

Welcome to the Bridge Capital Investment Update



We're working to renew the Bridge River electricity system which is about 300 kilometres north of Vancouver and in the Traditional Territory of the St'át'imc Nation. The system consists of the Lajoie Dam and Powerhouse (Downton Reservoir), Bridge 1 and 2 Powerhouses (Terzaghi Dam and Carpenter Reservoir) and Seton Dam and Powerhouse (Seton Lake).

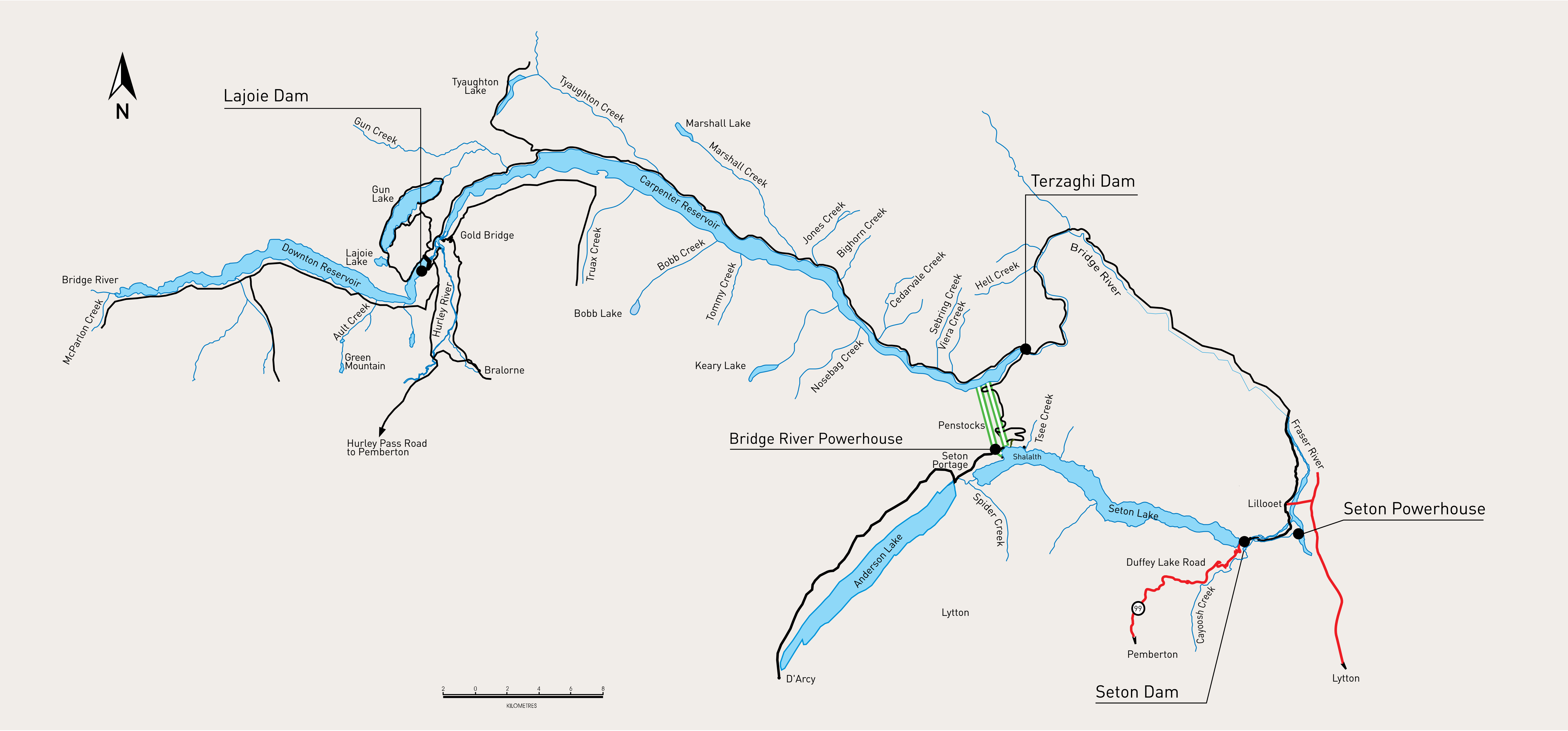
We're spending almost \$700 million on these 55 to 70 year old facilities, whose proximity to the Lower Mainland helps us operate more efficiently. This includes a number of projects in the region.

