COQUITLAM DAM SEISMIC UPGRADE PROJECT
CONSULTATION SUMMARY
JULY 2005

INTRODUCTION

The Coquitlam Dam and Reservoir are located within the GVRD Coquitlam watershed providing water for BC Hydro generation, municipal water supply, fisheries, wildlife and recreation interests. It is also within the traditional territory of the Kwikwetlem First Nation. The reservoir feeds the Buntzen Lake recreation area and passes to the generation facilities located on Indian Arm. A small portion of water is also provided to meet the needs of the Burrard Thermal Generating Station. The system is the oldest hydroelectric facility in the Lower Mainland.

The Coquitlam Dam consists of an about 31 m high earthfill embankment constructed using the "hydraulic fill" method between 1911 and 1913. A failure of the embankment dam would have significant consequences downstream in the cities of Coquitlam and Port Coquitlam, including Kwikwetlem First Nation. Coquitlam Dam was assessed to have "Extreme" consequence of failure in BC Hydro's Dam Safety Management System.

The dam has undergone previous upgrades as follows:

- In 1980, upstream and downstream berms were added to increase stability in order to resist earthquakes.

- In 1984/85, the dam was reinforced with the addition of sand and gravel on the upstream slops of the dam, rockfill on the downstream slope, and raising the top of the dam with crushed sand and gravel.

Recent deficiency investigations have identified that the dam fills are loose, and could liquefy under earthquake loading and result in large deformations of the dam. As a result of these findings, the maximum normal operating reservoir level of El.154.86m was reduced to a "safe" level of EL. 149m in December 2000. An enhanced surveillance plan has been prepared and 24-hr. surveillance will be implemented should reservoir levels exceed the "safe" level of El. 149 m.

Public safety is paramount. Therefore, the maximum reservoir level will be kept at or below the "safe level" until a long-term solution has been implemented. Various long-term remedial options were studied. These studies concluded that the best long-term solution to enhance the seismic safety of the dam is to construct a new embankment immediately downstream of the existing dam. The Coquitlam Dam Seismic Upgrade Project was initiated in 2003.

CONSULTATION

BC Hydro has engaged in consultation on the need to increase the seismic safety of the rockfill portion of the Coquitlam Dam since 2001. The purpose of this consultation was to ensure that all interested parties and potential stakeholders were provided with the opportunity to hear about, gather information, ask questions, and to express any concerns to BC Hydro about the Project prior to the final project design and construction began. BC Hydro's goal was to engage the public in a process of communication and consultation to build an understanding for the need, justification for the project while at the same time leading to the development of a project design that not only meets the technical requirements but that also has been informed by public, First Nations, federal, provincial and municipal government involvement, is cost effective and balances the competing interests of affected stakeholders.

The project requires that a new embankment dam be constructed downstream of the existing Coquitlam dam that increases the seismic safety and meets current dam safety practices and protects the safety of public downstream of the dam.

An overview summary of consultation activities to date is provided below.

General Approach

BC Hydro's general approach for notifying and consulting with public stakeholders, Provincial, Federal, Municipal governments, First Nations includes the following principles:

(a) Research: Identifying key audiences, gathering the views of stakeholders and identifying issues;
(b) Program Design: Developing communication and consultation objectives, based on a reasonable commitment of personnel and financial resources to meet these objectives and to be flexible to respond to all the interests, concerns, ideas;
(c) Providing Relevant Information in a timely fashion and being responsive to the feedback, ideas and concerns raised;
(d) Decision Making: Incorporating local knowledge into the Project decision-making process where appropriate; seeking acceptance where possible, and balancing the competing interests of affected stakeholders.

Stakeholders

The consultation activities were designed to ensure that all interested parties and potential stakeholders had the opportunity to be involved in the process. The general categories of potential stakeholders that have been involved in the process include:

- Fisheries and Oceans Canada
- Greater Vancouver Regional District
- Kwikwetlem First Nation
- City of Coquitlam and Port Coquitlam Elected Officials, staff and specific committees
- Local non-governmental organizations
- Concerned citizens

- GVRD Regional Watershed Advisory Committee
- RCMP
- Terasen Gas (Centra Gas)
- Emergency Preparedness Organizations
- Other BC Hydro multi-stakeholder programs: Coquitlam Buntzen Water Use Planning, Coquitlam Salmon Restoration Project

Project Teams

International Expert Advisory Panel
An international expert advisory panel was formed at the beginning of the project investigation phase to add an independent quality assurance to the design decisions. This panel meets at milestone stages of the project, twice per year on average, to review the project design plans and to provide their valuable expertise and insight.

Greater Vancouver Regional District and Kwikwetlem First Nation
This project is unique in that the dam is located within the Greater Vancouver Regional District's (GVRD) watershed. The GVRD has specific watershed stewardship responsibilities. It also falls within the traditional territory of the Kwikwetlem First Nation. Therefore project teams were developed with GVRD and with Kwikwetlem First Nation specifically to engage in more detailed and formal consultations. BC Hydro also provided funding arrangements to ensure capacity and technical assistance were provided to Kwikwetlem First Nation. Both GVRD and Kwikwetlem First Nation also participated in BC Hydro's major undertaking to develop a water use plan for the Coquitlam Buntzen system.

