

PEACE RIVER SITE C HYDRO PROJECT

Information Sheet

Stage 2 Field Studies

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Stage 2: Project Definition and Consultation Environmental and Engineering/Technical Studies

Background

Site C, a potential third dam and generating station on the Peace River in north-eastern B.C., is one of several resource options being considered to help B.C.'s future energy needs. BC Hydro is taking a stage-by-stage approach to the evaluation of the potential Site C project and is currently in Stage 2, Project Definition and Consultation.

No decision has been made to build Site C. However, large projects like Site C have a long lead time, and require early evaluation and study. Because much of the information currently known about the potential Site C project is almost 25 years old, information from new field studies is required to update engineering, environmental studies and other technical work.

As part of Stage 2, Project Definition and Consultation, BC Hydro is conducting a number of studies to develop an understanding of the baseline environmental and social conditions in the Peace River region. Areas of study in this stage will include: fish and wildlife, current land use, regional economy, recreation and tourism, air and water quality, and heritage resources.

BC Hydro will work with First Nations, communities, government agencies and other interested groups to understand the potential effects of Site C on the environment, land and communities.

The information collected in Stage 2 will help develop an understanding of the engineering, environmental and social characteristics of the project area and the region. If the project proceeds to Stage 3, this information will contribute to assessing the potential effects and to developing plans for mitigating and managing impacts of the potential project.

Stage 3 would include comprehensive environmental assessment review by the federal and provincial governments.

Environmental and Engineering/Technical Studies

Environmental and engineering/technical studies are a crucial component of Stage 2 review. Listed in this information sheet are the environmental and engineering/technical studies that will be completed as part of Stage 2 review.

The studies are focused on baseline inventory information or preliminary technical work. These studies are not impact assessments and would serve as preparatory information, should Site C proceed into a regulatory stage.

The listed studies may be changed or revised in scope or timing on the basis of input from the public, First Nations, government agencies or consultant expertise.

**Stage 2 – Project Definition and Consultation
June 2008**

Information Sheet Stage 2 Field Studies

Study Program, Area and Timing	Estimated Completion
Fish/Aquatic	
Peace River Fish Movement and Migration <i>Tributaries, Reservoir and Downstream</i>	Annual Report Spring 2009
Peace River Fish Communities – lead by Water License Requirements Project <i>Upstream, Reservoir and Downstream</i>	Annual Report Spring 2009
Peace River Tributary Fish Habitat – Tributaries Peace River Tributary Fish Utilization – Tributaries	Annual Report Spring 2009
Peace River Fish Habitat <i>Upstream, Reservoir and Downstream</i>	Annual Report Spring 2010
Fish Passage Assessment <i>Upstream, Reservoir and Downstream</i>	Annual Report Spring 2009
Peace River and Dinosaur Lake Methyl Mercury <i>Upstream, Reservoir and Downstream/Dinosaur Reservoir</i>	Annual Report Spring 2010
Peace River Genetic Diversity <i>Upstream, Reservoir and Downstream</i>	Annual Report Spring 2010
Reservoir Fish Community Success Prediction <i>Other Reservoirs for Modelling</i>	Annual Report Spring 2010
Peace River Benthic Invertebrate Communities	Annual Report Spring 2010
Peace River and Dinosaur Reservoir Lower Trophic Levels <i>Upstream, Reservoir and Downstream/Dinosaur Reservoir</i>	Annual Report Spring 2010
W.A.C. Bennett and Peace Canyon Dam Spill Entrainment and Mortality <i>lead by Water License Requirements Project (opportunistic at upstream facilities)</i>	TBD
Peace River and Dinosaur Reservoir Thermal Regime and Total Gas Pressure <i>Upstream, Reservoir and Downstream/Dinosaur Reservoir</i>	Annual Report Spring 2010
Wildlife	
Terrestrial Ecosystem Mapping (office study – initiated, continued from 2007) <i>Study Area: Peace River and Upland Areas (2008)</i>	Annual Report Spring 2009
Songbird Survey – Peace River (2008) Furbearer Survey * – Reservoir (Feb – March 2009) Bat Abundance/Habitat – Reservoir (July – Aug 2008) Bat Presence – Reservoir (Aug – Sept 2008) Butterfly Presence – Reservoir (May 2008) Plant/Vegetation Presence – Reservoir (June – Aug 2008) Eagle Nesting – Reservoir (2008 or 2009) Ungulate Winter Field Surveys – Reservoir (Dec – Feb 2008/2009) Western Toad Abundance/Habitat – Reservoir (April 2009) Owl Field Surveys – Reservoir (April – June 2009) Waterfowl Field Surveys – Reservoir (Fall 2008 or 2009 or 2010)	Annual Report Spring 2009 *Summer 2009