Contact

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Toll-free: 866 647 3334

Bridge River System



Capital Plan summary

Bridge River 1 and 2

Bridge River Generating Station 1

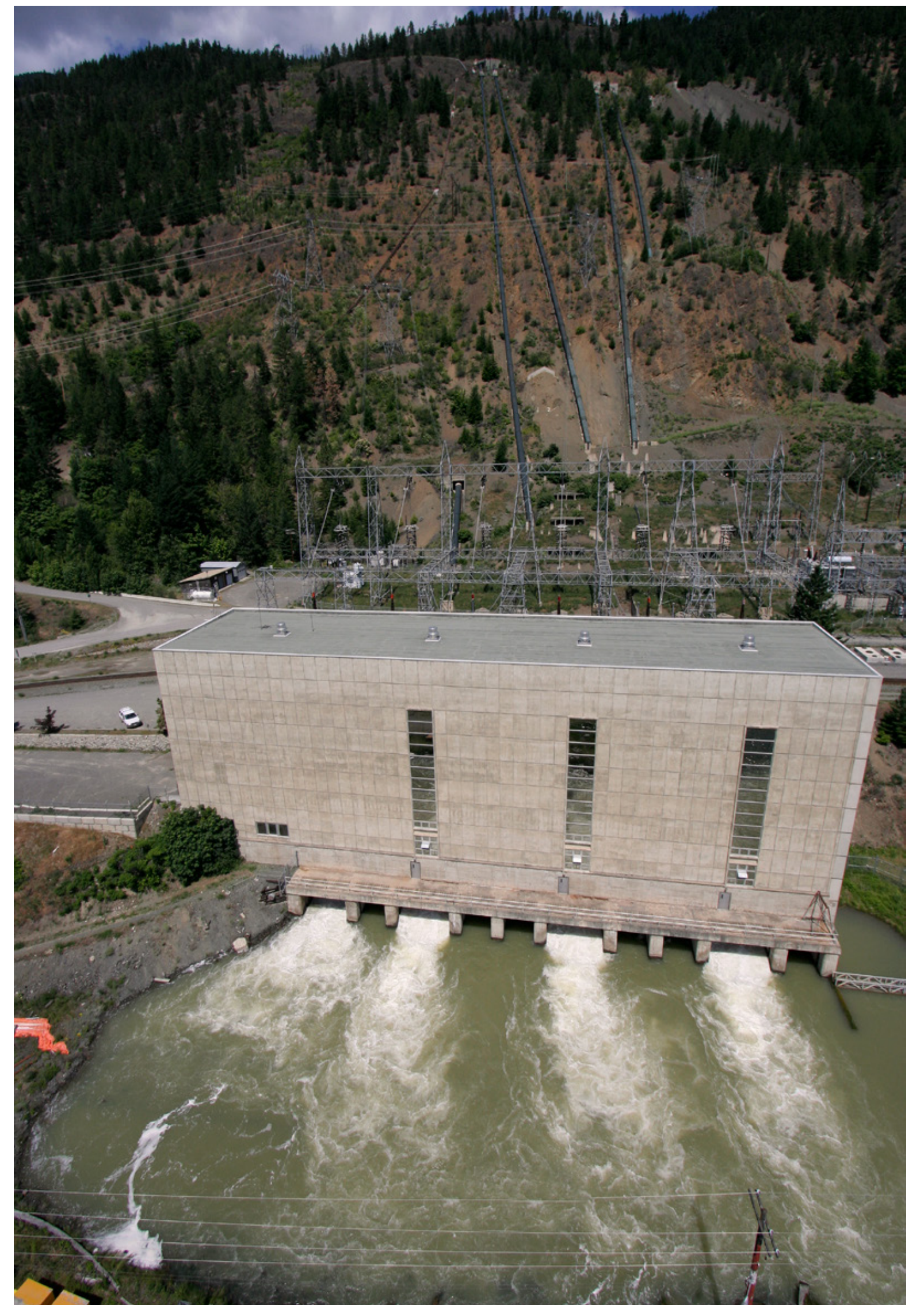
Key projects:

- Transformers 1 and 2—completed 2017
- Units 1–4—planning currently underway, targeted completion 2026
- Units 1–4 Penstock Internal Recoating, planning currently underway, targeted completion in 2028

Bridge River Generating Station 2

Key projects:

- Units 5&6—underway, targeted completion 2019
- Units 7&8—planning underway, targeted completion 2021
- Concurrent Penstock Internal Recoating projects have started—targeted completion for both penstocks by 2020
- Bridge River units completed by 2028 allowing the LaJoie Dam upgrades to proceed



Bridge River Generating Station 1

Upgrading Bridge 1 Units 1 to 4

Bridge 1 Powerhouse is a four generating-unit, 200 megawatt, generating station built in 1948 that requires upgrading. The station produces enough electricity to power 92,000 homes.

