

Chief Joseph Turbine Runner Replacements Units 1-4, 15-16

This project will refurbish the turbines and replace the turbine runners on units 1 - 4 and 15 - 16 at Chief Joseph. This project will complete the replacement of the original 16 turbine runners at Chief Joseph. In September of 2007, the CAB affirmed the decision to replace units 5 - 14 and that project is currently proceeding under a contract with Alstom. That contract to replace the first ten units contains an option for replacement of the remaining six units which will be exercised with this project.

The drivers for this project are reliability and efficiency. The original 16 turbines are over 50 years old and have reached the end of their design life. Eighty percent of similarly-aged units industry-wide have been retired from service, meaning they have failed or were taken out of service to avoid failure. Increasingly, these units require extensive maintenance to repair cavitation damage. Between 1973 and 1979, the dam and lake were raised by ten feet and 11 additional generating units were installed. These changes, along with tailwater rise due to the construction of Wells Dam downstream, have modified the design conditions of the original 16 turbines. Units 1-16 can no longer achieve nameplate capacity during high flow conditions. The modified runner design will increase efficiency by 5.8% and will restore the original capability, gaining an estimated 3.58 MW at each generating unit.

The total capital cost of this project, including AFUDC, is \$65.9 million. Based on the current project schedule, construction is expected to be completed by April 1, 2017.