

Project Title: Main Units 1-6 Digital Governor Installation

Dam and Reservoir Project: Lower Granite

Estimated Total Cost: \$3-\$7 million

Estimated Schedule for Completion of the Project: Phase 1a: None for this Project

Phase 1: FY13-FY18

Phase 2: FY18-FY19

Expected Physical Completion: FY
2019

Current Status as of 8/16/2017: Phase 1 (design)

Summary

A governor is the component of the hydroelectric generating unit (unit) that controls the generation output of the unit. The governor adjusts the opening of the wicket gates that let water into the unit as well as the angle of the unit blades, thereby “governing” the speed of the unit. Digital governors improve the ability of the units to operate within a range that benefits fish passage survival, consistent with NOAA Fisheries’ recommendations in the 2008 Biological Opinion as supplemented in 2010 and 2014 (e.g., Reasonable and Prudent Alternative action 27). This ability to adjust the operation of the unit for optimal performance helps reduce pressure-related injuries to fish and cavitation damage to turbines. In addition, digital governors make the units more responsive to transmission system reliability requirements, such as maintaining grid frequency and allowing more responsive fluctuations in generating output for integration of renewable energy.

This project is part of a larger effort to move from analog to digital governors across the Federal Columbia River Power System (thirty-one total dam and reservoir projects) to gain the benefits of digital technology, standardize equipment, and address the lack of manufacturer support and near impossibility to procure replacement parts for the existing governors. Therefore, all six units are included in this investment. This project was commenced in 2013, and the digital governors for this project have already been purchased and are now ready to be installed.