

October 14, 2021

**FERC Project 2572  
Article 402**

Kimberly D. Bose, Secretary  
Federal Energy Regulatory Commission  
888 First Street, N.E.  
Washington, DC 20426

***Electronically Filed***

**Subject: Ripogenus Project, FERC No. 2572; Trout Unlimited Minimum Flow Complaint**

Dear Secretary Bose:

Great Lakes Hydro America, LLC (GLHA), licensee for the Ripogenus Project located on the West Branch of the Penobscot River in Maine, submits this letter in reply to Commission correspondence dated October 4, 2021, in which the Commission requests additional information regarding a complaint filed on September 21, 2021 by Mr. Stephen Heinz, writing on behalf of the Maine Council of Trout Unlimited (TU), that alleges two deviations from minimum flow requirements at the Project. The Commission requests that GLHA file a response to these allegations within 15 days (i.e., by October 19<sup>th</sup>) that includes:

*(1) a description of your required flows on August 30 and September 16, 2021, based on the date, time and hydrologic year type; (2) gage data and/or project operational data indicating the actual flows prior, during, and after the alleged deviation; and (3) a description of any operational changes for August 30 and September 16, 2021.*

**August 30, 2021 low flow event**

On August 30, 2021, McKay Station (part of the Ripogenus Project) tripped offline at 12:05 pm as a result of thunderstorms in the area. The 400 cfs minimum outage flow was restored to the river within 13 minutes via the station's minimum flow system, and then the normal 2,000 cfs whitewater recreation minimum flow was restored within approximately 3.5 hours. A courtesy notification of this event was distributed to resource agencies on August 31, 2021.

Required flows – between May 1<sup>st</sup> and September 15<sup>th</sup>, Article 402 of the Ripogenus Project license requires that minimum whitewater recreation flows of between 2,000 and 2,300 cfs be released from the Project between 0830 and 1700 hrs. on a daily basis. In a “dry” hydrologic year (such as 2021), the required minimum flows are 2,200 cfs on Saturdays and Sundays, 2,000 cfs on Mondays and Fridays, and 1,800 cfs on Tuesdays through Thursdays.

During other hours of the day outside of the whitewater release time period (i.e., 1700 to 0830 hrs.), Article 402 requires a minimum flow of 1,000 cfs from June 8<sup>th</sup> through October 14<sup>th</sup>. Additionally, Article 402 allows reduced “outage” minimum flows of 400 cfs when generating unit failures occur at McKay Station, *“with scheduled minimum flows to be resumed as quickly and practically as possible by releases from Ripogenus Dam if necessary, but in no event in more than three days following the initial outage”*.

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Finally, Article 402 states that “*These specified minimum flows shall be the minimum flows for each hourly period (measured on the basis of an hourly average)*”.

Since August 30<sup>th</sup> was a Monday and 2021 is a “dry” hydrologic year, Article 402 required that a minimum whitewater recreation flow of 2,000 cfs be released during the 0830 to 1700 hr. time period when the station trip occurred.

Operational data – the attached charts show Ripogenus Project outflows prior to, during, and after the August 30 low flow event and alleged license deviation.

Operational changes – On the afternoon of August 30, 2021, several hydro stations on the West Branch of the Penobscot River tripped offline during and after thunderstorm activity, including McKay Station at 12:05 pm. An investigation determined that a damaged lightning arrestor caused the outage at McKay Station. The minimum outage flow was restored to the river within 13 minutes via the station’s minimum flow system (which automatically provides an emergency outage flow of more than 400 cfs), and then the 2,000 cfs whitewater recreation minimum flow was restored by 3:30 pm. The Ripogenus outflow dropped to a low of 109 cfs during the event, while the lowest hourly average outflow was 640 cfs.

Summary – although GLHA provided a courtesy notification regarding the August 30 low flow event to resource agencies (see attached), GLHA determined that the event was not reportable to the Commission as an excursion from license requirements, since the hourly average outflow did not drop below the emergency outage flow of 400 cfs. Further, the automatic minimum flow system at McKay Station functioned as designed during the event, and GLHA was able to restore river flows in a timely fashion.

### **September 16, 2021 low flow event**

On September 16, 2021, McKay Station tripped offline due to a Versant Power (local utility) line disturbance. Flow was restored to the river within 5 minutes via the station’s minimum flow system, and then the normal 1,000 cfs minimum flow was restored within approximately 2.5 hours. A courtesy notification regarding this event was distributed to resource agencies on September 16, 2021.

