

## SITE C PROJECT CONSTRUCTION

# TRANSMISSION WORKS

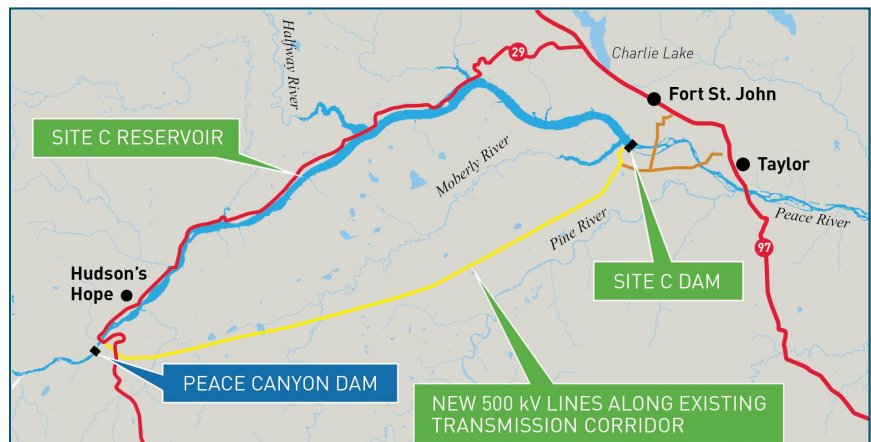
Transmission works include the construction of two new 75-kilometre, 500-kilovolt transmission lines along an existing right-of-way between the Site C project and the Peace Canyon generating station.

A new Site C substation has been built adjacent to the Site C powerhouse. Three new one-kilometre, 500-kilovolt transmission lines will connect the Site C generating station to the new substation.

The Peace Canyon 500-kilovolt gas-insulated switchgear was expanded to incorporate the new transmission lines and connect Site C to our transmission system.

### Site C project transmission works included:

- Surveying and staking for towers.
- Construction/upgrading of existing access roads to the right-of-way.
- Right-of-way preparation, clearing, and restoration.
- Transmission line construction, including foundation installation, tower assembly, and conductor stringing.
- Peace Canyon 500-kilovolt switchyard expansion.
- Site C substation construction.



### Timeline

- Expansion of Peace Canyon switchyard: Completed in 2019
- Construction of Site C Substation: Completed in 2020
- Construction of 500-kilovolt transmission lines from Peace Canyon to Site C: Completed in 2022
- Construction of 500-kilovolt transmission lines from Site C substation to Site C generating station: June 2022 – September 2023

### Transmission corridor

The new 500-kilovolt transmission lines have been built on an existing transmission right-of-way to the south of the Peace River between the Peace Canyon generating station and the Site C project area. A portion of this right-of-way had previously been occupied by two 138-kilovolt lines, serving Fort St. John and Taylor.

The first 500-kilovolt transmission line was built along the unoccupied north side of the right-of-way alongside the existing 138-kilovolt lines, which have been re-connected to the Site C substation, and the remaining portions of the lines have been removed between Peace Canyon and Site C. This created room

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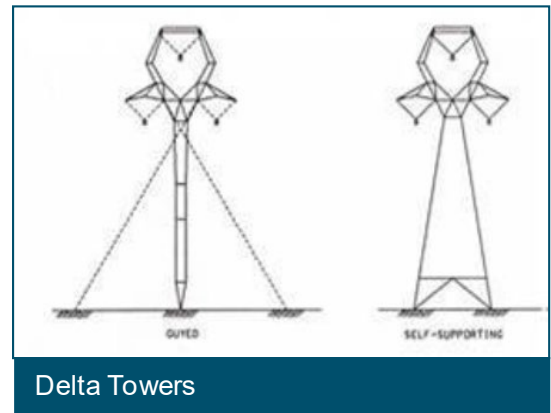
to safely install the second 500-kilovolt transmission line. The continual supply of electricity to the communities will be maintained.

The Site C project's 500-kilovolt transmission lines will become part of our overall transmission system and undergo the same type of operation and maintenance activities as other transmission lines throughout B.C.

### Design progression

Delta-type towers were selected for most of the new 500-kilovolt transmission lines, as shown in the figure to the right, with flat type towers installed at each end of the line to incorporate a shield wire.

Taking advantage of the delta towers' narrower space requirements, the transmission line design shifted the alignment within the existing right-of-way to allow construction of the majority of the foundations for both 500-kilovolt lines while the existing 138-kilovolt lines remained energized. This reduced the construction duration and the overall transmission line footprint.



### Site C and Peace Canyon substations



A new Site C substation has been built near the Site C dam on the south side of the Peace River. The substation connects the dam site to the new 500-kilovolt transmission lines and the supply to Fort St. John and Taylor.

The existing 500-kilovolt switchyard at Peace Canyon was expanded to facilitate the interconnection of the Site C generating station to our transmission system.