs a focused plan. Our annual attrition rate is about 4 to 8 percent, but there is a risk that it can get higher. The whole industry is facing the same problem, so there is increasing competition for skilled resources, and it seems like money is not an object for a lot of our competitors in terms of getting after the skills they want.

The way we're dealing with this challenge is that we have extensive succession planning and internal training initiatives. We'll be happy to discuss some of those in the discussion period.

As Jane mentioned, we have five control centres today spread around the province. That kind of a structure was possible or suitable for the old technology, where you could not control equipment or facilities centrally from far away from where it is. The technology was limited at that time. That also presented a very big challenge. Those control centres — each one of them has a fewer number of operators, and some of the

locations.... If I have one on holiday and one sick, I'm in trouble. The attrition rate of those locations is also high, so even replacing those people at various locations and training new people.... Some of them actually rotate from one region to another.

**B. Penner:** What are those five locations?

**Y. Mansour:** The five locations. The main control centre is on Burnaby Mountain at SFU. When you drive on the highway, there's a big water tower with a lot of antennas on the top. That's one location. There is the lower mainland control centre on Boundary Road. There is one in Duncan for Vancouver Island. There is one in Prince George at Williston substation. There is one in Vernon for the south interior.

**B. Penner:** Thank you.

**Y. Mansour:** Building the future is supported by a major capital plan. In total, the capital plan for the next ten years is a \$2.8 billion investment. The capital plan has three categories: sustainment capital category, which is replacing equipment that reaches the end of its life. The second part is growth capital. This is communities growing, and they need more capacity. The third capital is BCTC's own capital, like the control centre. The sustainment capital of major projects is, for example, the underground cable systems of the lower mainland, including downtown. Those cables are over 30 years old, and we've started a program to replace them.

[1050]

On the growth side there's a possibility of a new transmission line from the interior to the lower mainland. That's about \$300 million. On Vancouver Island, which you probably hear about quite often these days, it's a combination of replacing all the cables, subsea, and also meeting the growth on Vancouver Island. The BCTC cap on the major project is consolidating all the control centres in one place, plus a backup, at a cost of \$130 million. Out of the \$2.8 billion, about half is for sustainment and half of it is for growth. You could see, dealing with a major investment like this, how much a focus it needs.

I've talked about how different planning is and the need for consultation and public engagement. As for levels of engagement that the BCTC put together, for the first time we have a transmission advisory committee. Those are 15 people that were invited because of their skills and because of their affiliation. The 15-member advisory committee is a standing committee. It is by name. You don't even send a replacement. A very active group, very high-profile individuals who have a lot of expertise in the industry. They provide expert input into all policy issues related to planning and expansion of the transmission system.

At the next level, with a lot of input from that advisory group, we have public meetings and workshops at the provincial and the regional levels. The third one, very important, is first nations engagement. Then,

when there is a specific project that has a certain impact on a community, we do a project of specific consultation. That is usually a very extensive one, and it is in the region where the project is.

In summary, BCTC's strategies are helping transform B.C.'s electricity industry through planning for the future, making sure that all opportunities are captured, effectively managing the transmission costs in view of growth and reaching the end of life of most of our equipment, customer focus....

And customer focus here, the word customer.... I know we all have customers, but now in the new scheme of things and over the last five years or so, with the open-access era, transmission has its own unique customers, and they are different from the traditional or the usual customers — the households at the end use. The IPPs are our customers. B.C. Hydro is our customer, and load-serving entities are our customers. Marketers are our customers. This is a different kind of customer. They are very sophisticated; they are demanding. They are very informed, and their needs are different from the traditional household definition of customers.

Strengthening system reliability — no compromise — and the system control modernization project by which we will consolidate all the control centres, which are also reaching their end of life, in one place is one initiative to do so. And committed to regional coordination — again, B.C.'s sovereignty. In all negotiations and all models we're working on, B.C.'s sovereignty is not compromised. We know that. Our partners both in the south and in the east know that, and they don't debate it either.

This is the end of this part. I would be happy to get into the appendix, depending on the questions — or any of us would.

**K. Stewart (Chair):** At this point in time, just before we move to questions, I suggest that if anyone wants to take just a very short break to refill their coffee or whatever, or make a quick call.... Let's not wander too far. It's always like herding cats, trying to get you guys back in here if I make a formal break. At this point in time, if we could just take about five minutes and do that, and also give you an opportunity to look at the appendix slides that are there....

**T. Nebbeling:** Appendix.

**K. Stewart (Chair):** Yes, I had a pain in my side when I said that.

You can have a quick look at that. It might stimulate some questions, although I'm sure that given the presentation and the issues around B.C. Transmission, it won't be too difficult to get some questions. We'll just go off-air for about five minutes.

The committee recessed from 10:55 a.m. to 11:03 a.m.

[K. Stewart in the chair.]

**K. Stewart (Chair):** Okay. I think we'll bring this meeting back to order.

What we generally do is give each member an opportunity to ask one question, and we keep going around until we either run out of questions or run out of time.

It appears that Ted will be our first one up.

**B. Penner:** Are we going to get an explanation of this slide that's up now?

**K. Stewart (Chair):** I guess when we left for the break, what I did was ask people if they had any questions about it. This is getting into the outage. I think that's a huge discussion that we could go on about, I'm sure, for an hour — what they've learned from that. Given the scope of our looking over the reports, etc., these things might be nice to know, but it would certainly cut into our time on the other questions. Of course it's the will of the committee, but it would be my suggestion that we continue with questions. And if someone wants to refer back to these with specific questions, I think that would be....

**Y. Mansour:** I could certainly do it in less than three minutes.

**B. Reid:** I was going to say, Mr. Chair, that I've heard Yakout give the three-hour explanation of the outage, which is fascinating, particularly late at night if you're having trouble getting to sleep.

**B. Penner:** Especially since it took 45 seconds for it to occur.

**B. Reid:** Yes, but he can also give you the five-minute one.

**K. Stewart (Chair):** It's up to you guys.

**B. Penner:** Let's do it.

**K. Stewart (Chair):** We have the time? Okay. Go ahead. It appears the will of the committee is to listen to you about outages.

[1105]

**Y. Mansour:** Well, as I said, we learned a lot. There are some things that I'd like to draw your attention to in the blackout. This is New York basically — the main grid of New York State. It is surrounded by many systems. The IMO is Ontario, PJM is Pennsylvania–New Jersey, on the right side is New England, and Hydro-Québec is in the north. The problem was not in New York, and it was not in Ontario. It was somewhere in Ohio. But the fact is that all systems are so integrated that a problem in one can affect the entire interconnection. So the blackout impacted New York and Ontario and all of those big locations. While the problem started with trees touching lines, operators are not skilled in dealing with emergencies and computer sys-

tems that would not function at that point in time. That basically created the largest blackout in the history of North America.

Just to give you a very quick feeling for how things happened in time, once the problems start, if you look at the time scale and how in pieces New York tripped all the tied lines to the others and the sources of blackout.... I'll just push the button, and you watch. You look at the time scale. Things are popping; this is what's happening. That means it's disconnected. When you look at the time scale....

**B. Penner:** This is real time?

**Y. Mansour:** Close to real time. I speeded it up so you don't have to wait for.... Now they're disconnected from New England — more lines tripped. This tripping of lines is actually in real time.

**K. Stewart (Chair):** I know this is really exciting for you, Dennis, but hold with us.

**D. MacKay:** Yes, it really is.

**K. Stewart (Chair):** Trust us. It looks really impressive on the screen here.

**Y. Mansour:** You see, every time a colour pops out or a line.... That means something happened — the generator tripped, or the line tripped. Now, there is no way that a human can control this once it starts to happen. If you're not prepared for it in advance, make sure that everybody is following proper standards in maintaining and managing the transmission facilities. Operators are trained to get ready for an event before it happens, but it was just too late. There is no way you can control it. That's why we do put a lot of effort into making sure that not just us but all the systems around us, with us, are coordinated both in operation and planning and in reliability standards.

Another interesting lesson is.... This is an interesting terrain. This is an actual transmission line in the area that was impacted. It was not one of the lines that created the blackout, but it was one of those that were going through a lot of trees, as you see. Actually, the utility wanted to cut those trees because they were becoming very dangerous on the transmission line. With all due respect to lawyers, the owner of this land is a lawyer, so he managed to get an injunction against the utility and delay the tree-cutting. That was before the blackout.

When the blackout happened and the trees and vegetation were all over the place, three weeks later....

Interjections.

**Y. Mansour:** Just in the early fall.... Yeah, it was sometime in September. The trees were not just trimmed; it was totally cleared. So people do learn from those things.

This is just a sample of lessons — what we learned and how we deal with it.



**B. Reid:** In layman's language, what can happen in the system is that a small event can occur — a power line being iced and falling, or a tree touching a line starts to spark. When that happens, the system starts to wobble and becomes unstable. If the controllers don't have the tools, the skill or the experience to know that they should zig, and they zag instead and make the problem worse, it begins to ripple through the system. Once it builds up a head of steam, there is simply no stopping it until all the lights are out. Then it's a matter of trying to restore it, and that's what happened here.