Required flows – from September 16<sup>th</sup> through October 14<sup>th</sup>, Article 402 requires a minimum flow of 1,000 cfs, except higher minimum whitewater recreation flows are required on weekends from 0830 – 1700 hrs. through October 1<sup>st</sup>.

As indicated above for the August 30<sup>th</sup> event, Article 402 allows reduced minimum “outage” flows of 400 cfs during generating unit failures at McKay Station, and it specifies that an hourly average be used as a basis for license compliance.

Since September 16<sup>th</sup> was a Thursday, whitewater recreation flows were not required that day, and only the minimum flow was being conveyed at the time of the station trip.

Operational data - the attached chart shows Ripogenus Project outflows prior to, during, and after the September 16<sup>th</sup> low flow event and alleged license deviation.

Operational changes – at 7:31 am on September 16, 2021, all of GLHA’s hydro stations on the Upper Penobscot (McKay; North Twin; Millinocket; Dolby; East Millinocket; Weldon) tripped offline due to a local utility (Versant Power) line disturbance. At McKay Station, the 400 cfs emergency outage flow was restored to the river within 5 minutes via the station’s

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minimum flow system, and then the 1,000 cfs minimum flow was restored by 9:58 am. The Ripogenus outflow dropped to a low of 118 cfs during this event, while the lowest hourly average outflow was 508 cfs.

Summary – as with the August 30 low flow event, a courtesy notification regarding the September 16<sup>th</sup> low flow event at Ripogenus was provided to resource agencies (see attached). However, GLHA determined that the event was not reportable to the Commission as an excursion from license requirements, since the hourly average outflow did not drop below the emergency outage flow of 400 cfs. Further, the automatic minimum flow system at McKay Station functioned as designed during the event, and GLHA was able to restore river flows in a timely fashion.

In summary, the two events detailed in TU's complaint were (1) created by unforeseeable events beyond GLHA's control; (2) corrected within 13 and 5 minutes, respectively; (3) resulted in minimum flow reductions too minimal and transitory to be considered license violations; and (4) nonetheless promptly reported as a courtesy to the relevant resource agencies.

The Commission's October 4<sup>th</sup> letter also requests that GLHA provide (1) any comments received from resource agencies or other interested parties regarding the flows on these dates, and GLHA's response, and (2) the maximum ramping rates that occurred on August 30 and September 16, 2021. GLHA received no comments from the resource agencies in reply to GLHA's courtesy notifications regarding the August 30 and September 16 low flow events, and no comments or questions were received from any other stakeholders (including TU). In addition, the Ripogenus FERC license does not require flow ramping, so minimum flows were re-established as quickly as possible (consistent with the Article 402 requirement to resume scheduled minimum flows "*as quickly and practically as possible*") after each low flow event as shown in the attached graphs.

Please e-mail me at [kevin.bernier@brookfieldrenewable.com](mailto:kevin.bernier@brookfieldrenewable.com) or call me at (207) 951-5006 if you have any questions or need additional information.

Sincerely,

*Kevin Bernier*

Kevin Bernier  
Senior Compliance Specialist

Cc: N. Stevens, J. Cole, K. Maloney, M. Kessel, S. Michaud, S. Farrington, R. Dill, M. Osborne, T. Mapletoft, R. Dorman, L. Macomber, P. McNelis, P. Wainwright; GLHA  
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GLHA File: HSSE 4a/2572/01

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**Subject:** Penobscot station trips  
**Date:** Tuesday, August 31, 2021 3:22:00 PM  
**Attachments:** [image001.gif](#)

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The North Twin and Millinocket hydro stations (both part of the Penobscot Mills Project) tripped offline during yesterday afternoon's thunderstorms when a breaker tripped. Following a downstream public safety check and activation of a siren alarm, system operators deflated the inflatable flashboard system at Stone Dam, thereby re-establishing the required 2,000 cfs minimum flow at Millinocket. Outflow from the Millinocket Development dropped to a low of about 175 cfs during this approximate 14-minute flow interruption.

Article 403 of the Penobscot Mills Project license requires in part that:

*"The licensee shall operate the Millinocket, Dolby, and East Millinocket developments in a run-of-river mode while providing an instantaneous minimum flow of 2,000 cubic feet per second (cfs) to the West Branch of the Penobscot River at Millinocket, for the protection of water quality and aquatic habitat in the Penobscot River."*

Just so you know, McKay Station (part of the Ripogenus Project) also experienced two brief station trips yesterday afternoon during the thunderstorms; however, flow was restored to the river within 15 minutes after each event via either the station's minimum flow system or by restarting a unit. The McKay Station trips are not reportable, since there was no excursion of the hourly average minimum flow requirement.

