

HYDROELECTRIC MAINTENANCE AND REPAIR

TACOMA PUBLIC UTILITIES
CUSHMAN 1
HOOD CANAL, WA



DESCRIPTION

Repair and maintenance on several projects spanning the Cushman 1 dam and powerhouse.

SERVICES PROVIDED

NAES Power Contractors supplied planning, supervision, labor, equipment and materials for multiple projects at the Tacoma Power Cushman 1 project. Cushman 1 (built in 1926 under the orders of President Calvin Coolidge) is 275 feet high and 1,111 feet long. Located downstream, Cushman 2, completed in 1930, is 235 feet high and 575 feet in length. Together they produce 127 million kilowatt hours annually. All work was done under the maintenance agreement with Tacoma Public Utilities (TPU).

- Disassembly of 60-inch N-type Johnson needle valve; refurbishing and reassembly of all internal components
- Removal and replacement of all gears and fuel lines on surface tram
- Installation of new sheaves; rebuilding over speed governor
- Removal of tractor chains on intake head gates; cleanup chain guides and install new chains
- Removal of trunnion pins in both spillway gates
- Structural reinforcement to the gate arm per FERC directive to all hydro projects after frictional load tests revealed loads were above normal

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