

## **Chief Joseph Turbine Runner Replacements**

This project will refurbish the turbines and replace the turbine runners on units 1 - 16 at Chief Joseph. 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.