

Analysis of BC Hydro's Proposed Changes to the use of West Pine Quarry for the Site C Clean Energy Project

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1 Introduction

BC Hydro (the proponent) is in the early construction phase of developing a dam and 1,100-megawatt hydroelectric generating station on the Peace River in northeastern British Columbia (B.C.). The Site C Clean Energy Project (the Project) will be the third in a series of dams on the Peace River. Construction of the Project began in summer of 2015 and is anticipated to be completed in 2024.

The Project was subject to both the *Canadian Environmental Assessment Act, 2012* (CEAA 2012) and the B.C. *Environmental Assessment Act*. The environmental assessment was conducted by a joint review panel established by the former Minister of the Environment and the Government of B.C. The former Minister issued a Decision Statement under CEAA 2012 for the Project on October 14, 2014, (re-issued on November 25, 2014) following a Governor in Council decision allowing the Project to proceed. The Decision Statement contains over 80 legally binding conditions, which include mitigation measures and follow-up program requirements that the proponent must comply with throughout the life of the Project. The Provincial Ministers of Environment and of Forests, Lands and Natural Resource Operations issued an Environmental Assessment Certificate under the provincial *Environmental Assessment Act* on October 14, 2014, which contained a Project Description and 77 legally binding conditions.

On August 3, 2018, the proponent informed the Canadian Environmental Assessment Agency (the Agency) of proposed changes to the use of West Pine Quarry as described in section 4.3 of the Environmental Impact Statement submitted by the proponent in January of 2013. At the request of the Agency, the proponent sent a letter describing the potential adverse effects to human health from changes in air quality from the proposed changes to the use of West Pine Quarry on October 16, 2018. The proponent also formally applied to amend the provincial Environmental Assessment Certificate. This is the third project change for which the proponent has provided information to the Agency since the issuance of the Decision Statement. The first change was related to design changes to the generating station and spillway, and the second change was to the design of the Halfway River Bridge. The Agency analysed both changes and determined that no changes to the 2014 Decision Statement were required. The analysis reports for the previous changes were posted to the Registry on June 12, 2018 and October 23, 2018, respectively.

The Agency conducted an analysis of the proposed changes to the use of West Pine Quarry and the potential adverse environmental effects of those changes, and considered comments from federal, provincial, municipal governments and Indigenous representatives, to determine:

- whether the changes constitute a new or different designated project that may require a new environmental assessment; and
- whether any changes may be required to the mitigation measures and follow-up requirements in the environmental assessment set out as conditions in the Decision Statement.

