Project Title: Surge Arrester 115kV Disconnect Upgrades

Dam and Reservoir Project: Ice Harbor

Estimated Total Cost: $3-$7 million

Estimated Schedule for Completion of the Project: Phase 1a: FY2016-2017

Phase 1: FY2017-2018

Phase 2: FY2018-2020

Expected Physical Completion: FY2020

Current Status as of 6/8/2017: Phase 1 (design)

Summary

This project will replace the existing 115 kilovolt (kV) disconnect switches at Ice Harbor Dam and Reservoir Project. The 115 kV disconnects are devices that ensure that an electrical circuit is completely de-energized so that service and maintenance can occur. This project will also replace the bus potential transformers, which are voltage measurement devices used to meter and protect electrical circuits. In addition, the project will install surge arresters, which are devices used to protect circuits from an overload of voltage. These arresters will be replaced at each of the three incoming Bonneville Power Administration transmission lines located on the deck where the transformers reside. Replacement of the disconnect switches, bus potential transformers and installation of the surge arresters will reduce the likelihood of a failure within the electrical system, which would impact the level of power generation from the associated hydropower generating unit.

The project also addresses operational and safety considerations. A failure of a particular disconnect switch (ZWO) would reduce the powerhouse to only one source of power for station service, which is power that is required to operate the electrical components of the dam and reservoir project, including the spillway, some fish passage equipment, the power drainage system, unwatering pump system, and critical control systems, necessary to prevent potential flooding of the powerhouse. The current disconnect switches are operated manually by using a pole to open and close the switch. Motorized disconnects will be installed, which will allow personnel to operate the disconnects from a safe location removing them from areas of high arc flash/blast (electrical explosion) potential, which could endanger human life.