

Peace River System Dam Safety

BC Hydro Projects Update – June 2020



W.A.C. Bennett Dam is an earthfill embankment dam and is 2,040 metres across the top, 183 metres high and 800 metres thick at its base.

The W.A.C. Bennett Dam, located west of Hudson's Hope, is our largest dam. The G.M. Shrum powerhouse and nearby Peace Canyon Generating Station (located next to Peace Canyon Dam), supply a large amount of power to all of British Columbia, playing an important role in our hydroelectric system.

To ensure continued reliable, affordable and clean power, a number of projects are underway at the dams, or will start soon. These projects are part of our investment to upgrade our aging assets and build new infrastructure. The electricity we generate and deliver to customers throughout the province powers our economy and quality of life.

W.A.C. Bennett Dam Spillway Reliability Upgrade

We're upgrading the electromechanical systems of the spillway gates at the W.A.C. Bennett Dam to increase the overall reliability of the dam safety water discharge system. The three spillway gates at this site are used to release water to lower the Williston Reservoir when required.

The main elements of the project will be put in service in July 2020, with ancillary items completed before year end.

W.A.C. Bennett Dam Visitor Centre Water Supply Project

Water supply for the visitor centre historically comes from a pond retained by the small Durack Brook Dam. The dam is aging and needs to be removed.

Various water supply options were considered and a water well appeared to be the most economical solution. A test water well was drilled near the visitor centre in 2017. Tests in 2018 showed that this well will meet the water needs of the centre and adjacent facilities.

The project is unfortunately delayed as the water licence has not yet been approved by the Ministry of Forests, Lands, Natural Resource Operations and Rural Development. The design work for a pump house and distribution piping is still continuing and we will start building the new infrastructure as soon as the water licence has been granted. A separate project will then be initiated to remove the Durack Brook Dam.

W.A.C. Bennett Dam Spillway Concrete Upgrade

Significant deterioration of the spillway's concrete has continued in areas outside of the previous repairs and upgrades. If left unattended, these areas will continue to degrade and could affect water discharge capability. The project will address the highest priority areas in the inclined section of the chute by placing new sections of reinforced concrete.

It is estimated that the work will take a full June to October construction season. In the event that a spill were to be required during the 2020 construction period – and that construction were to be interrupted as a consequence – a return to complete the work in 2021 would then likely be required.

Planning for construction is currently underway, including the additional measures that will need to be implemented to ensure safe work conditions during the COVID-19 situation.

Peace Canyon Dam Instrumentation and Drains Upgrade

This project will reduce uplift pressures and improve the uplift monitoring capability, in and under the spillway blocks and the concrete dam at Peace Canyon. The plan is to clear the existing uplift drains and also to install additional drains. As well, replacement of old and failed piezometers, and installation of additional piezometers and other instrumentation is proposed. Currently, the plan is to begin partial construction in fall 2020. The remaining construction is planned to start in summer 2022 and be completed by spring 2023.

What is a piezometer?

It's an instrument used to measure the magnitude or direction of the water pressure in the dams. We collect data from approximately 3,000 piezometers to measure water levels in slopes, dams and foundations owned by BC Hydro, as part of our dam safety program.



Peace Canyon Dam deck and crane.

W.A.C. Bennett Dam Embankment Instrumentation Upgrade

The project plan is to upgrade the long-term dam performance monitoring network by assessing the adequacy of the existing instruments in monitoring the general performance of the embankment dam. This may include upgrades to existing instruments and/or the installation of additional instruments to improve continuous performance monitoring of the W.A.C Bennett Dam.

The plan is to start construction work in summer 2022 and complete by spring 2024.

Looking for Site C Project Information?

Please visit: [sitecproject.com](https://www.sitecproject.com)

Please contact BC Hydro Community Relations at 250 561 4858 or bob.gammer@bchydro.com, or BC Hydro Indigenous Relations at 604 528 3290 or anne.pigott@bchydro.com for more information on the above projects.

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