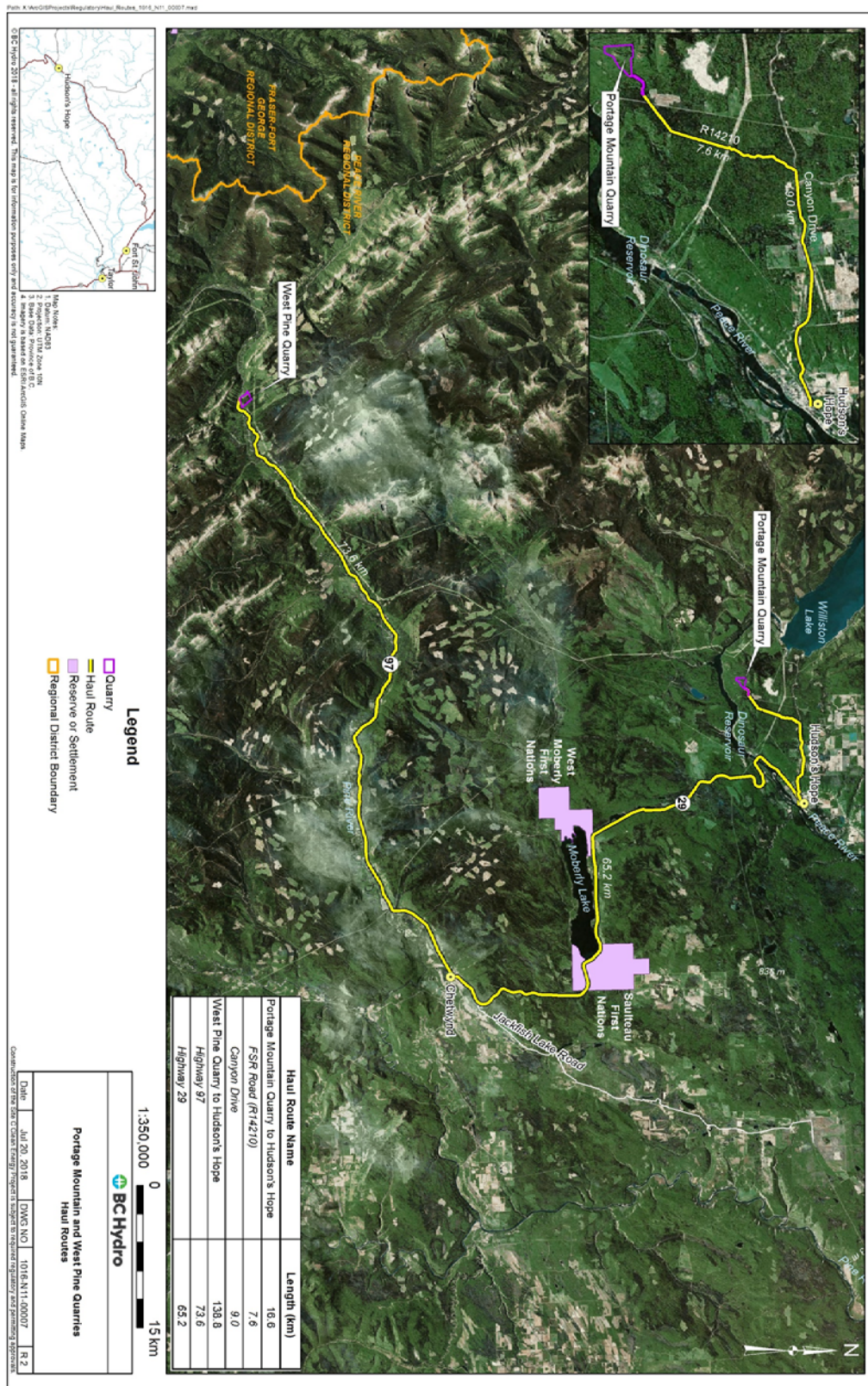
This report provides a summary of the proposed Project changes, an analysis of whether these changes may result in adverse environmental effects that may not have been considered in the original environmental assessment, and consideration of whether existing mitigation measures and follow-up requirements set out as conditions in the Decision Statement are still applicable or need to be modified.

The Agency is of the view that the proposed Project changes do not constitute a new or different designated project that may require a new environmental assessment, and that the mitigation and follow-up requirements set out as conditions in the Decision Statement remain relevant without any requirement for changes.

2 Proposed Project Design Changes

The proponent plans to use a number of quarry sites for the necessary materials for the Project which were assessed during the environmental assessment. The proponent is proposing a change now to allow for use of aggregate material from West Pine Quarry for construction of Highway 29 realignment, shoreline protection near Hudson's Hope, and along areas of the reservoir requiring protection during reservoir filling. During the environmental assessment and issuance of the Decision Statement, aggregate for these areas was to be sourced from Portage Mountain Quarry. The proponent has since received new information about two bat species whose hibernacula are located on the slopes of the original design of Portage Mountain Quarry, both of which are identified as endangered under the federal *Species at Risk Act* (SARA). The proponent noted that the Portage Mountain Quarry design would have to be changed to avoid disturbing the bat hibernacula which would increase costs of operating that quarry. The proponent determined that West Pine Quarry may be the more cost effective option for aggregate material, despite it being 119 kilometres further by truck from the Project site. The new location for aggregate material would result in an increase in traffic through the communities of West Moberly First Nations and Saulneau First Nations and could alter the initial assessment of adverse environmental effects to the following valued components: health of Indigenous peoples from changes to air quality, migratory birds, federally listed species at risk, and current use of lands and resources for traditional purposes. The location of the West Pine Quarry and Portage Mountain Quarry are illustrated in Figure 1.

