# Joint Review Panel Report

GSX Canada
Pipeline Project



## Table of Contents

Summar	y
1. Introduc	tion
1.1	Project Overview and Site Map
1.2	Project Ownership
1.3	Panel History
1.4	Public Review Process
1.5	CEA Act Requirements
1.6	Participant Funding
2. Environi	mental Assessment Process
2.1	Scope of the Project
2.2	Purpose, Need and Alternatives to the Project
2.3	Alternative Means
	2.3.1.1 Preffered Route
	2.3.2 Alternative Marine Construction Methods
	2.3.2.1Marine Pipe Lay Operations2.3.2.2Landfall at Manley Creek
2.4	Environmental Effects and Cumulative Effects

3.	Environme	ental Setting:.......................26
	3.1	Marine Environmental Setting
		3.1.1 Marine Physical Environment
		3.1.2 Marine Biological Environment
	3.2	Terrestrial Environmental Setting
	3.3	Socio-Economic Setting
4.	Effects On	Marine Valued Ecosystem Components
	4.1	Biodiversity and Ecosystem Considerations
	4.2	Effects at Landfall and in the Nearshore Marine Environment
		4.2.1 Horizontal Directional Drilling at Landfall
		4.2.2 Partial or Full Open Cut
		4.2.3 Cape Keppel
	4.3	Effects on Marine Offshore Environment
		4.3.1 Benthic Communities
		4.3.1.1 Direct Mortality and Alteration of Habitat 37
		4.3.1.2 Reef Effect
		4.3.1.3 Barrier Effect
		4.3.2 Fish
		4.3.3 Marine Birds
	•	4.3.4 Marine Mammals
	4.4	Marine Protected Areas
5.	Effects on	Terrestrial Valued Ecosystem Components
	5.1	Ground and Surface Water
	3.1	5.1.1 Changes in Water Quality
		5.1.2 Changes in Groundwater Flow
•		5.1.3 Changes in Surface Water Flow
		5.1.4 Effects of Blasting on Water Resources
	5.2	Fish and Riparian Habitat
	5.3	Physiography and Soils
	5.4	Air Quality
		5.4.1 Local and Regional Air Quality
		5.4.2 Greenhouse Gases
	5.5	Vegetation
		5.5.1 Alteration of Native Vegetation
		5.5.2 Rare Plant Species
	5.6	Wildlife
	5.7	Species of Concern
	5.8	Environmentally Sensitive Areas (ESAs)

6.	Effects or	Socio-Economic Conditions65
	6.1	Noise and Visual Aesthetics
	6.2	Commercial and Recreational Fishery
7.	Effects or	n Physical and Cultural Heritage
	7.1	Terrestrial Physical and Cultural Heritage
	7.2	Marine Physical and Cultural Heritage
8.	Effects or	n Traditional Use
9.	Cumulativ	ve Environmental Effects
10.	Accidents	and Malfunctions
11.	Effects of	the Environment on the Project
12.	Decommi	ssioning and Abandonment
13.	Capacity	of Renewable Resources
14.	Environm	ental Compliance, Monitoring and Follow-up 82
	14.1	Environmental Compliance and Monitoring
	14.2	Need for and Requirements of Follow-up
15.	Public Co	mments
	15.1	Committing to a Fossil Fuel Strategy
	15.2	Public Consultation Process
16.	Conclusio	ons and Recommendations
	16.1	Conclusions
	16.2	Recommendations

### Apendices

Appendix A - Agreement Establishing the Joint Review Panel
Appendix B - Panel Member Biographies
Appendix C - Hearing Order / Directions on Procedure
Appendix D - Panel Rulings
Appendix E - List of Intervenors
Appendix F - List of Abbreviations
Appendix G - Public Consultation by the Panel
Appendix H - Acknowledgements
Figures
Figure 1 - GSX Canada Pipeline Project Site Map
Figure 2 - GSX Canada Pipeline Project Potential Pipeline Corridors

relatively level, wooded parcel of land, where it ends at the existing Centra West Shawnigan Meter Station near Renfrew Road, south of Duncan.

Included in the pipeline design are:

- mainline block valves located just landward of the Vancouver Island shoreline and at an intermediate point between the landfall and the Centra interconnection;
- a line block valve/blow off assembly, an excess flow control valve, a check valve, a separator, pig receiving equipment, liquid handling/storage equipment and Multiple Address System radio equipment (including a free standing tower approximately 44 m in height) located at the Centra interconnection;
- a Supervisory Control and Data Acquisition system linking the above facilities to control centres;
- permanent access roads, communications system and power supply as may be required to service mainline valve sites and other pipeline facilities; and
- various temporary construction workspace, equipment laydown areas, and access roads.

The terrestrial right-of-way (ROW) would consist of a 16 m permanent easement, with 7 m of additional temporary workspace and extra temporary workspace where required. The marine portion of the pipeline would consist of a 10 m wide ROW.