Fisheries and Oceans Canada
Fisheries and Oceans Canada were deemed to be the agency responsible for the environmental assessment approval process and a separate project team to discuss the need for "no net loss habitat" was formed to determine what would be suitable mitigation, and to assist with the development of environmental management and protection plans.

Community Liaison Committee
Once the project teams had clearly defined the potential project impacts, potential environmental management and protection plans, a community liaison committee was formed of self-identified volunteers and project team members to review these impacts, and to continue to provide feedback for the final development of project plans. Their mandate is to provide their comments for the permit application to Land & Water BC to develop sites within the watershed and to assist with the final development of the environmental management, protection and restoration plans for the project. They are also invited to review and comment on other project Consultants' reports. To aid in their understanding of the project, a site visit was held with the consultants and project team in attendance to provide them with an overview of their findings and recommendations. See the appendix for their review comments.

Public Consultation - Coquitlam Buntzen Water Use Planning
At the initiation of the dam seismic upgrade project, BC Hydro had a separate significant multi-stakeholder process in progress to develop a water use plan for the Coquitlam/ Buntzen system. Kwikwetlem First Nation was engaged in this process. This consultative committee received regular updates and presentations on the status of the dam seismic project and therefore formed an integral part of the first several years of feedback to the dam seismic upgrade project teams.

Public Consultation - Coquitlam Salmon Restoration Project
The one single most important desire of the WUP team and Kwikwetlem First Nation was to determine the feasibility of returning salmon to the Coquitlam Reservoir; to the extent that there is a trigger to reopen the water use plan, if it ever becomes technically, socially, financially and biologically feasible to return salmon above the dam. Therefore BC Hydro, in partnership with their BC Hydro Bridge Coastal Fish and Wildlife Restoration Program have begun a separate multi-stakeholder review process to consider the feasibility of returning salmon above the dam. This project team is routinely updated on the dam seismic upgrade project, providing an opportunity for their feedback.

Public Consultation - Stakeholder & Local Residents
From the initiation of the project in 2001 BC Hydro has held stakeholder and public information sessions. The public sessions are advertised in local papers; and for the February and June 2005 sessions the ads were also hand delivered as a notice to about 4,000 potentially impacted residents. Turnout at the evening events has been low, on average less than 20 people have come to the sessions. In addition, key stakeholders were invited to participate in daytime sessions, these sessions are generally well attended. Invitations were sent to a variety of key stakeholders including the GVRD Regional Watershed Advisory Committee and for the evening sessions invitations were also sent to the GVRD's community watersheds regional mail list. At each event, attendees are invited to submit their responses to a questionnaire and meeting minutes are prepared.

Public Consultation - Key Small Group Stakeholders Meetings
BC Hydro has met with, and will continue to meet with, the following impacted interested parties to ensure that their issues and concerns are identified and addressed:

- Local Residents on Pipeline Road, north of the gravel pit operations
- RCMP with facilities in the GVRD Watershed
- Local Emergency Preparedness Teams, Fire, RCMP, PEP
- Terasen (Centra Gas) pipeline

Presentations - Local Interest Groups, Municipal Committees
BC Hydro has provided numerous presentations upon request to a variety of local interest groups including the Coquitlam River Watershed Society, Streamkeepers annual meetings, the city of Coquitlam and Port Coquitlam Committees, environment committee, Aggregate Task Force committee, Hydrology Review Task Force Committee, to name a few. BC Hydro is available upon request, when resources permit, to provide updates on the project to any organization.

Media
The project has received media attention from local and provincial papers, television and technical magazines. Either the Project Manager and/or the Consultation Manager respond to all media inquiries.

Email and telephone inquiries
Email and telephone inquiries are welcome and provided with a response. There have been relatively few requests for information. Requests usually occur when there is advertising for the next public information session, this advertising generates 2 to 3 calls from people who are unable to attend the event but have a specific question they wish answered.

ISSUE IDENTIFICATION AND RESOLUTION

Refer to the appendix for summaries of the questionnaires and attendance details for the public and stakeholder information sessions. Project team meeting minutes are not included as part of this summary. A significant range of issues from identifying suitable sites within the watershed for borrow, quarry and disposal sites that are off-drainage and do not impact old growth forests remaining in the watershed, or impact water quality, fish and wildlife habitat, archaeological investigations to site security issues and funding arrangements have all been discussed. A variety of plans, including but not limited to environmental management and protection plans, traffic management and site security plans either have been developed or are being finalized.

No Net Loss Habitat Mitigation, Environmental Management and Protection Plans
In January 2005, Fisheries and Oceans Canada provided their Canadian Environmental Assessment approval and consent for the no net loss habitat mitigation plans and project requirements. This includes the implementation of a fishwater supply line, development of additional spawning habitat and fishway channels, and tree clearing requirements. The project team has developed in consultation with a variety of agencies and with the use of recognized consultants, environmental management and protection plans for all project activities.

