

The Dalles Transformer Replacements

The purpose of this investment is to replace the single phase water cooled Ferranti generator step-up (GSU) transformers and Central Transformer Corporation fish unit transformers with new air cooled GSU transformers. The specific banks proposed for replacement are TA, T1, T3, T5, T6, T7 and T8. The transformers to be replaced were installed from 1954 to 1958. T2 and T4 were replaced in 2006 and 2009, respectively.

The transformers have a number of condition issues and are being regularly monitored with oil sample and Doble testing. Among the issues are:

- Oil leaks and the associated environmental risk;
- Water cooling problems due to age and corrosion;
- Design deficiencies where short-term loss of cooling can cause a shutdown;
- Insulation breakdown;
- Partial discharging; and
- The presence of moisture.

In addition, T8 exhibits serious fault gas development. As a result, T8 has been permanently restricted to 50% capacity, a 104 MW reduction. Further deterioration will increase the likelihood that the unit would need to be completely shut down.

In addition to replacing the transformers, the investment includes replacement of associated equipment and controls, seismic upgrades, vault modifications, etc. The units will be scheduled for replacement based on likelihood and consequence of failure.