Figure 1. Location of Portage Mountain and West Pine Quarries and proposed haul routes from each quarry



Source: Letter from BC Hydro to Canadian Environmental Assessment Agency dated August 3, 2018

2.1 Agency's Analysis of Changes

The *Regulations Designating Physical Activities* under CEAA 2012 identify the physical activities that constitute designated projects that may require an environmental assessment. On its own, the proposed Project change is not a physical activity described in the Regulations. Consequently, the Agency determined that the changes to do not constitute a new or different designated project that may require a new environmental assessment.

3 Potential Adverse Environmental Effects from Proposed Project Changes

The following is an analysis of whether any of the changes to the use of West Pine Quarry would require modifications to the mitigation measures and follow-up requirements set out as conditions in the Decision Statement. The analysis focused on potential environment effects as defined in section 5 of CEAA 2012 and potential effects on species at risk listed in the SARA.

3.1 Health of Indigenous Peoples – Air Quality

Potential effects to the health of Indigenous peoples were assessed during the initial environmental assessment of the Project and mitigation measures were developed for air quality. The Decision Statement includes conditions in relation to health of Indigenous peoples from changes to air quality which may be affected by this proposed project change.

3.1.1 Proponent's Assessment

The proponent identified a potential for provincial air quality objective exceedances to occur at a sensitive receptor (a residence) located 1.5 kilometres from West Pine Quarry. The proponent indicated that exceedances may occur during specific weather conditions when dust, from the Quarry and/or haul trucks, is blown toward the sensitive receptor. The proponent noted that air quality mitigation measures and monitoring during extraction of aggregate at West Pine Quarry are part of an Air Quality Management Plan.

3.1.2 Agency's Analysis and Conclusions

Environment and Climate Change Canada reviewed the information provided by the proponent on the changes to the use of West Pine Quarry and suggested that potential exceedances of particulate matter objectives may be underestimated and require further mitigation and management. The proponent responded that such mitigation and monitoring measurements were set out in the Air Quality Management Plan which includes dust reduction, enclosed machinery to contain fugitive emissions, use of low sulphur fuels and regular vehicle maintenance. The proponent will monitor air quality and report results to contractors in case additional mitigation measures are needed. Environment and Climate Change Canada indicated that they were satisfied with this response. The Agency also shared the information with Health Canada, who did not note any concerns with regard to the potential adverse effects to human health from changes in air quality.

The Agency accepts the proponent's determination that changes to the use of West Pine Quarry would not result in any additional adverse environmental effects to the health of aboriginal peoples as assessed through the initial environmental assessment. The Agency is therefore not proposing any changes to the mitigation measures previously identified in the environmental assessment.

3.2 Migratory Birds and Species at Risk

Migratory birds and federally listed species at risk could be affected by the design changes. Both were assessed during the environmental assessment, and the Decision Statement includes related conditions.

Subsection 79(2) of the SARA requires the identification of the Project's adverse effects to SARA listed wildlife species and their critical habitat. If the Project is carried out, SARA requires that measures be taken to avoid or lessen those effects and that such effects be monitored.

3.2.1 Proponent's Assessment

The proponent identified that increased haul traffic could increase the risk of wildlife mortality due to vehicle collisions. The proponent noted that mitigation measures already in place, such as adhering to speed limits and reducing speed during inclement driving conditions, will reduce this risk and that residual impacts on wildlife mortality are not likely to result in measurable impacts to wildlife populations.

