

## **The Dalles Fish Unit Breaker Replacements**

This project will replace the two original fish unit breakers and upgrade the associated 13.8 kV bus. The fish generating units supply attraction flow for the east fish ladder. Replacing these assets will reduce arc flash hazards, improve the reliability of fish passage and improve synchronous condensing capability.

The existing breakers and bus are original equipment, placed into service in 1957. The life span for a typical power circuit breaker is 25-30 years. These breakers are now approaching 60 years of service. Breaker and insulation testing since 2008 indicates a number of condition concerns. Beyond the testing indications, the GE Magne-Blast circuit breakers have a known history of potting compound breakdown due to age and heating. This can lead to an internal circuit breaker fault. Replacement of the breakers is essential to prevent outages due to increased maintenance or a breaker failure.

Reconfiguration of the 13.8 kV bus work is necessary to reduce the arc flash hazard. To date there has been one arc flash safety incident at The Dalles dam, fortunately only resulting in minor injuries. The bus reconfiguration will also improve the synchronous condensing capability at the plant.