There was a small event in Ohio, and some controllers who lacked the right tools, the right software and the right hardware, who were inexperienced and didn't push the right buttons at the right time and didn't understand the severity or the consequences of the problem, simply made errors in judgment — not particularly their fault. But they made errors in judgment, and it allowed this thing to get up a head of steam. There is simply, as I say, no stopping it once it does.

[1110]

The real defence against this is reasonable vegetation management. Vegetation management is expensive, so it's something that utilities always.... Can we let the trees grow a little higher? Can we let them get a little closer to the line and save a bit of money? That can be false economy. I mean, you have to be sensible about it, but you have to make sure that the vegetation doesn't get out of control.

The other thing is to make certain that you've got good software, good programs and well-trained, experienced operators. We have one of the best training programs available in North America to train our operators. We put them through a lot of simulations. We show them a lot of problems in a simulation atmosphere and ask them to solve them. That experience gain really gives us a leg up. Does that mean that a blackout can't and wouldn't occur in British Columbia? It does not. There are sets of circumstances that could occur where we would in fact lose power, but the probability of it happening here is much lower simply because of better systems, better people, better understanding.

**K. Stewart (Chair):** Thanks for that. I appreciate the fact that, obviously, you had a pretty graphic slide there that was worth showing, with a lot of effort going into it at real time. That was rather impressive.

Now we'll start with our questions. Seeing how we have Dennis....

Are you ready for a question there, Dennis?

**D. MacKay:** Yeah.

**K. Stewart (Chair):** Okay, we'll let you start. Go ahead.

**D. MacKay:** First of all, I guess, I think Ohio was also the last state we were waiting for to find out who the next president of the United States was, and I see

we're blaming them now for the power outage as well. Shame on Ohio.

But listen, Bob, when you spoke about the industrial use of power, you touched on oil and gas and forestry, and I didn't hear you make any mention of mining. What I'd like to do is to take us to mining now and jump over to building for the future. The number I heard, I think, was \$28 billion for the capital plan for the next ten years. In that presentation, somebody mentioned a new transmission line in the interior. I think the price was \$100 million. I'd like to ask: is that because of the mining sector in the northwest part of province and the interest in power along the Highway 37 corridor from the Meziadin Junction north? Is this the line you were talking about — the \$100 million? If so, could you tell me where we are with that project?

**B. Reid:** The line that you speak of is not currently in the capital plan, but it is a very active file. There are a number of ore bodies and mining opportunities that occur in the area of which you speak. One of the prerequisites to making those opportunities real would be the availability of reasonably priced energy. We are, along with B.C. Hydro, working with the proponents and other interested parties to see if a project could be put together. The real trick is to try and understand what load would develop and what portion of the costs should be reasonably attributed to the load. In other words, what it is that the customers will have to pay in order to develop the system.

You would appreciate that there will be some costs that have to be borne by the load. We cannot reasonably ask others to pick up all of those costs in their entirety. Now, that doesn't mean that the load has to pick up all of the costs, because there are overall benefits to the system which would see costs spread more widely. But we're trying to work out that equation.

It is a bit of a chicken-and-egg thing. I mean, if you put the power line in, then will the mines develop? The mines can't develop without the power lines, so how do you try to sequence that? What we do is just work with individual developers and try and understand the status of their projects, understand the level of commitment they're making to their projects. Once we have a reasonable level of comfort that the load will be adequate, that the customers will be credit-worthy, that they can pay their portion, then we will go to the British Columbia Utilities Commission and seek approval to build the line.

It's a very active file, and I know that we have a number of relatively senior people at our company who are working on this on a daily basis.

**D. MacKay:** Yeah, okay. I'm sorry; I didn't write down the name here. Who was it that mentioned the \$100 million that was targeted for an interior transmission line? If so, where is that line?

**B. Reid:** That specific line is a line to enhance the connection between Mica and Revelstoke and the lower mainland, so it is a line for a different purpose. It

is to reinforce the connection between those two dams and the lower mainland.

**D. MacKay:** Okay. It's just that you mentioned the interior, and I equate the interior to be Prince George North — you know, in the Prince George area. I guess it's a matter of geography.

[1115]

**K. Stewart (Chair):** Thanks, Dennis.

**B. Reid:** By the way, Dennis, our minister — who is responsible for our corporation — would agree with that geographic interpretation.

**K. Stewart (Chair):** That's Minister Neufeld, I trust.

**K. Manhas:** I noticed, Jane, you were mentioning some of the market development facilitation initiatives that you guys are launching. One of them is B.C. Clean Rate. Can you give a little bit more information? Is that something that is a BCTC project? Is that something you're working on with B.C. Hydro? Exactly how does that work? That certainly is something that is mentioned in the energy plan, but what are the specifics on how that is going to work to actually encourage green power generation in the province?

**J. Peverett:** I'd be happy to.

This is a BCTC proposal submitted to the British Columbia Utilities Commission, designed by us after we had consulted with a number of customers — some of them IPPs and also, of course, B.C. Hydro.

What we have done is taken what is normally a fixed rate and split it into two components. We're trying to recognize that many of the clean energy IPPs have low load factors. In other words, when the wind is blowing, they are generating electricity; when the river is running, they are generating electricity; but they're not generating electricity all the time. If they had to pay for the same transmission rate all the time, whether or not they were actually producing electricity, we find — or they tell us — that it's prohibitively expensive for them.

What we've done is broken the rate into two parts: one much lower part, which they'll pay all the time, whether or not they're running; and then another variable component of the rate, which they'll pay only when they're generating. That makes access to the transmission more economic for them.

Where we are in the process is that we proposed this to the commission. Some of the interested parties in the province have asked us questions about it. We've answered the questions, and the commission will begin its hearing into this rate and many other rates at the end of January.

**K. Manhas:** Okay. Can I just ask a supplemental?

**K. Stewart (Chair):** A supplemental? Sure.

**K. Manhas:** In addition to that, I understand that many of these projects are often varying distances away from the grid. Can you explain exactly how you make that determination? With this type of rate structure, is there a determination that if this green power project is on the grid, then they are able to qualify for that? Or do they have to pay for their own connection to the grid? Exactly how does it happen?

**J. Peverett:** We have another aspect of the tariff which governs how we interconnect customers to the grid and who pays for what, as the Chair was speaking about. If we have to build facilities which are just for the use of that IPP in order to connect them to the system, typically they will pay for aspects of that upfront. If we have to upgrade the rest of the system, then those are the sorts of costs that tend to get spread.

There is more of a benefit — typically lower costs — for an IPP who is able to connect to a portion of the system which already exists.

**K. Manhas:** Okay — thanks.

**T. Nebbeling:** What I would like to ask Bob is that since you are an independent, stand-alone Crown corporation taken off B.C. Hydro and you are responsible to the Ministry of Energy and Mines, how is the relationship today that must be there with B.C. Hydro per se, and how do you work together with B.C. Hydro to have these joint objectives? I'll give an example: these P3 projects and the need for them in certain areas. Areas that in the past were not necessarily endorsed by B.C. Hydro for the P3 projects are now wholeheartedly endorsed by your organization. How do you come to terms? I don't think you can work in isolation, but you are an independent corporation from B.C. Hydro's objectives in the past.

[1120]

The other thing is, as a strategy, the fact that you are so very much focused on having the private sector build new power plants — which are, by the way, welcome.... Is part of the strategy to see the elimination of the future development of dams like Site C, or is that just, again, an independent issue that is not really related to the development of the private partnerships?

Lastly, still all related to this, are the dams under your control? Or are they still with B.C. Hydro?

**B. Reid:** Those are all very thoughtful questions, Ted. Let me take them in turn.

Our relationship with B.C. Hydro is good. I have a very constructive relationship with Larry Bell, who's the chair. I know that our senior executives speak on a regular basis. B.C. Hydro, of course, is our largest customer, and no effort should be spared in keeping your customers happy. We have a lot of joint interests that bring us together on a daily basis — the two corporations.

Having said that, we are an independent corporation, and as an independent corporation, we would take some different points of view than we would if we

were an integrated piece of a utility, trying to wave our hand from the back bench. I expect there will be times when B.C. Hydro would have chosen a different answer to a question that they might ask us than the one that we would give them — and equally from our end.

At this moment, I would call the relationship respectful, businesslike, professional and, for the most part, cordial. I think it's a good, constructive relationship. It's about where it should be.

Would you agree, Jane? You speak with them. Is that a fair characterization?

**J. Peverett:** Yes, it is.

**B. Reid:** The next question you asked is whether we have any bias with respect to future generation. We do not. Our job is to make certain that the transmission system is a contributing factor to the timely development of low-cost sources of power.

If B.C. Hydro decided to proceed with Site C, for example, we would be very happy to fully engage with them on the development of the reinforcing infrastructure that would be necessary in order to deliver that power to its markets. I know they are planning to make some upgrades to the Mica and Revelstoke capacity. That is one of the driving forces behind \$100 million worth of investment. We are very focused on their needs as a large customer. We have no bias one way or the other. That is for them to determine.