Great Lakes Hydro America, LLC is still investigating the definitive causes for these station trips, but at this point they appear to be weather-related. I will copy you on the final report to FERC, but in the meantime, please let me know if you have any questions or concerns.

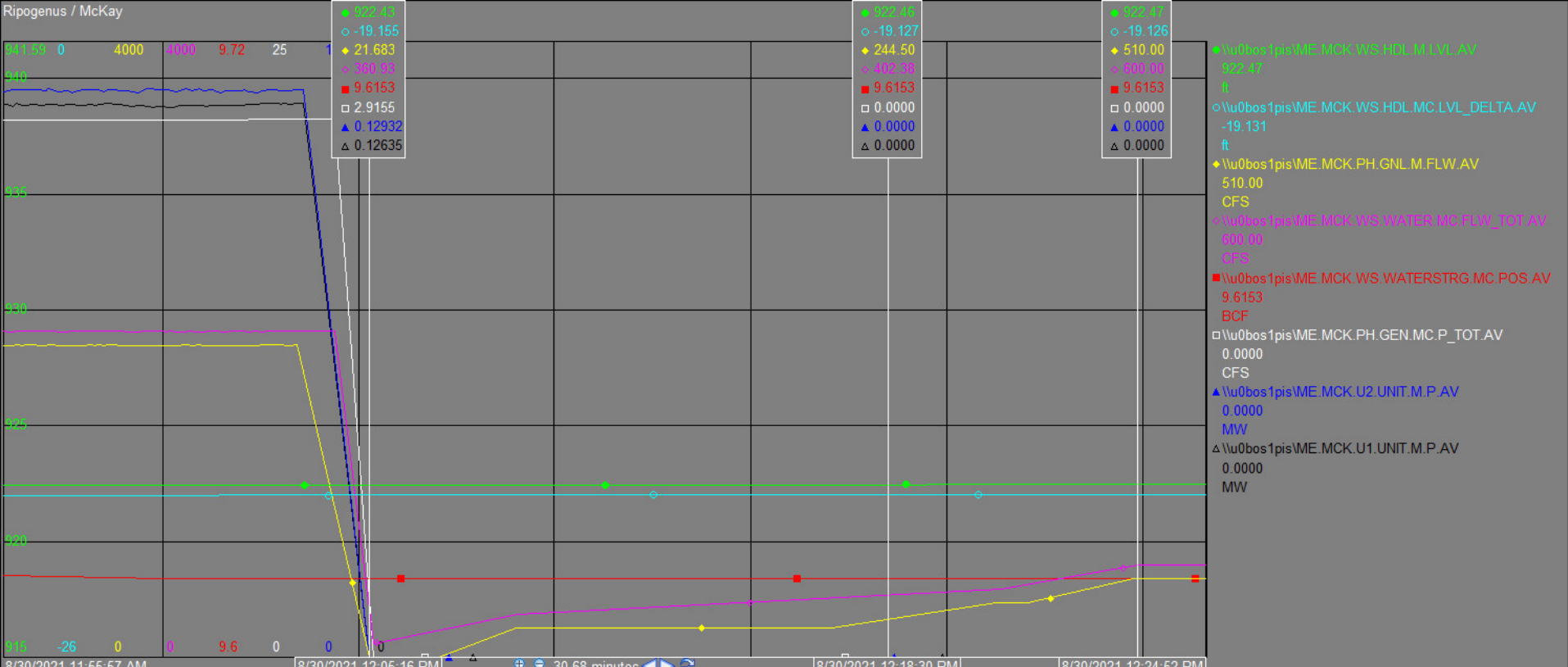
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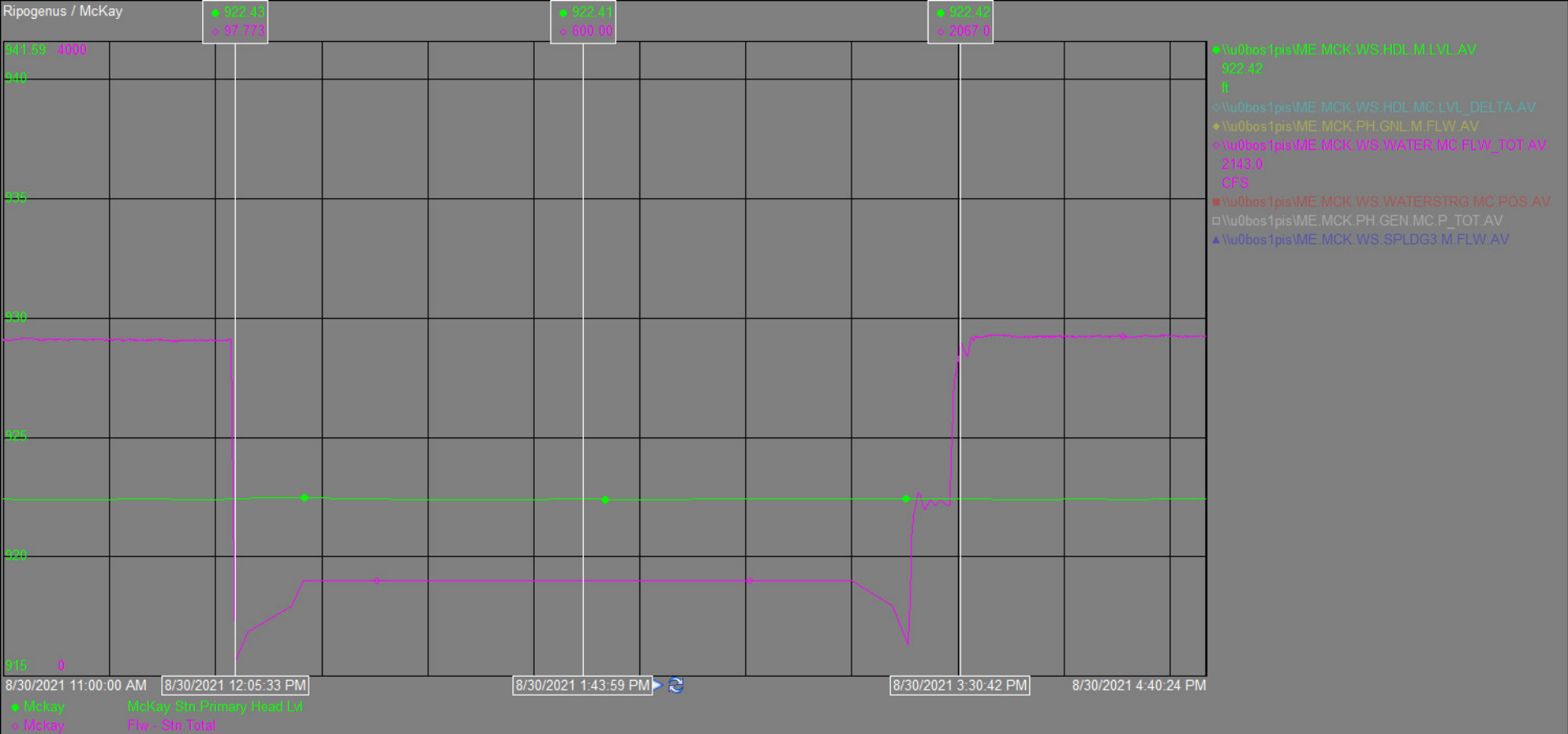