The proponent also noted that West Pine Quarry is located within recognized caribou herd range. The proponent noted that current mitigation measures set out in the Decision Statement, as well as those in place by the Ministry of Transportation and Infrastructure, who have operated the Quarry since 2001, would not lead to impacts on caribou populations.

The proponent noted that the changes to the use of West Pine Quarry is not expected to cause any additional adverse environmental effects to migratory birds and species at risk as assessed through the initial environmental assessment.

3.2.2 Agency's Analysis and Conclusions

Environment and Climate Change Canada reviewed the information provided by the proponent on the changes to the use of West Pine Quarry and recommended the proponent determine mortality hotspots along the new haul route and develop additional measures to mitigate wildlife roadkill-related impacts based on these hot spots. The proponent responded that use of West Pine Quarry and the West Pine haul route for aggregate at the dam site was assessed in the Environmental Impact Statement, and that they are now moving that material via rail to the dam site. The total increase in vehicle traffic proposed by the use of West Pine Quarry for other areas of construction is only 21 percent of what was originally contemplated and approved in the Environmental Impact Statement, and therefore would not change the conclusions of the environmental assessment.

Environment and Climate Change Canada indicated that they were satisfied with the proponent responses.

Environment and Climate Change Canada also suggested that the proponent consult with appropriate experts regarding the management of bat hibernacula during the redesign of the Portage Mountain Quarry. The proponent responded that the redesign of the quarry operating face and layout of the quarry haul road was approved by the Vegetation and Wildlife Mitigation and Monitoring Committee and any changes would go through this committee, which has representatives from Environment and Climate Change Canada. Environment and Climate Change Canada indicated that they were satisfied with the proponent responses.

The Agency accepts the proponent's determination that the changes to the use of West Pine Quarry would not result in any additional adverse environmental effects to migratory birds and species at risk as assessed through the initial environmental assessment. Current mitigation measures within the Decision Statement and compliance with other regulations, such as provincial speed limits, should prevent any additional adverse effects on wildlife including migratory birds and species at risk. The Agency is therefore not proposing any changes to the mitigation measures previously identified in the environmental assessment.

3.3 Current Use of Lands and Resources for Traditional Purposes

The proposed changes to the Project could impact Indigenous peoples by affecting the current use of lands and resources for traditional purposes. The West Pine haul rout passes by Moberly Lake First Nations community and through Saulteau First Nations community. Current use was assessed during the initial environmental assessment and the Decision Statement includes related conditions.

3.3.1 Proponent's Assessment

The proponent identified that increased haul traffic could increase the risk of wildlife mortality due to vehicle collisions and deplete wildlife available for hunting and trapping. The proponent noted that mitigation measures already in place, such as adhering to speed limits and reducing speed during inclement driving conditions, will reduce this risk and that residual impacts on wildlife mortality are not likely to result in measurable impacts to wildlife populations.

The proponent also noted that West Pine Quarry is located within recognized caribou herd range. The proponent noted that current mitigation measures set out in the Decision Statement, as well as those in place by the Ministry of Transportation and Infrastructure, who have operated the Quarry since 2001, would not lead to impacts on caribou populations.

Consequently, the proponent concluded that the effects assessment on activities including hunting and trapping activities would remain the same as what was assessed during the environmental assessment. Fishing activities would not be affected by this Project change as there were no associated in-stream activities.

3.3.2 Agency's Analysis and Conclusions

Saulteau First Nations reviewed the information provided by the proponent on the changes to the use of West Pine Quarry and raised concerns regarding safety in their community from increased truck traffic and the potential for truck drivers to log wildlife sightings, leading to an increase in hunting pressure on moose. The Agency acknowledges that potential effects on wildlife were assessed through the initial environmental assessment, and accepts the proponent's assessment that the changes to the use of West Pine Quarry would not result in any additional adverse environmental effects to current use of lands and resources for traditional purposes. There are no apparent additional effects on activities including hunting, fishing and trapping from the proposed Project changes. Fisheries and Oceans Canada concurred that there are no potential effects to fish and fish habitat from this Project change. The Agency is therefore not proposing any changes to the mitigation measures previously identified in the environmental assessment.