We're in the planning stage to replace the aging equipment.

This will allow us to:

- adjust water flow capability through the powerhouse to reduce the risk of seasonal spills from Terzaghi Dam into the Lower Bridge River, and,
- improve reliability of the generators and restore historical operating capacity.

We'll replace generators, exciters and governors and other related generating equipment and continue to operate within 99 water licence conditions.

Seton Beach Erosion Protection Project



The Seton Beach erosion protection project was completed in December. We replaced an existing log barrier with new logs that are slightly higher in order to protect the grassy picnic area from winter waves. We also added sandy gravel to the beach to help absorb wave energy and rebuilt rip rap areas to further stabilize the shore. New topsoil has been added and grass seed applied. The grass area will fill in as it grows through the spring and early summer.

Capital Plan summary

La Joie Dam

- La Joie Dam upgrade construction was targeted to begin in 2028 with anticipated completion by 2030/31
- Currently reviewing schedule
- These upgrades will require keeping the Downton Reservoir low to enable the work



La Joie Dam

Seton Dam

- Seton Lake Erosion Control Project—completed 2018
- Seton Protection and Control System underway, targeted completion in 2019
- Seton Generator Upgrade planning is currently underway, targeted completion in 2028



Seton Dam

Capital Plan summary

Transmission

- Transformer replacement & line work at the Bridge River Terminal/BR, planning currently underway, targeted completion in 2023
- Transmission line work in the region, preliminary planning work currently underway, targeted completion to be determined
- 6OLO21 re-alignment work—completed 2018



Crews install structures for the 6OLO21 re-alignment work between Lillooet and Shalalth completed in 2018.

Workforce

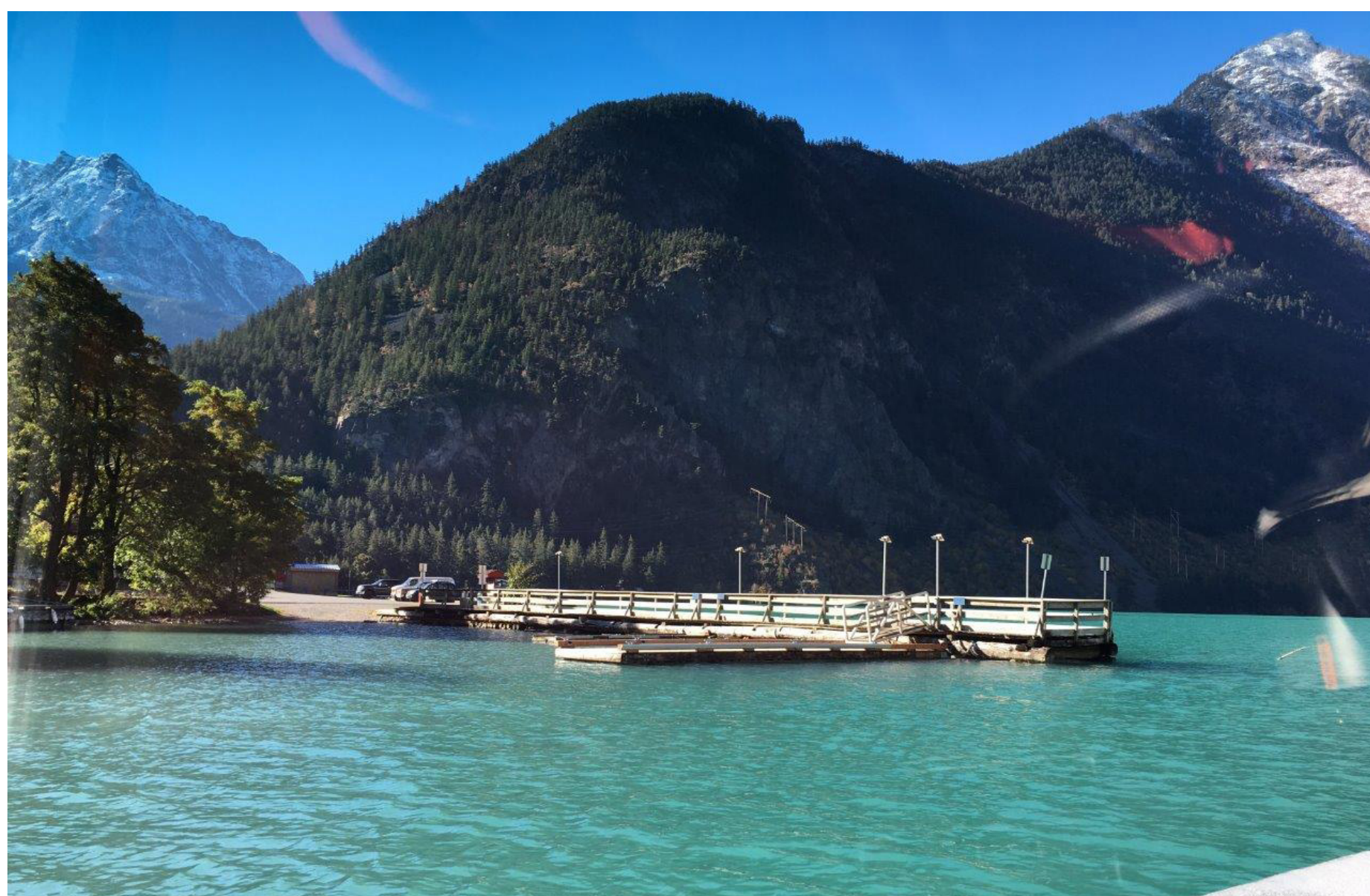
- BC Hydro anticipates the workforce (primarily contractors) associated with our current capital plans for Bridge River and Seton to peak at ~125 workers between 2018 and 2021.
- Most of this activity will be concentrated between April and October annually.
- BC Hydro is managing workforce logistics to ensure safety, cost-effectiveness and to minimize impacts to the surrounding communities (e.g., traffic, noise).
- BC Hydro Boat Operator positions posted late 2017. 6 local operators were hired, 2 more on standby. Contracts go to November 30 with a possibility of extension.
- Local contractors Road Runner and Summit Blasting completed the Seton Beach upgrades in fall 2018.
- Co-op and Youth Hire Position(s)
 - In development.
 - Offers professional development opportunities to post-secondary students through BC Hydro's project work