We are, of course, very active in working with independent power producers. They tell us that they like the approach we take to the business. Again, we're very businesslike. We need to have them understand that there are costs to be borne when you hook something to the transmission system and that there are rules about how those costs are allocated between new users and existing users.

I think, again, it's a very, very constructive relationship with the independent power producing community. We've been on time with every commitment that we've made to them. I think we have been fair with respect to our pricing. I think they would second that motion. So again, a very good and constructive relationship with them.

I'm not so sure that I recall specifically the nature of your third question. If you could...?

**T. Nebbeling:** It was all related to the same sense of the role of B.C. Hydro in relationship to your activities, including pursuing the private sector to be a big part of it.

If I can have a supplementary...?

**K. Stewart (Chair):** As long as it's clarifying what's gone on, sure.

**T. Nebbeling:** Yeah, because what you just clarified for me is that it's important that B.C. Hydro... Although they are a very important partner, they are a partner, just as the other projects are considered. When you look at your ten-year budget — \$2.6 billion for

upgrades and renewal — that does not include the... The cost of Site C, if that goes ahead, would be a B.C. Hydro project cost....

**B. Reid:** That's correct. They would budget for the development of the projects, just as any generator would do. We would, of course, then, budget for the cost of the transmission.

[1125]

**T. Nebbeling:** Would you, then...? When you get a private power producer coming to you and saying, "We want to put up an environmentally sensitive windmill project somewhere on Vancouver Island, but we want to sell our power straight to Bonneville," would that be an issue for you to consider? Or is it Hydro's issue?

**B. Reid:** Oh no, that would be very much our issue.

**T. Nebbeling:** Okay.

**B. Reid:** The movement of the power. We provide the highway to market. Implied in your question was if we would build a line for export, and we would — provided, of course, that we had a contract to support the costs of that to a creditworthy party. We would not be inclined to build something on speculation of that sort, because I think that would be taking on too much risk to existing customers. I would think that the BCUC would object to that, and, I think, rightly so.

**T. Nebbeling:** In another translation, you are saying: "We are focused on providing British Columbians with the power they need at the best price they can...."

**B. Reid:** That's it.

**B. Penner:** Outside of British Columbia, there's a lot of talk in different jurisdictions about constraints or challenges they have with the aging infrastructure not able to carry an increasing load or that it's reaching its maximum. What kind of constraints do we have within British Columbia? Where are they located? What are they in terms of your priorities? We hear a lot about Vancouver Island and the undersea cables there, with the DC line reaching the end of its life. What other constraints have you identified in the province?

**Y. Mansour:** There are a number. There are constraints on the localized side, meaning region by region — like, for example, Mission, with tremendous growth. The area of Port Kells is just growing, probably larger than most other regions, so there are projects in place to expand the capacity of the facilities in that region. That's in service, if my memory serves me right, the next three years.

There are areas like Fort St. John — the same thing. It is growing. It is getting past the existing facility's capacity of the area. Also, that part of the province grew in an interesting way. We have a centre for sup-

ply, which is a substation, and then the growth was going mile by mile to the point where we found some feeders which go to something like 100 or 120 miles or so become very unreliable. At some point in time, you have to give them an alternative supply that can meet the growth and also improve their reliability. That's a sample.

The area of Whistler — same thing. Whistler is growing at a fast pace, and we're going to have 2010. That would make it even grow faster than before. Whistler supply was one thing that ended, and it needed more security, so there is a plan for Whistler. These are examples of it region by region.

When it comes at the top system level, which is the main backbone of the system, the 500 kV, there are potential facilities, whether owned by B.C. Hydro or IPPs in the interior — the interior plus south interior. That was a trigger for our long-term plan, our ten-year plan, to reinforce the transmission from the south interior to the lower mainland, because those facilities are going to be of an amount that would exceed the exiting capacity.

**B. Penner:** You're talking about lower mainland to Revelstoke or to where?

**Y. Mansour:** Yes, to Nicola, which is the Nicola Valley. That is the location where it would come from, because it would take the upgrade for Mica, for Revelstoke, for possible imports from Alberta and also IPPs. You can see that area has a lot of potential in there.

Actually, we're looking at that area very carefully right now in anticipation of this happening. If we wait for a contract to come in that particular area.... Again, the flexibility of: do you wait for a contract, or do you start planning ahead? If you wait, a transmission line of that kind will take about seven years through process and construction. Construction itself takes about three years, but the process takes about four to five years.

What we're working on now is getting on with the process and not debating much whether it's actually the third or the fourth or the fifth or the second. We'll get on with the process of justifying things, testing it with the communities, testing it with the developers, testing it with the commission, on whether that's in the best interests. At least, we can get on with the less-expensive expenditures, but yet they take a longer time to be prepared for that.

[1130]

Vancouver Island. There is transmission to Vancouver Island, which I spoke to. Also, on Vancouver Island itself, the north of Vancouver Island transmission was built for smaller communities. Now we have the possibility of large wind farms and IPP development on the north of the Island. The transmission on the north of the Island is not built for that. That's, again, another part of congestion in the province that we're looking at very carefully. These are samples of congestion issues at the local, regional and system level.

**B. Penner:** A couple of supplementals, quick snappers.

**K. Stewart (Chair):** It's all your time.

**B. Penner:** When were the constraints with the aging DC line to Vancouver Island...? When was that first identified, and what's taken so long to address it?

**Y. Mansour:** It was identified in the early nineties — not that it was at that time, but the analysis showed that in the year 2000 it was due for replacement. In the early 1990s it was identified, but like any other project, when you say, "Here's a major transmission issue, and we want to resolve it," the solution could be transmission, which is what we put as a benchmark, but it could also be a generational line. That debate took long, in the 1990s — whether it was a generational line or a transmission line.

The Island Co-gen Project on the north of Vancouver Island was contracted with B.C. Hydro to address that issue in part. Now we're coming to the same point as in the late nineties. We're getting to the point where we either, again, have to put the transmission or new generation.... That was the most recent process that B.C. Hydro went through, again, from the late nineties until today, actually, to address it through a combination of generation and transmission....

**B. Reid:** I think the important thing to note here is that we do have a plan, and it is to add some additional generation to Vancouver Island through another gas-fired project, which I believe has been in the media recently, and at the same time move forward with the planning to replace and upgrade the undersea cables. Forecasting growth is always a bit of a trick, and one can be wrong. But using the best forecasting techniques we have, without wanting to take undue risk with the power supply on the Island, I think we have a good forward plan now, which includes generation — a second gas plant on the Island — and new undersea cables — both.

**B. Penner:** But they won't be DC cables.

**Y. Mansour:** The new ones are not likely to be DC cables. It will be AC cable.

**B. Penner:** What's wrong with DC?

**Y. Mansour:** Well, the reason we had DC to start with, the existing one.... The reason it went to DC is because when the supply from Vancouver Island was planned a long time ago, 25 or 30 years ago, the submarine cable technology of AC was not much good. You could find suppliers for DC cables but not AC cables. That was the prime reason, actually, for why it went DC. Today the AC cable technology is very mature, and also it's much more flexible for us. It's not one of a kind. We have a lot of flexibility in AC supply.

**B. Reid:** The engineers, of course, love to debate at great length whether AC or DC is best. It causes your eyes to glaze over for the most part.

**K. Stewart (Chair):** It's not a debate we'll have here today. We'll move on.

**P. Nettleton:** BCUC approved a rate increase, I think, of some 4.85 percent in fiscal 2005. It's my understanding that BCUC was directed, in fact, to consider the costs of restructuring. Restructuring of B.C. Hydro has been costly. It's been estimated that the creation of BCTC, the separate transmission system, has cost in excess of \$17 million. Perhaps you can assist me with that respect.

This restructuring was undertaken, in a large measure, to provide B.C. access in partnership onto the western U.S. electricity grid, which was called RTO West. The breakup of B.C. Hydro did not bring about the desired response from the northwestern electricity industry. In fact, Hydro's changes did not result in access of partnership for B.C. onto the western U.S. electricity grid and all the supposed benefits that had been promoted.

[1135]

I'm wondering: where does this huge miscalculation and misjudgment of the U.S. mind-set towards our province leave the B.C. Transmission Corporation? Are we up the creek without a paddle on this apparently misguided endeavour?

**K. Stewart (Chair):** You might want to first give your opinion as to whether you think it's misguided or not, and then take it from there.

**B. Reid:** Well, clearly, I do not. I think it is important to understand that the reasons for the creation of British Columbia Transmission Corporation were well expanded beyond access to the U.S. markets. It was born because we have some real and significant challenges with respect to maintaining and developing that infrastructure. The earlier slides talked about the age of the infrastructure and the need for us as a province to really focus single-mindedly on maintaining that most important set of assets. I think there is no argument that inside a separate corporation with a single-minded focus on it, that's getting far more attention today than it did six months ago or 12 months ago. That is a very important reason for the creation of BCTC.

