970-858-1950 · info@dasmithdrilling.com
dasmithdrilling.com



DAMS · IN SITU STRESS MEASUREMENTS · INSTRUMENTATION

Rock Island Dam, Wenatchee, Washington

DA Smith performed specialized core drilling, in situ stress measurements, and geotechnical instrumentation installation to support dam safety evaluation and long-term monitoring at Rock Island Dam.

CLIENTS	LOCATION	YEARS	WORK
Cornforth Consultants, Chelan County Public Utility District No. 1	**Wenatchee, Washington**	**2026–27**	**Dams, In Situ Stress Measurements, Instrumentation**

DA Smith conducted core drilling, in situ stress testing, and installation of geotechnical instrumentation at Rock Island Dam as part of the Rock Island Dam Drilling Instrumentation Support project, commissioned by Cornforth Consultants on behalf of dam owner Public Utility District No. 1 of Chelan County.

Rock Island Dam is a Federal Energy Regulatory Commission (FERC)-regulated, 3,800-foot-long reinforced concrete hydroelectric dam on the Columbia River, with a generating capacity of 660 MW. The first dam constructed on the Columbia River, Rock Island Dam is undergoing geotechnical investigations to support dam safety monitoring and evaluation of alkali-silica reaction (ASR) and its effects on the dam's concrete.

DA Smith drilled nine 6.5-inch-diameter boreholes across the dam crest and spillway to measure in situ horizontal stresses within the concrete structure at depths of up to 105 feet below the dam crest. Stress measurements were performed using the United States Bureau of Mines Borehole Deformation Gauge overcoring method, in accordance with ASTM D4623. A total of 125 stress measurements were conducted,

providing data for the development of stress profiles throughout the dam. Core drilling also recovered concrete and bedrock samples for laboratory mechanical properties testing.

Following drilling and stress testing, DA Smith completed selected boreholes with permanent geotechnical instrumentation, including inclinometers, extensometers, vibrating-wire piezometers, and thermistors. These instruments provide long-term monitoring of structural deformation, internal movement, groundwater pressures, and temperature conditions within the dam and its foundation.

Project work is scheduled to continue into 2027.