Watershed Protection & Use of Local Gravel Pits
GVRD and BC Hydro are finalizing a joint agreement to address project activities, roles and responsibilities within the watershed. GVRD holds the primary watershed stewardship role for activities within their purview and on their leased lands. BC Hydro and GVRD have worked closely together to identify and resolve issues associated with project work within the watershed. GVRD has, and continues to, participate actively in consultation initiatives, presenting and addressing issues directly related to their area of responsibility.

A Crown Land & Water BC permit application is in progress seeking approval to develop the proposed borrow, quarry and disposal sites within the watershed. In February 2005, several stakeholders raised their concerns that the watershed environment should be protected and not be impacted, especially if suitable materials could be located at the gravel pits on Pipeline Road. As a result of this request, BC Hydro hired an independent

consultant to review if the local pits could supply in particular the till materials required for the dam construction. It appears that there is a potential supply at least two of the gravel pits on Pipeline Road. It remains to be determined if they have the sufficient quantity necessary.

The gravel supply necessary was always anticipated by the project team to likely be supplied by the local gravel operators on Pipeline Road, assuming they are the successful bidders in the required Crown public tendering process.

Residents Living on Pipeline Road North of the Gravel Operators - Public Safety
Another key issue is public safety along Pipeline Road. Residents have previously complained to the city of Coquitlam about the gravel pit operations and general truck traffic, dust, noise, safety, road degradation and maintenance. The risk to public safety was the driving force leading to the effort to identify sites within the watershed for materials necessary to construct the dam. The project team is continuing to investigate traffic management options and has hired a consultant to review Pipeline Road conditions and provide recommendations. These are being reviewed with both the city of Coquitlam and local residents living north of the gravel pits on Pipeline Road.

Traffic volumes have been estimated and if all materials were sourced off-site could be as high as 84,400 trucks - this is considered to be a significant and unnecessary increased risk to public safety; but will be determined largely by whether the application for permits to use watershed lands is approved. If sites within the watershed can be used, the truck volumes drop significantly to about 34,000 trucks for the duration of the project. Most of the truck traffic, if permits are received, would occur within the GVRD watershed, well away from any interaction with public or gravel operations vehicles or recreational users on Pipeline Road.

Kwikwetlem First Nation
The seismic project was introduced to the Kwikwetlem First Nation in Fall 2002. In March 2003, BC Hydro provided Kwikwetlem with capacity funding to work with a consultant to identify their potential concerns/interests relating to the proposed project. Concerns identified included: potential archaeological impacts; potential fisheries and environmental impacts; and potential impacts to the flow pattern in the Coquitlam River as well as employment opportunities during construction. With respect to the last concern, BC Hydro has agreed to include in its public tendering process a firm that is affiliated with Kwikwetlem. An Archaeological Impact Assessment of the Seismic Upgrade was completed with field assistants employed from Kwikwetlem First Nation (two) and Tsleil-Waututh Nation (one) as well as with direction from the Kwikwetlem Chief, Councillor and staff and representatives from Tsleil-Waututh Nation and Sto:lo Nation. The final report by Brown and Oakes (2004) was prepared under Heritage Conservation Act Permit 2004-027 and provided to all of these First Nations as well as the Tsawwassen First Nation.

BC Hydro will continue to consult with Kwikwetlem First Nation throughout the course of the project. One of their most critical concerns is to restore salmon above the dam. This resulted in BC Hydro initiating the Coquitlam Salmon Restoration Project – a separate feasibility review process outside the scope of the dam seismic upgrade project. BC Hydro has funded additional capacity funding and technical assistance to Kwikwetlem First Nation to actively participate in this project as well.

City of Coquitlam
BC Hydro is working closely with city staff to address issues of public safety with respect to construction traffic along Pipeline Road. A traffic management plan will be developed and implemented. In addition, BC Hydro responded to the watershed protection concerns raised by city Councilors in February 2005 with the independent consultant's review of the local gravel operators' material availability, in particular for the core till materials needed to construct the dam.

City of Port Coquitlam
The city of Port Coquitlam's main concern falls outside the scope and mandate of the dam seismic upgrade project. They have requested BC Hydro voluntarily study the feasibility of improving flood control by modifying the low-level outlets for increased pre-spill capacity and to implement it as part of the dam seismic upgrade project, if it is feasible. BC Hydro is willing to work with stakeholders in a process to review the feasibility but there are a number of issues that as part of any review will need to be assessed, including roles and responsibilities, funding arrangements, liabilities, etc.

CONCLUSION

BC Hydro is continuing to consult on a variety of issues and with a variety of stakeholders. Throughout the duration of the project there will be a Community Relations Consultation Manager responsible for addressing issues and concerns that arise as a result of project and construction activities.

There will be a 24-hour/day-message project information line (1 800 663-1377) and periodic updates at key project milestones will be provided via information sessions and newspaper articles.