

Lower Baker Dam Spillway Gate Car Replacement

Baker Dam, Washington

Owner: Puget Sound Energy

Description: INCA Engineers, Inc., a Tetra Tech Company (INCA) provided detail design and prepared manufacturing drawings for a new gate car to be used to open and close ten vertical lift spillway gates at the Lower Baker Dam in Skagit County, Washington. The gate car traverses the existing spillway on curved rails to access each of the gates, and can automatically engage and disengage each of the gates, for their operation, through either the controls mounted inside the cab or two pendant controls mounted outside the car cab.

The gate car is a hydraulically-operated, self-propelled, self-contained, gate operating system consisting of an enclosed and heated carriage-mounted support structure with an overhead 50 kip capacity hydraulic cylinder hoisting system with 22 foot stroke and hydraulic motor driven travel. The hoisting cylinder is mounted on a turntable bearing that can be rotated about 100 degrees by a hydraulic motor through a pinion and gear system for engaging and disengaging the gate lifting and latching mechanism.

The gate car cab houses the hydraulic power unit, controls, and other electrical and mechanical systems.

