

MEMORANDUM FOR THE RECORD

SUBJECT: 23BCL03 MFR Hourly Ramp Rate Deviation

Description of the problem:

On the morning of August 28, 2023, at 1021, the WFOP hourly ramp rate limitation for flow rate increases in the North Santiam River below Big Cliff Dam was exceeded. This incident was a result of the A320 230kV breaker tripping offline, resulting in Detroit Dam main unit 1 and Big Cliff Dam unit 1 to enter an unplanned outage. As a result, the Big Cliff Dam autogate opened due to the loss of flow through the unit.

Type of event:

Turbine unit outage.

Impact on facility operations:

Flows temporally increased from approximately 1160cfs to 1540cfs before returning to approximately 1190cfs. From 1015 to 1045 there was an .36ft ramp rate increase, above the WFOP limit of .3ft/hour.

Total dissolved gas (TDG's) also increased from 100% to 119%, above the ODEQ limit of 110%. By 1900, August 28, 2023, TDG's had returned to 101%.

Expected impacts to fish:

Impacts to ESA listed species are expected to be minimal. Adult fish held within the Minto Fish Facility and those within the Minto to Big Cliff reach could be affected by the increase in TDG's, however the limited duration of the increase should keep impacts at a minimum.

The ramp rate increase and subsequent decrease could strand a minimal number of adult fish. Due to the temporary nature of the increase, the timing prior to the primary spawning season, and return to but not below gage height for the North Santiam River; it is unlikely that any redds were dewatered.

Corrective Actions:

Corrective actions and commissioning activities concluded on the afternoon of August 28, 2023. As such, no addition outages are expected; and the DET unit 1 outage, ongoing since January 2020, has been concluded.

North Santiam River at Niagara, OR - 14181500

August 26, 2023 - August 29, 2023

Streamflow, ft³/s ⓘ

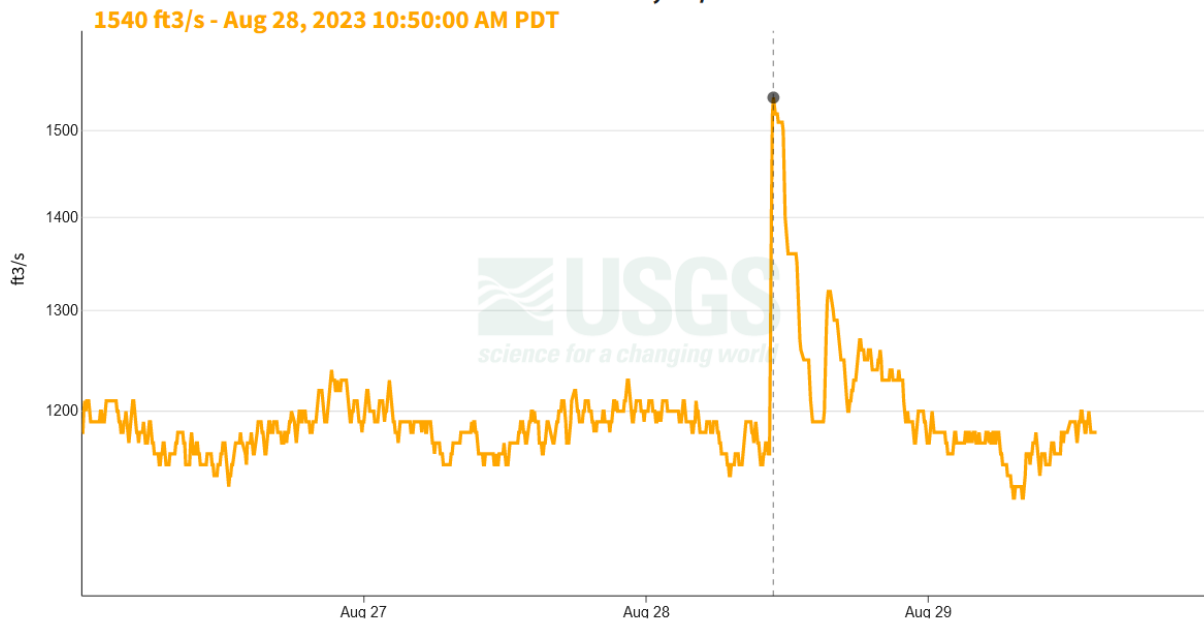


Fig 1. The increase in flow seen below Big Cliff project seen on 28 August before returning to normal.

North Santiam River at Niagara, OR - 14181500

August 26, 2023 - August 29, 2023

Total partial pressure of dissolved gases, water, unfiltered, percent of saturation ⓘ

119% - Aug 28, 2023 02:00:00 PM PDT

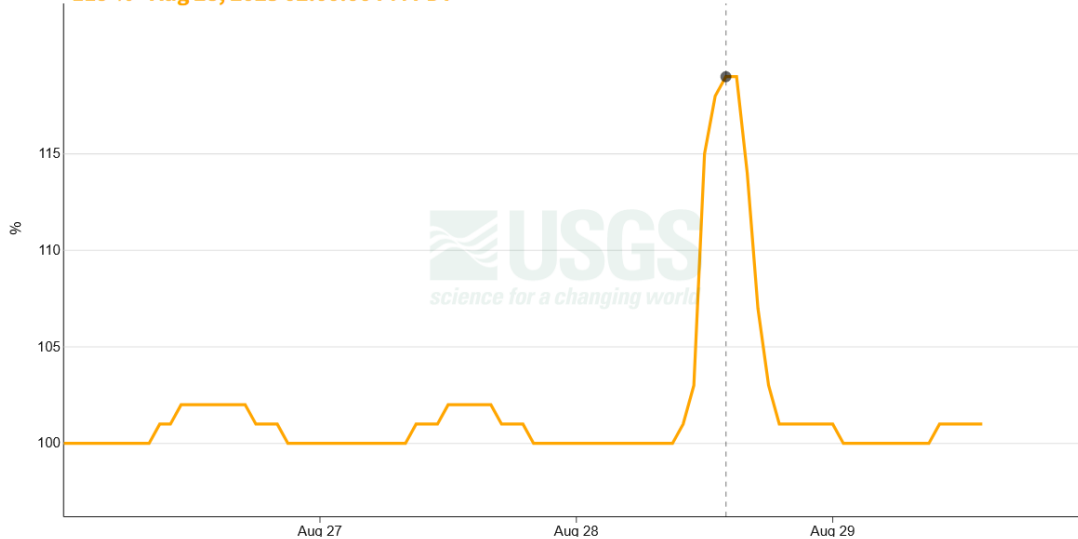


Fig 2. Similar to the previous Aug 22nd incident, TDG's were temporally elevated above the 110% limit on Aug 28th.

North Santiam River at Niagara, OR - 14181500

August 26, 2023 - August 29, 2023

Gage height, ft ⓘ



Fig 3. Gage height for the North Santiam River at Niagara. After the temporary increase on August 28, 2023, the gage height returned to but not below the previous height of approximately 3ft.

Comments from agencies:

No comments

Please email with questions or concerns, thank you.

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