Another is to facilitate the development of alternative sources of electricity in the province. There is absolutely no question that private developers of generation projects, including the many green projects that have been built in the last five or six years in this province and are continuing to be built, find it very difficult to make a business case and to raise the capital and move forward with those projects if their highway to take their product to market is controlled by a competitor — B.C. Hydro. I think the proof will be in the pudding here. But I will tell you that you should hold us accountable on this front. We should see an improve-

ment in the business environment for the development of both private and public generation in this province. The business and the industry, as I said in my presentation, should be making a bigger contribution to our province than it has in the past. We're already seeing good signs of that. The acceleration in the number of projects and types of projects, and soon the size of those projects, I think will clearly demonstrate that to be the case.

So we need a focus on it because of the importance of this asset, the age of this asset and the condition of this asset. We need to improve the confidence of investors in coming on to the system and their ability to use the highway, and we want to maintain and further open highways to the U.S.

That's going to be an ongoing project. We've made some good progress already, and there is more to be made here. But it's not going to happen overnight. The creation of BCTC did not cause the markets to open itself. It will really be our efforts to work with our counterparts in the U.S. over time to improve the access to those markets.

Today B.C. Hydro — and it has for some time — has a trading permit, but it's difficult. We're at the far end of the system, and trying to get our product to market in Phoenix on a hot summer day when electricity has a very high value.... We are impaired by pancaking of rates and congestion on the system. You know, it's not entirely surprising, because some of the systems that we have to travel over are owned and operated by our competitors.

Bonneville — bless them — while they have transmission lines that we must use, also sell power to those same markets that we do. We're intent, and so are our customers, on opening those systems. That's going to happen, but it's going to take a bit of time. I wouldn't argue, Paul, that it will happen overnight. It just won't. But the reasons for establishing this corporation are several. There's not a single reason behind it.

**K. Stewart (Chair):** Supplementary, Paul?

**P. Nettleton:** I'd like to explore this further, but....

**K. Stewart (Chair):** Go ahead, if you've got another supplementary question that's to the topic.

**P. Nettleton:** I'm just curious. You made reference to the fact that there has been progress made with the Americans in this regard. It's my view, though, and certainly the view of others that there is a certain amount of American utility protectionism at play here, which has been and remains an obstacle with respect to accessing American markets.

**B. Reid:** I believe that's a fair observation.

[1140]

**P. Nettleton:** I'm just wondering: can British Columbia continue to go down the road of uniting systems with the U.S. when the U.S. is stonewalling and

causing B.C. to expend effort, time and money — certainly at this point at least — with limited success?

I'm just wondering: can and should British Columbia continue to follow the restructuring and privatization plans associated with Hydro and BCTC, which some would argue are bottomless money pits, all while B.C. Hydro in fact is getting further in debt and California still continues to pursue reparations from B.C. for Enron-related costs? I'm just wondering, with respect to the whole question of costs: what are the costs associated with this ongoing intent to align ourselves with this regional transmission authority in the United States?

**K. Stewart (Chair):** Bob, before you start, we did have B.C. Hydro in front of us a few weeks back, so our expectation isn't that you'd be answering for B.C. Hydro — so how it reflects to you.

**P. Nettleton:** That wasn't the question.

**J. MacPhail:** Mr. Chair, you don't have to interpret every question that we ask if it's not friendly, please.

**K. Stewart (Chair):** If I could just clarify, Paul, I just wanted to let them know that they were here — that B.C. Hydro was here.

**P. Nettleton:** But the chair has shown himself to be very capable of responding to questions and associated....

**K. Stewart (Chair):** Go ahead, Bob.

**B. Reid:** I'm going to ask Yakout to add to my brief answer because he can talk to you more about the costs.

We have already, in British Columbia, made some good progress in terms of accessing the U.S. market, and it has been to our benefit. We have made hundreds of millions of dollars over the years by using this rather remarkable set of assets that we have in this province. It has been assembled beginning in the 1950s, really, to today. Those hydro assets are most remarkable in their capability. We can do something as simple as buy electricity from Bonneville at night when it's very cheap, let the water in the dams rise and then allow that water to come pouring forward early in the morning to serve our own requirements and produce excess electricity, and we can sell it in Phoenix for five times the price. Those assets are quite remarkable. If you look at the history of the development of those in this province and you compare that, for example, to my former home in Ontario and the history of developing the nuclear assets as an option there and the different levels of benefits that are accrued, it's quite a remarkable story.

We have enjoyed access to those markets, but it can be better, and it will be better. We need to reduce the amount of costs for using that system, and we need to.... You said it very well yourself. There's sort of an inherent bias on the part of some of the systems that

we travel through, which makes congestion on some days worse perhaps than it might need to be. We have made progress, and we are making progress. We have that file. We take that responsibility very seriously.

We approach this as a sovereign entity. That is the U.S.; this is Canada. We're in B.C.; that is Washington and California and Oregon. But we have a mutual interest. The mutual interest is really as a provider of reliable electricity at reasonable cost and the customers who need it. That, ultimately, will allow us to drive a fairer and fairer deal over time.

I should just go back and point out that one of the outcomes of our filing and our revenue requirement before the BCUC was an overall reduction in transmission rates of 4 percent. Actually, one of the outcomes of the creation of BCTC and the separation out of our rates from those of Hydro was actually a rate reduction.

Yakout, could you talk about the costs? What do we actually spend?

[1145]

**Y. Mansour:** Yes, I will. I would actually like to address two points. The first point is: what are all the activities for regional coordination? What do they do for us so far? In 1995, I was asked to take the leadership of developing a new tariff for wholesale to make B.C. Hydro able to practise activities on the U.S. side. At that time, the volume of trade was \$50 million to \$100 million and traded at the borders. Bonneville, or all the neighbouring utilities, had full control of whether to give access or not. At that time FERC started the open-access era, which it wisely.... B.C. Hydro's management and the government at that time thought it was a good idea, and we thought it was a good idea.

At that time there was the creation of the regional transmission associations. The creation of the regional transmission association was to coordinate regional activities to make open access possible and as effective as possible, using very similar tariffs. When we tried to have our own rules, which were not quite like the U.S., our access application to FERC was rejected. We went back and designed the tariff that goes very much along those lines. As I said earlier, those rules were set. We had no way of influencing them. Take it or leave it. Since that time until today, the volume of trades is in the billions, and the net is hundreds of millions. It changed from time to time, but it was definitely worth every effort.

The result of all of this was that the market or the utilities realized that we reached a ceiling on the improvement of the trade and the market. That was clear to everyone. Every one of the northwest utilities believes that more coordination is needed. This is why Grid West or the RTO have all ten utilities — anything including B.C. — trying to form an organization together or to coordinate their activities in a way that would take it a quantum leap. The activity so far has been very extensive. We faced a lot of problems in the beginning when we were not welcome at the table. All the rest was turned without us, and the first shot or the

first cut on the rules, as I said earlier.... It was against us in every respect. We forced our way to the table — again, at that time a wise decision from both B.C. Hydro's management and B.C. Hydro's board and the government at that time. We have to be around the table. We have to negotiate our way through. So we managed to do so, and the entire structure, the entire model, changed dramatically since we were there. Now we were negotiating on equal footing with all of them.

The activity so far is activities' cost of participation.... At the time when it was very peak negotiation and filings, and a lot of people involved — consultants and lawyers — our cost was about \$2 million to \$3 million in that particular year. Lately, when the activities started to slow down, it was in the hundreds of thousands — \$300,000, \$400,000 or \$500,000.

I'd like to bring to your attention something that, again, is very important to know. From time to time you will hear strong opposition from south of the border to Grid West or RTO. I would like to draw your attention to the three things that are driving this. First, anytime a cost-benefit analysis was done south of the border, B.C. was identified as one of the beneficiaries of the structure. That's why they fight us and they don't want us around. That's why we fight our way through it. We have to be around that table.

Secondly, the arrangement of Grid West is that the utilities in the United States will give up the control of their grid to Grid West while the utilities in B.C., which is B.C. Hydro, control all the facilities in BCTC, a Crown corporation. Then between Grid West and BCTC was structured all the coordination agreements so that we're all working with the same rules. The U.S. arrangements let the municipalities and some of the political elements south of the border lose control on Bonneville. They don't want that, and some of them fight it. That's why they go public against the development of Grid West and....

**J. MacPhail:** Lost control to or on Bonneville?  
[1150]

**Y. Mansour:** On Bonneville.

Really, there's another element that happens south of the border, which does not exist in B.C. In the U.S. there is that battle between two regulators — the state regulator and the federal regulator. Each one of them has jurisdiction on their piece. Anytime you do a structure by which any of them see that there is more tendency to go the other way, one of them fights it. In B.C. we have one regulator which has the ultimate interest of the ratepayers and the public in one hand, and that's why we don't have the issue there.

These are some samples of the issues. When you hear of resistance south of the border, they are coming from one or a combination of those. I hope I answered.

**B. Reid:** There's one other — if I may, Mr. Chair, just to finish off. Paul raised the spectre of privatization when he was talking about BCTC. While it is up to the minister and the government to speak on that subject, I

can tell you that in the establishment and their recruitment of me as the founding chair, the minister and the Premier both told me, in answer to direct questions, that they believe that maintaining all of the core Hydro assets of this province, including transmission, in public ownership — in the hands of the public, or the government — was in the best interests of the province, and that was their intention.