Transportation



Dive crews prepare for underwater repair work on Seton Lake dock, Lillooet. New dock anchors and chains are visible underwater.



Completed dock work includes new lighting.

Within Seton Portage and Tsal'alh, transportation is needed to move workers from hotels and residences to the Bridge River facilities.

Last spring, boat transportation was put in place to support moving workers between Lillooet and our Bridge River facility. In the fall we completed a refurbishment of the Seton Lake dock. We received letters of support from District of Lillooet and T'it'q'et First Nation (Tenants in Common) for dock use and improvements.

Work included:

- moving the underwater navigation hazards (boulders) to deeper water,
- repairing and servicing the float at the end of the dock (Float 1),
- repairing and improving Float 1 anchoring,
- added industrial solar lighting to the dock and Float 1, and top-side repairs and additional improvements to the dock

Time, safety, environmental impacts, parking constraints, costs, convenience for workers are considerations across all scenarios.

Safety/emergency response

- A BC Hydro Management Plan has been developed to include all aspects of safety and emergency response such as:
 - Travel
 - Working alone procedures
 - Code of Conduct
 - Evacuation
 - Policies and procedures
 - No lost time incidents reported
-

Accommodation

2018: (~125 WORKERS)

- Large projects at Bridge River. Most workers had accommodations in Tsal'álh/Seton Portage with some in Lillooet.

2019 (~25 WORKERS)

- Projects at Seton with accommodations needed in Lillooet
- Small number of workers to stay in Tsal'álh/Seton Portage for a project at Bridge River.

2020 (~85 WORKERS)

- Projects at Bridge River, all workers expected to be accommodated in Tsal'álh/Seton Portage.

2021 (~75 WORKERS)

- ~75 workers at Bridge River with accommodations needed in Tsal'álh/Seton Portage.

Community investment

- Post-Secondary Scholarships
 - Applications accepted April 15 to May 24, 2019
 - Two, \$500 scholarships offered to students pursuing post-secondary studies in STEM or trades training
 - Open to all students graduating from Lillooet Secondary School
- Local grants

Communications

- Local ads
- Bi-annual newsletter
- Delegations to local governments
- bchydro.com/bridgeriver


Notice of high water levels

Lower Bridge River

Please be advised that the water flows on Lower Bridge River will continue to increase over the coming weeks and will remain well above normal until the end of July. We request that the public be very careful when active in and around the river as water levels may rise suddenly and without warning.