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8/30/2021 11:55:57 AM



- McKay Stn Primary Head Lvl
- McKay Stn Delta Head
- ◆ McKay Stn CFS Input
- ◇ McKay Flw - Stn Total
- McKay Current Storage
- McKay Plant Gross True Pwr
- ▲ McKay U2 kW Input
- △ McKay U1 kW Input



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**Subject:** Upper Penobscot system wide outage  
**Date:** Thursday, September 16, 2021 8:08:00 PM  
**Attachments:** [image001.gif](#)

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This morning at 07:31 hrs, all of Brookfield's hydro stations on the Upper Penobscot (McKay; North Twin; Millinocket; Dolby; East Millinocket; Medway; Weldon) tripped offline due to a Versant Power line disturbance. Brookfield crews have been busy all day getting the stations back online and restoring river flows as soon as practicable after making public safety checks downstream. These station trips caused disruptions in run-of-river flows at the Medway Project (FERC No. 2666) and at the Millinocket, Dolby, and East Millinocket Developments (Penobscot Mills Project, FERC No. 2458). The trip of the Millinocket Hydro Station also resulted in an estimated 15-minute deviation from that Development's 2,000 minimum flow requirement, while the trip of Weldon Station resulted in an approximate 42 minute deviation from the Mattaceunk Project's 1,674 cfs minimum flow condition. As of 13:50 hrs this afternoon, all of the stations are back online, and normal operations have resumed.