**J. MacPhail:** Well, I'll carry on from that point. Thanks very much for the excellent presentation. Please make sure that Mike Costello knows we hope he gets better.

**B. Reid:** Thank you.

Interjection.

**J. MacPhail:** Yes, I'm speaking on behalf of the committee.

I want to carry on with trying to determine what the result has been from setting up BCTC. I want to work with two pieces of the same question, Mr. Chair, which is the recent decision by BCUC to reduce the rates that the government had imposed on the customer. Now, I'm talking about the customer — me — as opposed to.... The wholesaler, I guess, is what you would call it.

I thought that the effect of that decision and the reasons for those decisions went virtually unnoticed last week or the week before by the media and therefore by the public. I read B.C. Hydro's advertisement for it, but it really didn't explain it.

I want to just explore the effect that the transmission costs had on that rate. Of course, there was an edict by BCUC for BCTC to reduce its price by 4 percent, I think, as you've said. In so doing, was BCUC embracing what BCTC was putting forward? That's 1(a).

Then 1(b) is: was the capital plan presented, as we have received it today, to BCUC for the consideration and the subsequent determination of the rate reduction? Then the last part of that is that I notice throughout the annual report there's quite a bit of discussion.... You've outlined today that you will be establishing a new tariff. Was that considered — the establishment of the new tariff — in their ruling for you to reduce your rates by 4 percent?

**B. Reid:** Jane, would you...?

**J. Peverett:** Yes, thank you.

In making the decision that transmission rates should be reduced by 4 percent for fiscal '05, the BCUC was approving what BCTC had requested. They agreed with our proposal after the hearing had completed.

The capital plan was considered in that proceeding, but the capital plan was considered in two different proceedings. It was considered in the revenue requirement. This was the proceeding on which the BCUC has recently ruled and reduced the transmission

rates, as we requested, by 4 percent. It was considered with respect to its impact on rates. We file a separate capital plan with the commission, which includes ten years of capital spending plans. That is considered in a separate proceeding. It gives the commission and interveners an opportunity to take a look in more detail at each one of the projects. The commission, after having considered the projects, also approved the capital plan. It was not precisely the one that you've seen here today, because we're showing you a more recent version — but very, very similar.

Your third question is: was the new tariff considered? No, it wasn't. The tariff is now being considered in a separate proceeding. The way that the commission sets rates is that it determines what the costs are that are to be recovered through rates in the revenue requirement application and then considers the structure of the rates which recover those costs in the tariff proceeding.

So it can determine the two separately — costs in one, structure of rates and terms and conditions in the other. The tariff is ongoing now.

**J. MacPhail:** The determination of the tariff.

**J. Peverett:** Yes.

**J. MacPhail:** Right. I have a supplemental.

**K. Stewart (Chair):** I'm mellowing in my old age, so you can continue on.

[1155]

**J. MacPhail:** It is related, because I want to now talk about the capital plan. Again, this is in the context of: why BCTC and not a development unit inside B.C. Hydro?

The three areas of the capital plan that are the priorities.... I'm talking about growth capital, not sustainment capital but the growth capital, which is the transmission circuit from Mica et al. to the lower mainland — oh, sorry, there are two — and the Vancouver Island subsea cable. They have been under consideration for a period of time.

Now BCTC is going to build both of those? I understood from my debate in the Legislature with the minister that future construction would be outside of BCTC. That was part of the reason for setting up BCTC.

**B. Reid:** I can clarify that by saying that the ownership of the transmission assets themselves will continue to reside with B.C. Hydro. They will own those assets; they will carry them on their balance sheet. BCTC is responsible to manage and operate them and for the development of the system.

It is to our account to determine what needs to be built and when. Once those are approved, then we will make application to the BCUC. There's a third part to the capital plan, and that is that once the BCUC has approved the ten-year capital plan, one cannot go out and build it. You then have to bring back each individ-

ual piece and ask for specific approval for that. As these projects are brought forward and reviewed by the BCUC, once they are approved, then we will see to it that they are constructed. But they will end up on Hydro's balance sheet, not ours.

**J. MacPhail:** Just in the consideration of, for instance, the approval of Duke Point, the gas-fired plant, and the subsea cable: who will build the subsea cable, and who will own it? You're saying B.C. Hydro will own it. BCTC will be responsible for seeing that it's constructed.

So what's different than the...?

**B. Reid:** The most interesting part that is different is that today, I would say that the consideration of whether you build transmission or whether you build generation to solve any particular problem is on roughly an equal footing. At one time generation always tended to dominate these discussions. When one looked at options for providing new supplies of electricity on a timely and cost-effective basis, one always tended to look to generation. Today we are very much focused on bringing forward transmission options that we think will be more....

It will be interesting to see this unfold over the years. You will see times when B.C. Hydro will bring forward a generation option, and we will oppose them and bring forward a transmission option. The BCUC, interestingly enough, will get to adjudicate as to which is the most efficient and which is in the best interest of customers. That never happens inside an integrated utility.

At this moment we work very closely with B.C. Hydro, but we very forcefully bring forward what we think is the right option. We have the right to put projects before the BCUC to ask for their approval. If they are approved, we will then look after their building, and Hydro will finance them. They will end up on Hydro's balance sheet, but B.C. Hydro does not have the right to say: "No, we're not going to pay for it." Once the BCUC gives us approval, it's done.

**Y. Mansour:** Mr. Chairman, maybe I should also add just an example of the difference. If you take the Vancouver Island case, when we proposed it, early on we said: "We have a transmission problem" — that's B.C. Hydro — "and we think we should build generation on Vancouver Island to solve the transmission problem." A lot of people objected to the conclusion. First, how much trust do they have in the fact that the generation is actually the most economical solution to transmission or not? Both sides are in the same organization. I was on the stand on the VIGP last year when I was part of B.C. Hydro. I was hammered just as much as B.C. Hydro. No one trusted either side.

[1200]

We also talk about cases now where it is not just the generation of B.C. Hydro but generation of others. Could they actually solve the transmission problem or not? If I said no, they can't, when I was part of B.C.



Hydro, no one had faith in what I was saying, regardless of how much they liked me as a person. When I'm not part of B.C. Hydro, the two issues are very distinct. There is a transmission issue that the transmission organization is focusing on, and anyone who has a competing project, including B.C. Hydro, has to come to the public process to demonstrate that they would solve that problem.

The issue of faith and trust in that whole system of transmission of facility generation is enormous. When I was part of B.C. Hydro, the treatment of the people of the transmission.... Actually, no one trusted them, regardless of firewalls and codes of conduct. It was painful. Now, the pain is one thing, but the fact that the investors do not trust that process had a big impact on the actual outcome.

Today, the number of people who consult with us directly on building projects that compete with B.C. Hydro's is an order of magnitude higher than before. It's not necessarily because we have more money coming in out there, but they trust in the process more.

**J. MacPhail:** Mr. Chair, just to conclude — it's not a question — I keep an open mind, but the business cycles of mergers, acquisitions and then divestments is unusual in a Crown corporation. I think that's what we're seeing here, and I'm keeping an open mind, believe you me.

**B. Reid:** I tried to set out in one of my earlier slides the basis upon which you should judge us and what your expectations should be for this new corporation. We know that the proof is in the pudding. I mean, I think there's an enormous amount of good that should come out of this, and British Columbia will benefit greatly by it, but it will not happen unless we make it happen.

The new corporation has to do things well. It has to do the right things, and it has to do them the right way in order for the benefits to be realized. We're saying to you today that we fully intend to do that.

**H. Bloy (Deputy Chair):** Thank you very much for the presentation. I was at quite an advantage, because a week ago, you two had the misfortune of having to sit beside me at a reception but were pleased to talk to me throughout dinner about BCTC.

I have a couple of small questions. I read your mission statement, and then I looked further into your presentation, and independence is the key. I look at it, basically, that there's no minimum investment, you know, to join the grid.

**J. MacPhail:** That's a question.

**B. Reid:** Oh. Well, no. There are perhaps two different ways to look at your question.

One is: is there any minimum requirement in terms of the amount of electricity that has to come to us before we would bother? We don't test it quite that way. It really depends upon the costs of hooking up. A very

small project that produced less than one megawatt of electricity, if it cost \$100 million to hook it to the system, would simply be uneconomic and not worthwhile.

You could have a relatively small project. There are very small green projects, including some biomass and some methane projects that come from the Burnaby project, where they're using methane produced from landfills to produce electricity. As long as those are situated in locations where they can be hooked onto the system at reasonable cost, there's really no prohibition at all against them.

We're happy to take virtually any size of project, but realistically, they've got to be sited properly in order to be economic in the system. Was that your question, Harry?

**H. Bloy (Deputy Chair):** Yeah.

**Y. Mansour:** To put it in numbers, one megawatt is the limit, because we can't measure much below that.

**H. Bloy (Deputy Chair):** Okay, that's fine. One megawatt.

**B. Reid:** But that's pretty small. I mean, even one of the new windmills.... You know, the new, larger varieties are actually two megawatts per windmill. That's for some of the new ones.

**H. Bloy (Deputy Chair):** So you would accept these on an ongoing basis if the twos kept coming up and they were reasonable to pick up into the system.