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Study Program, Area and Timing	Estimated Completion
Water Quality	
Water Quality Water Temperature and Turbidity – <i>Upstream, Reservoir and Downstream</i> Sediment and Vegetation Sampling – <i>Reservoir, Downstream</i> Dinosaur Reservoir Limnology – <i>Dinosaur Reservoir</i>	Annual Report Spring 2009
Atmospheric and Climate	
Atmospheric Program Climate Data Review/Modelling – <i>Reservoir and Downstream</i> Icing/Drift Modelling – <i>Upstream, Reservoir and Downstream</i> Air Quality Station – <i>Fort St. John</i> Noise Impact Studies – <i>Peace River and Area</i> Water Temperature Modelling – <i>Peace River and Area</i>	Annual Report Spring 2009
Air Quality Dispersion Modelling (a) <i>Regional Airshed</i>	Annual Report Spring 2010
GHG Methods Lit Review, Methods Development and Estimate <i>Peace River and Area</i>	Annual Report Spring 2009
Socio-Economic	
Socio-Economic Baseline Data Collection (pre-existing information)	Fall 2008
Land Use Analysis (GIS) – <i>Reservoir</i> Employment and Population Forecast – <i>Peace River Region</i> Community Services Study – <i>Peace River Region</i> Lifestyle and Public Health Study – <i>Peace River Region</i> Housing Study – <i>Fort St. John</i> Transportation Study – <i>Fort St. John</i> Agriculture Study – <i>Reservoir and Area</i> Forestry Study – <i>Peace River Region</i> Mineral and Mining Study – <i>Floodplain /Reservoir</i> Oil and Gas – <i>Peace River Region</i> Hunting – <i>Peace River and Area</i> Trapping – <i>Reservoir</i> Tourism and Recreation	Various Dates
Human Health Assessment – <i>Regional Airshed and Peace River</i>	TBD
Angler and River Recreation Use Survey and Infrastructure – <i>Peace River</i>	Annual Report Spring 2009
Natural History and Heritage – <i>Reservoir</i>	Review Report Winter 2008
Traditional Use Study – <i>Reservoir</i> <i>With First Nations Participation</i>	TBD

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Study Program, Area and Timing	Estimated Completion
Physical Environment (Engineering Lead)	
Fluvial Geomorphology – <i>Downstream</i> Peace River and Tributaries Sediment Loads - <i>Upstream, Reservoir, Downstream and Tributaries</i> Groundwater – <i>Peace River and Area</i> Contaminated Sites Assessment – <i>Peace River and Area</i>	Various Dates
Engineering Design Studies	
Probable Maximum Precipitation and Probable Maximum Flood Studies Diversion Design Flood Studies Maximum Design Earthquake Studies Stability of the Left Bank Slope Investigations for Construction Materials Foundation Studies (Bedding Pore Pressure) for Earthfill Dam Foundation Studies (Rebound) for the Right Bank Structures Project Impacts on Reservoir Shoreline Stability and Safety Highway 29 Relocation Options Fish Passage Options Turbine Alternatives Studies Disposal Area Studies Reservoir Clearing and Preparation Studies	Various Dates

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