

News

Spillway deflectors for Chief Joseph dam

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The US Army Corps of Engineers (USACE) is adding spillway deflectors to Chief Joseph dam on the Columbia river, in the US state of Washington, in a bid to minimize the impacts of total dissolved gas (TDG) super-saturation in the water.

USACE announced that multiple concrete pours are planned as a part of the Gas Abatement project. The concrete deflectors are being installed near the bottom of the sloped spillway surface along the entire 281m length. The tops of the deflectors are submerged several meters underwater so they will not be visible. The deflectors, resembling ski jumps, include a curved transition from the spillway face that then extends horizontally 3.8m to direct flow in a skimming fashion across the water surface below the dam.

In April this year USACE conducted a series of tests at the dam to check the efficacy of the deflectors. The tests were designed to investigate changes in dam uplift pressures and collect data on deflector performance. The addition of spillway deflectors was determined to be the most effective in both gas reduction and implementation cost. Chief Joseph dam, an 1817m long concrete structure, was constructed between 1949 and 1955. The project generates 2620MW of power.