

BC Hydro F2020 – F2021 Revenue Requirements**BC HYDRO UNDERTAKING NO. 2**

HEARING DATE: January 20, 2020

REQUESTOR: David Austin, CEABC

TRANSCRIPT REFERENCE: Page 560 lines 10 to 23.

TRANSCRIPT EXCERPT:

MR. AUSTIN: Q And with respect to Site C, is it going to be a problem if I ask a few questions about the seismic withstand capability of the cofferdams and the diversion tunnels, or is that an area that you prefer not to answer questions on?

MR. O'RILEY: A I mean, there is no concerns with the seismic withstand of the cofferdams, and the diversion tunnels. I'm not that knowledgeable about them, I would have to go away and get some information to answer the questions.

I'm happy to do that, I think that is a broad, general public interest question. I just don't have that information in my head.

QUESTION:

What is the seismic withstand capability of the diversion tunnels and any of the coffer dams. In other words, what standard were they built to? And if one or both tunnels fail, what would happen?

RESPONSE:

The Site C cofferdams and diversion works are temporary but considering their importance, were conservatively designed to withstand very large earthquakes.

For the diversion tunnels, structures, inlet and outlet cofferdams, this includes earthquakes with an annual exceedance probability (chance of occurrence) of one in 5000 years. For the diversion upstream and downstream cofferdams, the annual exceedance probability is one in 2475 years. The other temporary cofferdams are designed to earthquakes with an annual exceedance frequency of one in 1000 years.

In terms of peak ground acceleration (percentage of gravity) this translates to:

- **Diversion Tunnels and Structures: 14 per cent gravity (.14g) for one in 5000 years;**
- **Upstream and Downstream Cofferdam: 8.7 per cent gravity (0.087g) for one in 2475 years; and**
- **Other Cofferdams: 4.1 per cent gravity (0.041g) for one in 1000 years.**