Who pays to hook it up?

**B. Reid:** You couldn't. It would be unrealistic. If you look at the very best wind locations in the province, some of which are on the northern tip of Vancouver Island, you would need a project of.... I think the Stothert project is — what? — 40 megawatts or something like that and moving to 70, I think, over time. You need a project of roughly that size, because there's a fair bit of grid reinforcement that needs to be done to hook those up.

[1205]

**H. Bloy (Deputy Chair):** Okay. It might be a little slow to catch on. Who pays for the actual hookup to the system? Is it the provider, the generator?

**Y. Mansour:** From the location of the generator to the first point in the network, the generator pays. After that, any upgrade that we do on the system to accommodate them is covered by the rate. What happens is that if we are going to make a certain investment in the upgrade of the rest of the network, the generator-owner puts money upfront for that upgrade. Then, as we charge them year by year for the access, it gets charged against what they paid in the beginning as a credit.

What it is, is that we guarantee that we'll get our money first, just in case those developers move away.

Then after that, it becomes like a credit for the usage of the system until it all expires, and then they just....

**H. Bloy (Deputy Chair):** So the generator pays for the first hookup.

**Y. Mansour:** Yes.

**H. Bloy (Deputy Chair):** Then if the balance of the line has to be improved, he pays for that, and then he's credited?

**Y. Mansour:** Yes — credit for that amount.

**J. Peverett:** Against what he would otherwise pay in transmission rates.

**B. Reid:** We don't make him pay twice. If he pays upfront for the improvements to the system, then he essentially gets a discount in his rates until that's used up.

**H. Bloy (Deputy Chair):** Okay. Actually, other providers on the line would benefit from this increase as well. So are they all like a triple-net lease on that portion? Any cost-related improvements, maintenance or operations are all shared, and it'll come back through a rate structure, but....

**J. Peverett:** The cost of any upgrades goes into the total cost, and that total cost is apportioned among all users of the system.

**K. Stewart (Chair):** Would it be fair to say it would be similar to a latecomer's charge on a municipal utility — where, if you ran the sewer line down to your place and people came on it later, they would pay the upgrade too?

**Y. Mansour:** You would get charged a set amount. The difference is that the first person paid upfront. The others will also pay the same amount, except that they don't pay upfront. Eventually, they pay the same portion, more or less.

**B. Reid:** It is an effort to try and ensure that the costs of making the upgrade in the first place are recovered to a large measure from the new customers and that the burden on existing customers is reasonable. Then it is also to ensure that should others come along subsequently and enjoy the benefit of that investment, they pay for it as well — to the benefit of the system.

**H. Bloy (Deputy Chair):** Who maintains your system once it's up? If B.C. Hydro owns it, who maintains it?

**B. Reid:** We do.

**Y. Mansour:** We make all the maintenance decisions. The actual workers, the workers themselves, are contractors, including B.C. Hydro's field services.

**H. Bloy (Deputy Chair):** Do you contract out, or does B.C. Hydro control the contracting out?

**B. Reid:** We contract out, but our principal contractor is B.C. Hydro. They do very good work.

**B. Penner:** You have direct employees, too, that work on the lines.

**K. Stewart (Chair):** Okay, just one at a time. Barry, do you have a question?

**B. Penner:** Just a point of clarification. You do have employees that work on the lines.

**D. MacKay:** Chair, it's Dennis here. I have to leave, so I'm going to leave.

**K. Stewart (Chair):** Thanks, Dennis.

**Y. Mansour:** We don't have any workers of our own who actually climb the poles and do the maintenance and so on. We are an asset management company, a very small number who make the decisions and the program. The people who actually do the work on the lines are contracted out to B.C. Hydro or other contractors.

**B. Reid:** But all of the decisions with respect to what gets done and when it gets done are made by BCTC. Then we simply take those work orders and contract them out, with the largest volume of that work going to B.C. Hydro's field services group, which is set up as a separate business inside B.C. Hydro and does good work. Their relationship with us is one of being a contractor.

**H. Bloy (Deputy Chair):** Is there not a shortage of some of the line people that you need to do some of the work that's out there?

**Y. Mansour:** Linemen are some of the skill sets that are in danger, if you like. B.C. Hydro has one of the most extensive training programs for apprentice linemen. They have also an arrangement — one of the best, actually, in the industry — with the union, and they have the so-called EITI, which is an institute to train linemen and produce some high-quality linemen. Yes, it's a skill that's in danger. At the same time, there is a program within B.C. Hydro to do it. They even offer it to other contractors, as well, including BCTC.

Even though B.C. Hydro has the entire contract — not the entire contract but a large chunk of the contract.... Forty percent of those contracts are also outsourced historically to other contractors.

[1210]

**H. Bloy (Deputy Chair):** Why wouldn't you out-source directly? I hear some stories at the linemen's association that there's quite a competition and that Hydro will take on people they can't afford, and they don't get the contracts on a consistent enough basis to keep them within their employ.

**Y. Mansour:** We are looking at that. Depending on the volume of the contract, we will contract directly. We will use B.C. Hydro either as prime contractor and outside workers, or we may use another contractor and use B.C. Hydro to manage the contractors for safety reasons. So we'll do both.

**B. Reid:** But the whole idea was to not replicate what was already there and adding additional cost to the system, and we do that by contracting most of our work. We also do most of our engineering work through B.C. Hydro engineering services — not all but most. They, as well, do a good job for us. Again, decisions with respect to the scope, what is done and the timing of what is done are made by us.

**K. Stewart (Chair):** I've heard a lot of comments here with regard to transition from B.C. Hydro to BCTC. I'd like to take the point of the consumer, the person who gets the bill, to do some clarification first and then to try to bring this into an understanding of what has happened.

I got my B.C. Hydro bill the other day. It was still B.C. Hydro. My understanding is that B.C. Hydro probably generated this power. Let's just assume it was generated at one of the northern dams. Once it was generated, it went down on lines that were owned by B.C. Hydro but controlled, in a sense, by B.C. Transmission Corporation.

**B. Reid:** More than in a sense, actually.

**K. Stewart (Chair):** Okay. The reality is that you.... My bill was \$500, as an example. Out of that \$500, a portion will be paid to BCTC by B.C. Hydro to move that down there. I'm just looking to try and clarify this. This power goes down through a B.C. Hydro transmission line owned by B.C. Hydro and controlled by BCTC. It goes to a substation. Is that substation owned by B.C. Hydro?

**J. Peverett:** Yes, it is.

**K. Stewart (Chair):** Is it controlled by BCTC?

**J. Peverett:** Yes, it is.

**K. Stewart (Chair):** Okay, so it's the same process when it hits the substation. Actually, the BCTC would make the decision on the location and the maintenance of that substation.

**Y. Mansour:** Correct.

**K. Stewart (Chair):** So now I have a river, and I start producing power there — going through all the regulatory hoops necessary, of course. I have an extra couple of megawatts of power, and I'm going to sell it to the local neighbourhood as such. As soon as I get on the B.C. transmission grid, which is owned by B.C. Hydro, at that point in time, will B.C. Transmission charge me the fee and then pay B.C. Hydro? How does that work?

**B. Reid:** We don't have retail competition in British Columbia, so if you generated electricity from your plant and if you wanted to sell it to your local neighbourhood, you would sell it to B.C. Hydro, and they would distribute it. The customers belong to them. The only customers that have the capacity to go outside B.C. Hydro's retail service — i.e., to buy electricity — are large users. You could sell directly to a large user, at which time we would move the power for you.

**J. Peverett:** And we would bill you.

**B. Reid:** We would bill you.

**K. Stewart (Chair):** Let's move this up a scale. I'm no longer just a local little guy with a little plant. I'm a major forest company with a mill that produces power, of which I need 50 percent operationally. I have 50 percent to sell. It's a significant amount of power. Would I still have to sell to B.C. Hydro?

[1215]

**B. Reid:** Your options would be threefold. One is that you could approach B.C. Hydro and see if they would be interested in acquiring it for their load, and that would be a matter of their need and the price.

**K. Stewart (Chair):** Right.

**B. Reid:** You could approach your neighbours, if there were other mills or large users, and seek out a contract with them. Or you could seek out an export opportunity.

**K. Stewart (Chair):** Okay.

**B. Reid:** In any event, we would move the power. If you sold it to B.C. Hydro, we would move it on their behalf, and we would charge them. If you sold it to an industrial customer or to export market, we would move it on your behalf, and we would charge you.

**K. Stewart (Chair):** At this point of history in British Columbia, are there power plants that are doing just that?

**B. Reid:** We're in the early stages at this stage. The right for large users to purchase power outside the traditional system is relatively new. I will tell you that the large users are very excited about the possibilities, but it's very early days.

**Y. Mansour:** Some of the examples that you gave, the industrial customers, will have generation of their own. If it is beyond their need.... About two or three years ago, I believe, the commission allowed them to sell their excess power — beyond their needs — provided that they met all the 1821 tariff obligations. Some of them actually used some of the marketers to market that power. There are few of them, but they have started to do that.