The Project (i.e., the Canadian pipeline excluding the US portion and any gas-fired electrical generation facilities) has an estimated capital cost of approximately \$139.3 million CDN and is scheduled to be in service in October 2005.

#### 1.2 Project Ownership

The Georgia Strait Crossing Project (Canada and US portions) is jointly sponsored by British Columbia Hydro and Power Authority (BC Hydro) and Williams Gas Pipeline Company (Williams). The Canadian portion would be constructed and operated by Georgia Strait Crossing Pipeline Limited (GSX PL) on behalf of GSX Canada Limited Partnership (GSX Canada LP). BC Hydro has a 98 per cent interest in GSX Canada LP and Williams has the other 2 per cent interest. The US portion would be constructed and operated by Georgia Strait Crossing Pipeline LP owned by Williams. The effect of the ownership structure is that the combined Canadian and US portions of the pipeline would be owned approximately 50 per cent by BC Hydro and approximately 50 per cent by Williams.

#### 1.3 Panel History

Following the filing of a preliminary submission by GSX PL on 7 March 2000, the National Energy Board (NEB or the Board) solicited public comments on the environmental assessment and regulatory review process. On 4 October 2000, the Minister of the Environment, the Honourable David Anderson, pursuant to his authority under the Canadian Environmental Assessment Act (CEA Act), announced that the Project would be sent to an independent environmental assessment review panel.

GSX PL filed its application for a Certificate of Public Convenience and Necessity (Certificate) pursuant to section 52 of the *National Energy Board Act* (NEB Act) on 24 April 2001.

The Minister of the Environment referred the environmental assessment of the Project to a Joint Review Panel and a draft agreement between the NEB and the Minister of the Environment concerning the review of the Project was released for public discussion and comment in May 2001. The primary purpose of the agreement was to coordinate the environmental assessment required under the CEA Act and NEB Act by providing for a review of the environmental effects likely

to result from the Project and the appropriate mitigation measures. The agreement was finalized and released on 20 September 2001 (Appendix A). The members of the Joint Review Panel (the Panel) are Ms. Elizabeth Quarshie (Chair), Mr. Rowland Harrison, and the Honourable Bryan Williams, Q.C. Biographical information on each of the Panel members is provided in Appendix B.

The mandate of the Panel was to act as a joint review panel under the CEA Act to make recommendations to the Minister of the Environment and as a NEB panel under the NEB Act to consider all matters relevant to the application for a Certificate, under section 52. The Terms of Reference under the agreement outlined the scope of the review and listed the factors to be considered during the review under the CEA Act. The Agreement acknowledged that other factors may be considered under the NEB Act.

The Panel was charged with reviewing the environmental effects of the Project and the appropriate mitigation measures and setting out its rationale, conclusions and recommendations, including any mitigation measures and follow-up programs in the Joint Review Panel Report. This Report also provides a summary of comments received from the public. This Report will be submitted to the Minister of the Environment, who is responsible for forwarding it to all federal Responsible Authorities, for the preparation of the government response. Once this Report is submitted and the government response has received Cabinet consideration, the work of the Panel, under the CEA Act, is complete. However, the Panel's work under the NEB Act continues. The Panel must await the government response to the Report and take this into consideration before making any decision under the NEB Act.

#### 1.4 Public Review Process

The mandate of the Panel, included conducting a review of the environmental effects of the Project, as set out in its Terms of Reference. To assist the Panel in its examination of the Project, public information and consultation sessions were held. Panel staff hosted information sessions on Vancouver Island and the Gulf Islands with First Nations and other public groups during the week of 22 October 2001. The purpose of these sessions was to provide information on how to participate in the public review process for the Project. An additional session was held on 23 February 2003, prior to the commencement of the oral public hearing to further explain participation in the hearing process.

On 9 November 2001, the Panel issued Hearing Order GH-4-2001 setting out the Directions on Procedure to be followed for the hearing of the application by the Panel (Appendix C). A List of Issues was released at that time for public comment. The List of Issues was subsequently finalized in the Panel's decision letter of 31 May 2002 (discussed below), following public consultation sessions held by the Panel in British Columbia in January 2002 (Appendix D). These sessions allowed interested organizations, groups and individuals to inform the Panel of the range of issues they thought the Panel should address during the review.

Some Intervenors asked the Panel to include in the List of Issues the environmental effects of the emissions resulting from the combustion of the gas to be transported by the Project, while other Intervenors focused on the environmental effects of the emissions that would result from the burning of the gas at the existing Campbell River cogeneration facility (ICP) and the proposed new generation facility called the Vancouver Island Generation Project (VIGP), now proposed to be located at Duke Point near Nanaimo, BC. These two facilities, GSX PL submitted, would receive the gas to be transported by the Project. As a result, the Panel decided to receive written argument and