

**MEMORANDUM FOR THE RECORD**

**TITLE: 23BCL05 MFR Heli-Saw operations fire**

**PROJECT: Big Cliff Dam**

**Description of the problem:**

On the afternoon of October 30<sup>th</sup>, 2023, during a planned Heli-Saw tree removal operation, a fire occurred that required the BCL-DET transmission line to be de-energized. BCL turbine unit 1 entered a forced outage at 1330 hours and remained out of service until 1457 hours . As a result, BCL spillway auto gate #3 opened to 0.92ft. Due to the outage, BCL was spilling for 1 hour and 25 minutes on October 30<sup>th</sup>.

**Type of event:**

Turbine unit outage.

**Timing of event:**

1330 – BPA informed USACE of the fire and requested the BCL-DET line be de-energized.

1332 – Breaker XJ3 and XJ31 were opened.

1332 – BCL Spill Gate #3 auto opened to .92ft.

1405 – BPA informed USACE that the BCL-DET line could be re-energized.

1433 – XJ31 closed energizing the line

1457 – XJ3 closed allowing BCL to send out power.

1457 – BCL Spill Gate #3 closed, and all flow returned to the BCL unit 1 generator.

**Impact on facility operations:**

Flows temporally increased from approximately 1600cfs to peak at 1929cfs before returning to approximately 1600cfs. Total dissolved gas (TDG's) also increased to 121%. This outage occurred during the restricted outage period between Oct 16<sup>th</sup> and Feb 15<sup>th</sup> listed in the Willamette Fish Operations Plan (WFOP).

**Expected impacts to fish:**

Impacts to ESA listed species are expected to be minimal. Spawning season is complete and adult fish are not being held within the Minto Fish Facility at this time. Fish 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. The down ramp occurred at .1 foot/hour per hour, less than the WFOP daytime limit of .2 ft/hr (2023 WFOP, section 3.1.2). Due to the temporary nature of the increase and return of the river

to a similar gage height prior to the incident for the North Santiam River; it is unlikely that any redds were dewatered.

**Corrective Actions:**

The operation was deemed to be low risk, and a hold order was issued. A hold order allows the line to be energized during the operation, however, in the event of an outage, the hold requires the line to remain de-energized until directed by the Generation dispatcher.

7 days  30 days  1 year

# North Santiam River at Niagara, OR - 14181500

October 27, 2023 - November 3, 2023

Discharge, cubic feet per second



Fig 1. The increase in flow seen below Big Cliff project seen on 30 October 2023.

7 days 30 days 1 year

# North Santiam River at Niagara, OR - 14181500

October 27, 2023 - November 3, 2023

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

121 % - Oct 30, 2023 03:00:00 PM PDT

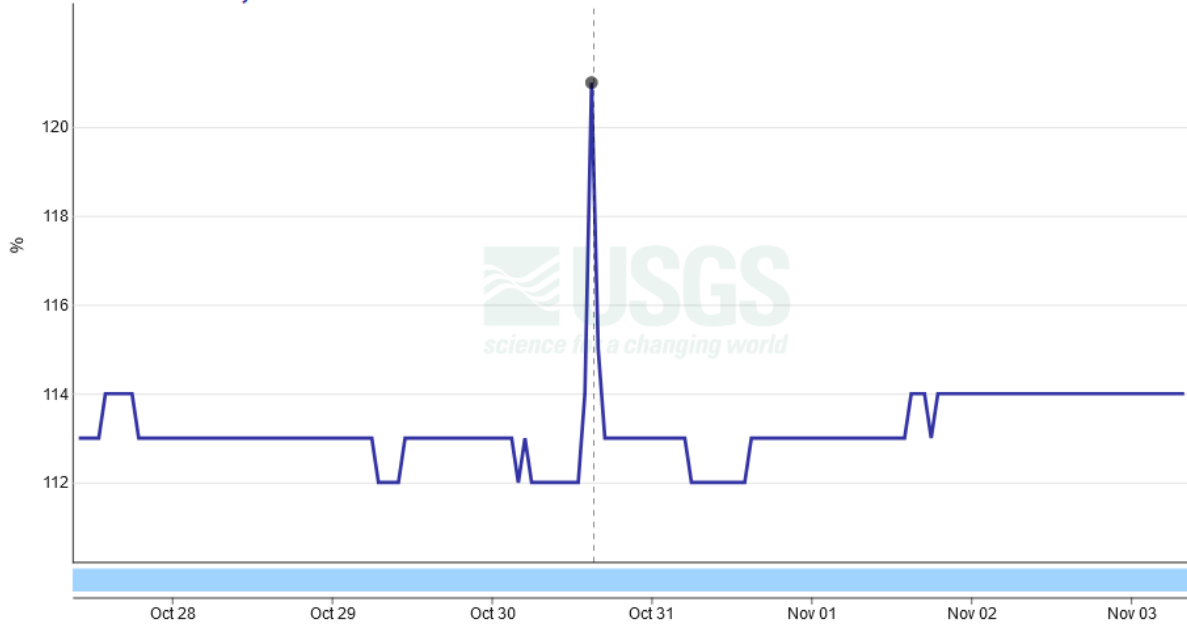


Fig 2. TDG's were temporally elevated above the 110% limit on October 30<sup>th</sup>.

## Comments from agencies:

No comments

Please email with questions or concerns, thank you.

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