**B. Reid:** That power, essentially, has gone to the export market. There are — what? — about half a dozen, maybe ten, power marketers that are relatively active on our system, buying and selling power. Powerex, of course, is the largest, but there are others as well.

**K. Stewart (Chair):** So they would sell to Powerex, not necessarily to B.C. Hydro, if they wanted to export.

**B. Reid:** No, you could sell to Duke Power, or you could sell to TransCanada Power or TransAlta Power, and they would take the power from your plant. They would contract for point-to-point service on our system, and they would sell it, let's say, to the ARCO refinery at Cherry Point in Washington State, as an example.

**Y. Mansour:** A small generator, for an example, has used Saskatchewan Power's marketing arm to move their power from wherever they are to the U.S. That happened. There are some industrial customers who use marketers other than Powerex to sell their energy.

**B. Reid:** It is surprising to know that SaskPower, which is a Saskatchewan Crown corporation, of course, has a marketing arm that actually buys and sells power on our system.

**K. Stewart (Chair):** So we're looking at these wind projects on northern Vancouver Island, etc. Will they be selling to B.C. Hydro?

**Y. Mansour:** Not necessarily.

**K. Stewart (Chair):** Okay.

**Y. Mansour:** It could be a B.C. Hydro contract and become part of B.C. Hydro's resources for serving the load. It could be on their own. It could be throughout their marketplace.

**B. Reid:** Much of that is that the industry will evolve over time. We're beginning to see that now. The requirement for what sort of participation an individual project can have in the marketplace really depends on their financial capability. If you are a small company that has one little plant, then it's probably too risky for you to just go and expose that to the market, although that might be the area of greatest profit. Most of those try and sell under a long-term fixed contract

with B.C. Hydro, and they take that to the bank. Then the bank lends them the money, and they build their project.

But you will begin to see — and we are seeing — the larger, more sophisticated entrants into the market who want to sell some power to B.C. Hydro but not all of it. They want to participate in the export market and direct market in the province.

**J. MacPhail:** Mr. Chair, I have one question based on your questions on governance.

**K. Stewart (Chair):** Actually, I was just going to give the opportunity for people that have a question, so go ahead. You might as well be first.

**J. MacPhail:** It's a question on governance, and it's related exactly to the discussion you've been having with the Chair. That is, who in BCTC in the governance structure is looking after our interests as residential customers of B.C. Hydro?

Here's why I ask. I looked at the board — and thank you very much for a fulsome description — and I'm pleased to see so many women. Having said that, it does seem to me, though, that the board of directors of BCTC is dominated by the kind of customer you define as your customer. Mr. Mansour did a very good job of saying it's a different customer than the residential customer of B.C. Hydro.

[1220]

It seems to me that the board of directors is dominated, through recent employment or recently retired or currently employed or background, by the kind of customers that the Chair of our committee was just talking about in determining whether to use BCTC or cut a deal with BCTC or have a direct and major influence on the rates that BCTC charges. However, the rate that BCTC charges affects us as residential customers through B.C. Hydro.

Who on the board of directors is protecting our interests? I mean, I have to tell you: this board looks like a board that if I were in government, the B.C. Federation of Labour would have been dominating on it. We know what anathema that is to this government — and the world, probably.

**B. Reid:** I would say that whether one.... Without regard for where one selects directors.... By the way, I'm enormously proud of this board. I say that because I had a great deal to do with approaching most of these people and convincing them to serve. I looked for regional balance, I looked for gender balance, and I looked for experience and background. But everyone on this board has a.... Many of these are people like.... Margot Northey is a very experienced director. She's a director of many top-flight Canadian corporations. She fully understands, as do all of the directors, what our fiduciary obligations are: they are to BCTC, and they are to the shareholders.

We are very much focused on making certain that the costs of operating our system are reasonable. I'm

sure that management would confess over coffee that perhaps the board is pretty tough on them in terms of setting up measurable standards to make sure that we deliver good service and do it at reasonable prices. We do that because we know that it benefits all our customers.

**J. MacPhail:** Do you have conflict-of-interest guidelines?

**B. Reid:** Absolutely.

**J. MacPhail:** I wouldn't mind a copy of those, Mr. Chair.

**B. Reid:** Yes, we have a code of conduct that applies to all our employees, including directors. Ms. Northey chairs our corporate governance committee, and they are very active. Of course, the shareholder also has rules that we are all familiar with as directors. I would expect that those rules today would not be remarkably different from those that might have been there ten years ago, except that they've been updated and made more rigorous in keeping with the times.

We have our own internal code of conduct. It's absolutely clear that these directors are single-mindedly focused on making sure that we have good service and that we do it at the lowest possible cost for your benefit and for the benefit of all customers.

The BCUC will decide whether our rates are reasonable. Once having decided that, as Jane Peverett described, they'll also decide who gets to pay for them — the tariff.

**K. Stewart (Chair):** By way of process, I will just.... All written correspondence goes through the Clerk of Committees, so everyone gets fair and equal distribution of it.

At this point in time, we're at that stage where, if there are some crucial questions that people would like to get out there, we'll go for some specific questions. If we run out of time, there's that opportunity for written questions. We've already gone about an hour and a quarter now. We'll go around again and see if we can just get some quicker questions. We've had a really good go at this, I think.

We'll start with you, Karn.

**K. Manhas:** I just want to close a loop in my understanding. If you guys build a new transmission line that's owned by B.C. Hydro.... If an IPP builds that to connect to the grid, does that get turned over to B.C. Hydro as well? Is that B.C. Hydro's ownership, or is it the IPP that owns that?

**J. Peverett:** They continue to own it.

**K. Manhas:** Okay.

**T. Nebbeling:** Very quickly, on the 22,000 steel towers you have carrying the lines: with your future

planning, I'm sure you'll consider the opinion of the people living in the areas where these corridors are today and where in the future new corridors will be created. Especially with the heavy.... If I come back a hundred years from now to look at British Columbia, will there still be 22,000 towers, or will there be new ways in the future of transporting energy without having to use these corridors, which are more and more driven by NIMBYism — not in my back yard? It must be very expensive for the corporation. It must be very expensive and time-consuming to deal with it. Is there a chance that there are other ways?

[1225]

**Y. Mansour:** We had exactly that same question at one of our strategy sessions in the last year or so. It was not about a hundred years from now but, let us say, 25 years from now.

The likelihood is that you still need a strong backbone with big facilities to support that big system. Electricity is a very strange product. It's a product that you don't see but is very powerful. It travels at the speed of light. While we're sitting here and the light doesn't flicker.... There are literally millions of things happening, yet the lights don't flicker. If you have an entire system of just little generators here and there, lights will flicker.

The reason you can accommodate those new technologies for as long forward as we can see and still keep the lights not flickering is that we're still relying on a strong backbone and major facilities to support the system. Would it grow at the same rate as has happened in the past? My answer is no. You will find more distributed generation, more technologies, more customer response or customer initiatives on their own.

**B. Reid:** Green projects tend to be smaller.

**Y. Mansour:** You will find more of that. You probably will see the amount of today, but closer to the same.... When we're saying we want to build a new transmission line from the interior to the lower mainland, that's probably the first major line we've built over land in 20 years or so. In the past period of 20 years, you have probably seen tens of transmission lines being built. Is that what...?

**T. Nebbeling:** It explains it. I suppose if I come back on the diesel now, there will still be 22,000 towers.

To conclude, then, first of all, I'm very impressed with the presentation of all of you. It has really enlightened me on how the system is beginning to.... You've developed it. One credit I have to give you: you've been at it for a relatively short period of time and have not focused just on, "How do we get this baby off the ground?" but have looked at the same time at the long term, as well, which I think is remarkable. That long-term view is going to be part of your headache, you know, because you have already said it takes seven years — four years to negotiate and three years to actually build it.

Good luck. I'm really happy that you're here. I'm happy that the team has folks like you, because I think it's good for British Columbia, as I said earlier.

**B. Penner:** I just want to start by thanking BCTC and, in particular, Yakout Mansour over the past while for supporting the work of the Pacific NorthWest Economic Region. It's an organization I've had a chance to be involved in. BCTC has certainly played a major role in informing us and our neighbours in the region about the challenges we face with constraints and restrictions on our growth here because of the limited capacity of the existing transmission system. I want to thank Yakout and BCTC for their support.

It looks good on British Columbia when we're represented in such a professional way south of the border. I think I can report that our relations with Bonneville Power and other system operators south of the border have improved over the last couple of years. We're not as antagonistic. We tend to talk more now about what we can do together rather than refighting old battles. Let me put it that way.

**B. Reid:** Although I expect we may still have the odd skirmish coming up from time to time.

**B. Penner:** You know what? The best way to get people on the same page is to say: what can we do together?

**B. Reid:** Absolutely.

**B. Penner:** When you start talking about the growth opportunities — actually, the fundamental need to address the constraints so that we can have growth in our economy — I think that tends to bring people together. If you put out that challenge of how we can alleviate the constraint, then suddenly, we have a common objective. Rather than fighting over a shrinking pie, let's look at how we can help the economy in the northwest. I think we have opportunities for cooperation.

