

MEMORANDUM FOR THE RECORD

SUBJECT: 21BON095 Downstream Migrant Channel Emergency Relief Gate Trip

Overview:

The primary downstream migration route at Bonneville Dam - Powerhouse Two is the DSM2 (Downstream Migrant channel). The DSM channel elevation is maintained by a combination of add-in water, regulating orifices (Units 11-14), and non-regulating orifices. The channel elevation should remain between 64.2' and 64.4'. If the water elevation deviates from the range of 64.2' - 64.4', the Emergency Relief Gate (ERG) located at the north, downstream end of the DSM channel is triggered open, causing water to exit through this gate directly into the PH2 tailrace. At this time a flush valve is opened to provide water to the remainder of the DSM transport pipe down to the Smolt Monitoring Facility (SMF). This flush valve provides water flow to "flush" remaining fish in the DSM transport pipe from the North end of PH2 to the SMF, two miles downstream.

Discussion:

At 0749 the Bonneville Control Room was notified of the DSM ERG trip. At this time, the DSM flush valve was jammed and not releasing water to the DSM transport flume. An operator returned the valve to working status about 30 minutes from the time of the ERG trip. The ERG was closed at 1630 and the DSM returned to normal operating status.

The cause of the ERG trip was determined to be a faulty ERG trip sensor. The ERG "high-water level" sensor was removed and repurposed into the ERG "trip" sensor location. Bonneville is currently in the process of locating a replacement sensor for the DSM high-water level alarm.

No fish mortalities were witnessed during this outage. Throughout the day, no birds were observed at the juvenile outfall, indicating a lack of mortalities.

Future preventative measures include troubleshooting what caused the DSM flush valve to jam and fixing this issue urgently. Also, having extra sensors on project and readily available is warranted.

Sincerely,
Bonneville Project Fisheries