Residents and visitors are reminded to stay away from the edges of the Lower Bridge River during this high flow period and continue to be mindful of water safety throughout the year.

For more information on reservoir operations, please go to bchydro.com/water.



BC Hydro

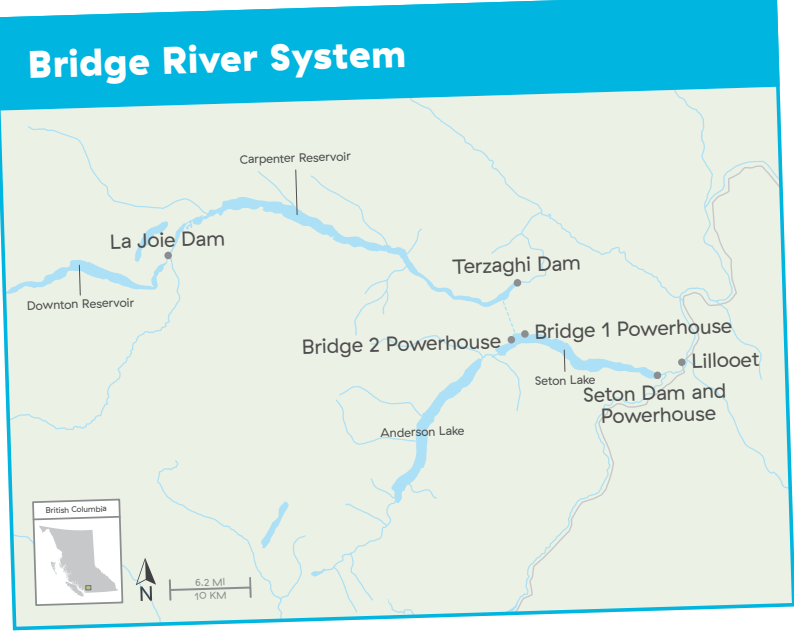
Power smart

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Bridge River Hydroelectric System


Projects Update – Winter 2018/2019

Bridge River System

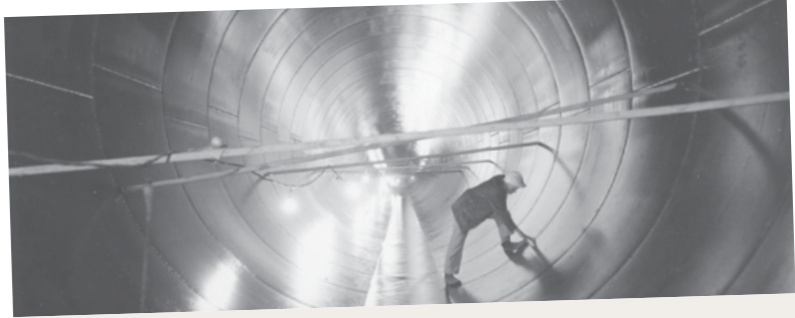


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We're spending almost \$700 million on these 55 to 70 year old facilities, whose proximity to the Lower Mainland helps us operate more efficiently. This includes a number of projects in the region. This update will provide you with highlights of that work.



The penstock – an enclosed pipe that delivers water to the generating turbine – at Bridge 1 in 1959.



Inspecting the Bridge penstock in 1959.

Upgrading Bridge 1 Generating Station – Units 1 to 4

Bridge 1 Powerhouse is a four generating-unit, 200 megawatt, generating station built in 1948 that requires upgrading. The station produces enough electricity to power 92,000 homes. We're in the planning stage to replace the aging equipment.

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What are exciters?

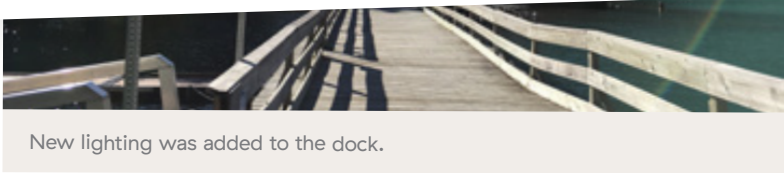
These control the current through the generator to regulate the output voltage.

What are governors?


These control the water flow through the turbine to regulate the speed of the generator.



Crews preparing for Unit 5 upper bracket removal on the Bridge 2 Units 5 and 6 upgrade project. Similar work will take place as part of the Bridge 1 upgrade.




New lighting was added to the dock.



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BRIDGE CAPITAL INVESTMENT UPDATE

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