Just a couple of quick things. I also want to salute the BCTC for their plans for a new control centre. Certainly, through the work in the Pacific NorthWest Economic Region, we've identified major security risks around the transmission infrastructure. I know that it's part of your capital plan for the new transmission centre to increase redundancy and security systems to make it more resilient to potential attack or even natural hazards, and that's to be commended. I think that's building for the future. It's farsighted, and it's about time.

Just a couple of things to put on the record in addition to that, Mr. Chair. I've heard in the past that the transmission system on the northern end of Vancouver Island has some limitations and some difficulties. Certainly, some of the would-be green power producers lament the potential costs for upgrading that system, and they see it as a barrier to their projects going ahead.

[1230]

I'm thinking particularly of Sea Breeze, but not just Sea Breeze. How often in the past, when there was that mill at Gold River, for example, were there problems with the existing line? We're told now that the line would need substantial upgrading to accommodate the wood waste facility that's been proposed there by Green Island Energy. I'm just wondering how often in the past that line posed a difficulty. I'll just leave that with you.

No. 2, Cherry Point. It was mentioned earlier that there is a refinery there. I know they have now received approval from Washington State's Energy Facility Site Evaluation Council to build a 720 megawatt gas-fired cogeneration facility. My question is: what would that do to our ability to export power to the United States? What will that do in terms of adding to the constraints on the already congested inter-ties at Blaine?

No. 3. I know that B.C. Hydro has been a net importer over the last few years. We still export at certain times of the day, but on a net basis, we've become an importer. Where does most of that power come from? Through your system, are you aware of whether that comes mostly from south of the border, or does the majority of that come from the east of us in Alberta?

No. 4. Is there sufficient transmission capacity to handle the extra output planned for Mica and Revelstoke? I think I heard you say that you need an upgrade. What would the cost be of that upgrade? Would that help facilitate new generation at a possible Site C dam, or would that have to involve a separate and additional investment in transmission? Would there be some synergy between an upgraded line from Nicola Valley to the lower mainland in terms of facilitating Site C generation?

Those, you'll be happy to know, are all of my questions.

**K. Stewart (Chair):** Those are your questions for written response, I take it.

**B. Penner:** Yes.

Did we get an answer from B.C. Hydro, by the way, from our...?

**K. Stewart (Chair):** We'll talk about that later when we do our overview.

**P. Nettleton:** It has been a very interesting and useful exchange, and I thank you for that. I did come into this presentation with a series of questions. Some of the questions have been protracted, and the responses have taken some time. I should also say that the presentation has raised a few questions, so I'm quite content to put those questions forward for written response, and I thank you for that.

**J. MacPhail:** Actually, I went to the annual report. I'm a freak on figures, so I just have a couple of questions about the balance sheet and the accompanying

notes. I'll just go through them. One is that there's a \$2 million tenant inducement. I hope that's Bentall paying you, but if not, I'd like an explanation of it — okay? It's on page 29 of the annual report.

**J. Peverett:** It is. Shall I respond to that, or...?

**K. Stewart (Chair):** Sure. If we can get a quick answer, fine. At this point, what we do is we set out a series of questions that can be answered. If there's a really quick, sharp answer — yes, no — that's great. If not, we....

**J. Peverett:** Yes.

**J. MacPhail:** The answer is yes? Great.

On page 33, there are some mortgage loans to two employees. I'd just like an explanation of that. Note 2, page 33. It's about \$460,000 on mortgage payments to two employees.

The return on investment under note 1 is listed as 13.9 percent that you get from B.C. Hydro. I want to make sure that was part of the BCUC — that they reviewed that and approved a 13.9 percent internal return.

**J. Peverett:** They did.

**J. MacPhail:** Okay.

The last one is.... Oh, and then your pension plans. Are they in surplus or deficit?

**J. Peverett:** Surplus, but very minor.

**J. MacPhail:** Okay.

Then on page 40, there's a contract of about \$400,000 between you and RTO West. What is that for? It's about \$400,000.

**J. Peverett:** That's an amount that we give to RTO West to fund their startup, which they will repay us once they have started up and have their own source of revenues.

**Y. Mansour:** Every utility of the ten provides an amount of funding every year to support the activities underway to develop RTO West. It is payable back when RTO West is up and running.

**J. MacPhail:** And you're one among a few paying that?

**A Voice:** Yes.

**J. MacPhail:** Thank you. Thanks, Mr. Chair.

**K. Stewart (Chair):** The only question, then, that was left outstanding was the one on the mortgage. Was that the only one?

**J. Peverett:** Yes. Those are two employees that moved....

**K. Stewart (Chair):** Relocated?

**J. Peverett:** Yes, relocated. We have a company policy to provide them with mortgage assistance. Those two loans were extended under our company policy.

**J. MacPhail:** Are they management?

**J. Peverett:** Yes, they are.

**J. MacPhail:** And do workers get the same benefit?

**J. Peverett:** I believe our policy.... I will confirm this. I think our policy extends to all employees who have to move.

[1235]

**Y. Mansour:** Mr. Chairman, there were also quick answers to Mr. Penner's.... There were a couple of questions there.

**K. Stewart (Chair):** Okay. Sure.

**Y. Mansour:** He asked where the imports come from. They come from everywhere, including California, Alberta, Bonneville, anywhere during the night — especially from thermal plants who have to run anyway. They come from all over the western system as far down as California.

**B. Penner:** I've heard it said that as little as 5 percent of our imports come from Alberta, with the balance coming from the United States.

**Y. Mansour:** That's exactly true. Our activities in general, trade activities with Alberta, are less than 10 percent of our total volume.

**K. Stewart (Chair):** Okay.

**Y. Mansour:** The other one is the cost of the line from the interior to the lower mainland. The rough cost is about \$300 million. Whether actually Site C or Mica and Revelstoke, it triggers the same corridor, because when the power comes down to Kelly Lake, it just spreads around and comes down the same corridor. So the trigger for it, either Site C or Mica and Revelstoke, is the same for that particular corridor.

The other two questions we'll be happy to answer in writing.

**K. Stewart (Chair):** Okay. I have no further questions, so at this point I'd like to thank you very much for your presentation.

**B. Penner:** I'll put something more on the record, and I don't ask for a response now. Just speaking of Site C, how much has the work done to date cost? Who has paid for it to date in terms of projecting what the transmission cost would be to adding Site C to the system?

**B. Reid:** Okay. You're asking here exclusively with respect to transmission, because we, of course, would have no knowledge of how much Hydro has spent on developing the project.

**B. Penner:** Transmission only.

**B. Reid:** Just the transmission provided.

**K. Stewart (Chair):** Okay. Again, thank you very much.

At this point we'll take a short break. There is lunch provided, so if we can take, say, ten minutes and then come back in here, and if everyone's agreeable, we have other work to do.

**J. MacPhail:** Not very long, I hope.

**K. Stewart (Chair):** It's up to you guys. Thank you very much.

The committee recessed from 12:37 p.m. to 12:43 p.m.

[K. Stewart in the chair.]

**K. Stewart (Chair):** I'd like to call the meeting back to order. As we're going to be discussing the comments from our last presentation, I would suggest we go in camera. Do I have a motion to do so?

The committee continued in camera from 12:43 p.m. to 12:57 p.m.

[K. Stewart in the chair.]

**K. Stewart (Chair):** We are now back into our regular session — public session.

At this point I would like to see if we have a recommendation to accept the draft report of the following organizations: British Columbia liquor distribution branch, Forest Innovation Investment Ltd. and Land and Water British Columbia Inc.

**Some Voices:** As amended.

**K. Stewart (Chair):** As amended. Question?

Motion approved.

**K. Stewart (Chair):** Okay, great. It's unanimous.

The second item up for discussion is that we now have three organizations that we've recently seen: B.C. Hydro, ICBC and the B.C. Transmission Corporation. At this point in time we have some draft reports being done. My understanding is that these reports will be ready in mid- to late January.

At that time, I would....

**B. Penner:** Just a question about when we are going to get the response from B.C. Hydro related to our questions when we were discussing their service plan.

**K. Stewart (Chair):** We talked two weeks. That was the discussion time limit....

**J. Fershau:** There was a response that went out to your e-mails from B.C. Hydro. I believe it was Thursday or Friday. I can resend it, if need be. It was a PDF file. Mr. Nettleton's questions are still outstanding.

**K. Stewart (Chair):** With regards to the time line that we have, we've given a two-week time line to this last organization. The expectation is that all reports — or our request — should be completed within two weeks. If not, then we will get after any organizations that haven't completed at that time.

It would be my anticipation that we should have a draft report ready for review by mid- to late January. At that time, I would like to recommend that we meet and go over the draft report, looking at a final report, reporting out to the House when we're in session in February. Does that time line work for most people?

[1300]

Can I have a motion?

**H. Bloy (Deputy Chair):** So moved.

**K. Stewart (Chair):** That's the second one. Now that we've concluded the final copy of our report, I would like permission to deposit that with the Clerk of the House so that it will be available for public viewing as soon as it's deposited with the Clerk.

Motion approved.

**K. Stewart (Chair):** I believe that concludes our business for today. Motion to adjourn?

The committee adjourned at 1:01 p.m.