Article 403 of the Penobscot Mills license states in part that:

*"The licensee shall operate the Millinocket, Dolby, and East Millinocket developments in a run-of-river mode while providing an instantaneous minimum flow of 2,000 cubic feet per second (cfs) to the West Branch of the Penobscot River at Millinocket, for the protection of water quality and aquatic habitat in the Penobscot River. The licensee shall at all times act to minimize the fluctuation of the reservoir surface elevations by maintaining a discharge from each of these developments so that, at any point in time, flows, as measured immediately downstream from the tailraces of the developments, approximate the sum of the inflows to the project reservoir. Run-of-river operation or minimum flows may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee, the U.S. Fish and Wildlife Service, and the Maine DEP. If the run-of-river operation or minimum flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident."*

Article 402 of the Medway Project license (as amended on April 18, 2005) states:

*"The licensee shall operate the project in a run-of-river mode to protect aquatic life and water quality in the West Branch Penobscot River. The licensee shall at all times act to minimize reservoir surface elevation fluctuation by maintaining project discharge so that, at any point in time, flows immediately downstream from the project dam approximate flows into the project reservoir. The licensee shall maintain an impoundment surface elevation*

*within six inches of 260.3 feet above mean sea level (msl) except during emergency, maintenance, and high or low flow events beyond the licensee's control, following flashboard failures. Following flashboard failures, the licensee shall maintain the impoundment level within six inches of the spillway crest and shall replace the flashboards as soon as safely possible.*

*Run-of-river operations may also be modified for short periods upon mutual agreement between the licensee and the Maine Department of Environmental Protection (DEP). The licensee shall notify the Commission as soon as possible, but no later than 10 days after each incident resulting in a change in run-of-river conditions as specified above."*

Article 403 of the Mattaceunk Project license in part states:

*"In addition to implementing the impoundment level requirements of Maine Department of Environmental Protection's (Maine DEP) condition A (Appendix A) and minimum flow requirements of Maine DEP's condition B (Appendix A), the licensee must operate the Mattaceunk Project in a run-of-river mode with year round use of the 4-foot-high flashboards such that average daily outflow approximates average daily inflow."*

*"For unplanned deviations lasting 3 hours or less that do not result in visible environmental effects, the licensee must file an annual report, by March 1, describing each incident that occurred during the prior January 1 through December 31 time period."*

Condition B of the Maine DEP Water Quality Certification for the Mattaceunk Project states in part:

*"Except as temporarily modified by: 1) approved maintenance activities, 2) extreme hydrologic conditions 3) emergency electrical system conditions, or 4) agreement between the Applicant, the Department, and state and/or federal agencies as appropriate, a total minimum flow of 1,674 cfs or inflow, whichever is less, and a daily average minimum flow of 2,393 cfs from July 1 through September 30 or 2,000 cfs from October 1 through June 30, shall be released from the Project to protect downstream fish and aquatic resources, unless inflow is less than the stated daily average minimum flows, in which case outflow from the Project would equal the inflow to the Project."*

As indicated above, McKay Station (part of the Ripogenus Project) also tripped offline during this event; however, the 400 cfs emergency outage flow was restored to the river within 5 minutes via the station's minimum flow system, and then the normal 1,000 cfs minimum flow was restored by 09:58 hrs. Thus, the McKay Station trip is not reportable to FERC, since there was no excursion of the Project's hourly average minimum flow requirements.

GLHA is still investigating and collecting information on this event, which will be detailed in a report to FERC within 10 days. I will copy you on this report, but in the meantime please let me know if you have any comments or questions.

**Kevin Bernier**  
Senior Compliance Specialist

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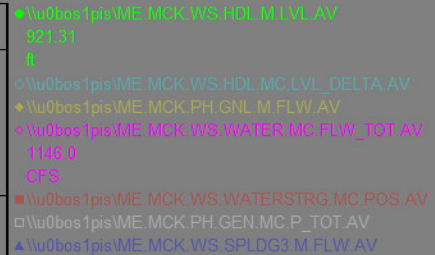
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McKay Stn. Primary Head Lvl