4 Consultation with Indigenous Groups and the Public

Indigenous groups were defined in the Decision Statement as "Reservoir Area Aboriginal groups" and "Immediate Downstream Aboriginal groups." Reservoir Area Aboriginal groups include: Saulteau First Nations, Blueberry River First Nations, West Moberly First Nations, Doig River First Nation, McLeod Lake Indian Band, Halfway River First Nation, and Prophet River First Nation. Immediate Downstream Aboriginal groups include: Horse Lake First Nation, Métis Nation British Columbia, Kelly Lake Métis Settlement Society, Duncan's First Nation, and Dene Tha' First Nation. As the Agency does not expect the changes to the Project design to affect the Decision Statement, no consultation was sought on this analysis document.

The Environmental Assessment Office (EAO) held a 30-day public comment period on the proponent's amendment application for the change in use of the West Pine Quarry, starting on July 30, 2018, as they felt that the public may have an interest in the 119 kilometres longer proposed haul route along public highways. EAO received two comments that stated general opposition to the project and one that was in favour of the project in general; none of the comments were directly related to the project changes. One letter was received from a local business owner regarding potential opportunities. The proponent provided responses to the comments to thank those who commented, and to indicate that they would follow up with the local business owner. As part of the provincial process to consider the amendment applications, the EAO created a technical working group made up of representatives from provincial, federal and local government agencies, and Indigenous groups. The EAO requested comments on the proponent's amendment application from the technical working group and held a working group meeting on August 28, 2018. At the meeting, concerns were raised about the increase in haul truck traffic and the potential effects to road safety and traffic flow for drivers, pedestrian safety, safety concerns regarding specific sites in Hudson's Hope (i.e., the post office and the school), and potential impacts to wildlife from vehicle collisions. The working group expressed concern about the potential cumulative impact of the proposed project change on the overall increase in industrial road users in the region.

The Agency considered all of these comments and discussions as part of its analysis of the Project design changes and was satisfied with the level of detail provided by the proponent in responding to concerns raised. At the August 28, 2018, working group meeting that included a discussion of the changes to the use of the West Pine Quarry, a representative from Doig River First Nation questioned the process undertaken to consider any potential changes to the federal Decision Statement. The Agency described the process and referred to the analysis in the previous project change analysis document (on the generating station and spillway) to show how potential changes to the conditions set out in the Decision Statement are reviewed. If the Agency found that the changes to the Project could adversely affect the environment in a way that was not assessed during the environmental assessment, additional mitigation measures or follow-up may be required and adjustments to the Decision Statement would be made.

5 Provincial Conclusions

The EAO determined that the specific concerns identified by the working group and Indigenous groups through the provincial amendment process would not be adequately addressed in the existing traffic management plan required by the provincial Environmental Assessment Certificate for the Project. The EAO will now require the proponent to adhere to the following new conditions:

- Consult the potentially affected communities of Sauleau First Nations, West Moberly First Nations, the District of Hudson's Hope, the District of Chetwynd, and the Peace River Regional District, in order to identify their key concerns that they would like to see addressed through a traffic management plan specific to the West Pine haul route.
- Provide the EAO with a summary of their consultation with affected communities on the traffic management plan, including outlining the concerns identified, if and how they were addressed, and the rationale if they were not addressed.
- Share information on project-related wildlife mortality along the West Pine haul route with the Ministry of Transportation and Infrastructure. The Ministry of Transportation and Infrastructure may use this information to inform additional mitigation (e.g., signage) at key locations, if necessary.

6 Conclusion

Considering the potential adverse environmental effects of the proposed Project changes, and in light of views received through the EAO technical working group and through public comments, the Agency determined that it is not necessary to change the mitigation measures and follow-up requirements set out as conditions in the Decision Statement.