



The Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, DC 20426

October 1, 2020

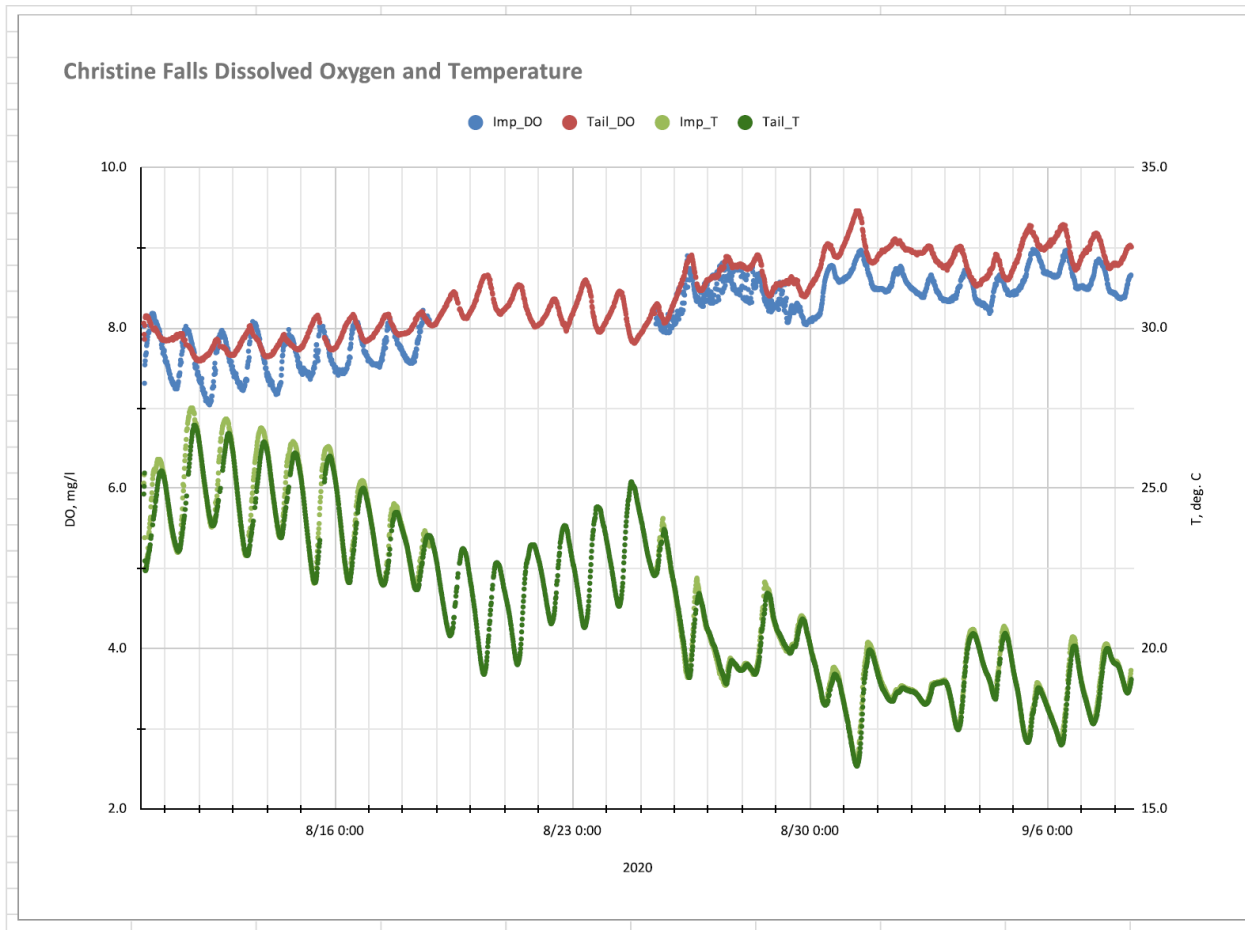
**Re: Christine Falls Hydroelectric Project (Project No. 4639-032) –
Summary results of water quality analysis**

In this letter we provide results of the water quality analysis conducted at Christine Falls between August 10, 2020 and September 10, 2020. It is worth noting that due to the record-year drought observed in 2020, following requests from DEC, additional monitoring will be conducted in the summer of 2022 to supplement current samples, and allow for further assessment of key parameters such as temperature and Dissolved Oxygen (DO) at a minimum.

In-situ dissolved oxygen (DO) and temperature (t) datalogging meters were installed at the Christine Falls hydroelectric project on 10 August 2020, one unit at mid-channel and mid-depth in the approach channel to the trashracks/bypass gate (a.k.a. impoundment), and one just downstream of the tailrace just off the shoreline.

The meters were field checked with a portable DO and T meter. Field checks found that the in-situ and field meters agreed within 0.3 mg/l for DO (typically within 0.1 mg/l), and within 0.1 deg. Celcius for T, so the in-situ data was not adjusted. The impoundment meter was out of water from ~1900 on 18 August through ~1100 on 25 August, so this data was discarded.

Minimum DO was found at the impoundment at 0700 on 12 August (7.05 mg/l, 24.0 Deg. C, 84% saturation), and at the tailrace at 0100 on 12 August (7.6 mg/l, 25.5 Deg. C, 93% saturation). In general, tailrace DO exceeded impoundment DO, while temperatures were very similar. Minimum DO typically occurred ~0700 at the impoundment, and ~0100 at the tailrace. Minimum DO at the impoundment nearly coincided with the time of minimum T (~0900), while minimum DO at the tailrace was closer to the time of maximum T (~2100). Data collected are mapped on the following chart - See **Attachment: Do and Temp Raw data** to access raw data underpinning the chart.



Water quality data from grab samples at the tailrace (analysis at **Upstate Freshwater Institute**) was indicative of a high quality freshwater river.

Water quality parameters Grab samples (Lab results)

Date 2020	vvChl a. ug/l	pH su	Turb. ntu	Sp.Con. uS/cm
18-Aug	0.5	7	0.8	58
24-Aug	0.5	7.7	0.8	79
1-Sep	0.9	6.9	0.8	83
8-Sep	0.8	7	0.8	83

Best regards,

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