In February 2014 a fracture was discovered on the upstream side of Wanapum Dam's concrete spillway. The fracture ran the length of one 65-foot-wide monolith and was open two inches at its widest spot. A subsequent investigation showed that the primary cause of the fracture in the dam's spillway was a mathematical error made in the pre-construction design. The presentation will provide an overview of the investigation and repair work including: crack mapping, cement and chemical grouting, and installation of large tendon and bar anchors.