

ENGINEERING AND OPERATIONS

Report: 15. Peace River Site C Hydro Project – Stage 2 Engineering Services Summary Report

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Summary: Klohn Crippen Berger Ltd. and SNC-Lavalin Inc. were engaged to review and assess outstanding design issues for the Site C project.

Key findings included:

- The Probable Maximum Flood (PMF) estimate was updated in accordance with the Canadian Dam Association guidelines.
- The Maximum Design Earthquake (MDE) has increased due to increased seismic activity in the Fort St. John area and the 2001 earthquake near Dawson Creek. The earthfill dam can safely withstand the updated MDE with small deformations.
- It was concluded that it would be technically feasible to design a spillway, power intakes, penstocks and powerhouse to accommodate any anticipated rebound.
- Locations have been confirmed for the relocation of surplus excavated materials.
- The layout of the road and bridge connecting the powerhouse on the south bank to the existing roads on the north bank was updated.
- The methodology and criteria for determining five reservoir impact lines have been defined based on a review of international best practice.
- The historically identified realignment options for each relocated segment of Highway 29 were updated to reflect current Ministry of Transportation and Infrastructure design standards.
- There have been many changes over the last 30 years that could result in different design choices. Therefore, it is recommended that the project be optimized to find the design that balances technical, risk, cost, safety and environmental considerations, based on the current understanding of the technical issues and current construction costs.