April 9, 2025

Debbie-Anne Reese
Secretary
ATTN: OEP/DHAC
Federal Energy Regulatory Commission
888 First Street N.E.
Washington, DC 20426

Via FERC E-Filing

Re: Project No. 3777-017, Rollinsford Hydroelectric Project
Articles 401(b) and 401(e) Requirements to File Reports and Schedules, Flow and Impoundment Management Report and Reporting of Unplanned Deviations.

Dear Secretary Reese:

The Town of Rollinsford, New Hampshire (the Licensee) owns the Rollinsford Hydroelectric Project (Project), Federal Energy Regulatory Commission (FERC or Commission) Project No. 3777. Green Mountain Power Corporation (GMP) operates the Project under agreement with the Licensee. On June 16, 2022, the Commission issued a new license for the Project.

The Licensee hereby encloses for filing its 2024 annual Flow and Impoundment Management Report (Report). The FERC License and Condition E-11c of the New Hampshire Department of Environmental Services (NHDES) Water Quality Certification (WQC) requires the Licensee to develop the report to demonstrate compliance with the operational requirements outlined in the FERC License. This report also summarizes any unplanned deviations lasting 3 hours or less that did not result in environment effects, which are required to be reported under Article 401(e) of the FERC license.

As required by Article 401, the Licensee consulted with NHDES, the U.S. Fish and Wildlife Service, New Hampshire Fish and Game Department, Maine Department of Environmental Protection, Maine Department of Marine Resources, Maine Department of Inland Fisheries and Wildlife, and National Marine Fisheries Service on the report's development. The consultation record is summarized in Appendix C of the report.

Please contact me at (802) 655-8753, via email at John.Tedesco@greenmountainpower.com, or at the address below, if you have any questions or concerns related to this matter.

Sincerely,

John Tedesco

John Tedesco
Generation Project Coordinator
Green Mountain Power Corporation
163 Acorn Lane
Colchester, VT 05446

ROLLINSFORD HYDROELECTRIC PROJECT
FERC Project No. 3777

LICENSE ARTICLES 401(B) AND 401 (E)
FLOW AND IMPOUNDMENT MANAGEMENT ANNUAL REPORT



Submitted by:

Green Mountain Power Corporation

on Behalf of the Town of Rollinsford, NH

GREEN MOUNTAIN POWER
Generating Possibilities Together

Prepared by:

GOMEZ AND SULLIVAN ENGINEERS

April 2025

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LIST OF ACRONYMS AND ABBREVIATIONS

AIR	Additional Information Request
cfs	cubic feet per second
FERC or Commission	Federal Energy Regulatory Commission
GMP	Green Mountain Power Corporation
KW	Kilowatt
Licensee	Town of Rollinsford, NH
MDEP	Maine Department of Environmental Protection
MDMR	Maine Department of Marine Resources
MDIFW	Maine Department of Inland Fish and Wildlife
ME	Maine
mi^2 or sq. mi.	square mile(s)
MW	Megawatt
NGVD 1929	National Geodetic Vertical Datum of 1929
NH	New Hampshire
NHDES	New Hampshire Department of Environmental Services
NHFGD	New Hampshire Fish and Game Department
NMFS	National Marine Fisheries Service
OCMP	Operations Compliance Monitoring Plan
Project	Rollinsford Hydroelectric Project (FERC No. 3777)
RM	river mile
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WQC	Water Quality Certification

1. INTRODUCTION

The Town of Rollinsford (the Licensee) owns the Rollinsford Hydroelectric Project (Project), which is operated and managed by Green Mountain Power Corporation (GMP), under a lease agreement with the Licensee. The Project is located on the Salmon Falls River, which also serves as the border between Maine (ME) and New Hampshire (NH). The Project is situated in both the Town of Rollinsford, Strafford County, NH and the Town of South Berwick, York County, ME.

A new Federal Energy Regulatory Commission (FERC or Commission) license for the Project was issued on June 16, 2022. The new license has an expiration date of June 1, 2062. As part of the FERC licensing process for the Project, on June 10, 2021, the Licensee was issued a Water Quality Certification (WQC) from the New Hampshire Department of Environmental Services (NHDES). In addition, the Maine Department of Environmental Protection (MDEP) issued a WQC for the Project on June 11, 2021. The conditions within each WQC were incorporated into the FERC License.

In accordance with Article 401 of the FERC license, the Licensee filed an Operation Compliance Monitoring Plan (OCMP) with FERC on November 21, 2022, which was developed in consultation with NHDES, the New Hampshire Fish and Game Department (NHFGD), the United States Fish and Wildlife Services (USFWS), MDEP, the Maine Department of Marine Resources (MDMR) and the Maine Department of Inland Fisheries and Wildlife (MDIFW).

On November 28, 2022, FERC issued an Additional Information Request (AIR) related to the OCMP. A revised OCMP addressing the AIR was filed with FERC on January 27, 2023, and FERC subsequently approved the OCMP on February 9, 2023.

The FERC License and Condition E-11c of the NHDES WQC requires the Licensee to develop this annual report that demonstrates compliance with the operational requirements outlined in the FERC License. Where deviations occurred, the annual report indicates when the deviation occurred, the duration of the deviation and a description of corrective actions taken to prevent the deviation from reoccurring. This annual report also summarizes unplanned deviations lasting 3 hours or less that do not result in environment effects, which are required to be reported under Article 401(e) of the FERC license.

This annual report covers the period January 1 to December 31, 2024.

2. PROJECT DESCRIPTION

2.1. Project Facilities

The Project consists a 317-foot-long, 19-foot-high concrete-masonry dam that consists of the following sections: (1) a 12-foot-long east abutment; (2) a 247-foot-long spillway with 15-inch-high flashboards and a crest elevation of 71.25 feet National Geodetic Vertical Datum of 1929 (NGVD 1929) at the top of the flashboards; (3) a 22-foot-long west abutment; and (4) a 36-foot-long concrete headgate structure with five 5.5-foot-wide, 5.5-foot-high vertical lift gates.

The Project impoundment has a surface area of approximately 84 acres at an elevation of 71.25 feet NGVD 1929. From the impoundment, water flows through the headgates to an intake headworks structure that includes: (1) an approximately 82-foot-long, 52-foot-wide bay; (2) an 8-foot-wide skimmer gate; (3) a 4-foot-wide sluice gate that is inoperable; and (4) a 21.5-foot-long spillway section with a crest elevation of 73.0 feet NGVD 1929.

From the intake headworks structure, water flows through a 22.8-foot-wide, 17.6-foot-high inclined trashrack with 2.5-inch clear bar spacing into a 600-foot-long penstock. The penstock conveys water to a 30-foot-long, 40-foot-wide concrete forebay that provides water to two 0.750-MW vertical Francis turbine-generator units located in a 38-foot-long, 60-foot-wide concrete and brick masonry powerhouse. Water is discharged from the turbines through draft tubes to a 38-foot-long tailrace, where it returns to the Salmon Falls River. The Project bypasses approximately 680 feet of the Salmon Falls River (bypass reach).

2.2. Typical Operations

The Project is operated in automatic mode as a run-of-river facility with no storage or flood control capacity. A pond level sensor is installed near the intake, just upstream of the vertical lift gates on river right (looking downstream) to monitor and maintain the Project impoundment at the flashboard crest elevation of 71.25 feet, NGVD 1929, and to regulate the turbine operation. The pond level control typically maintains this level within +/- 0.01 ft during Project generation. The set points for starting and stopping turbines are 71.45 feet, NGVD 1929 and 71.15 feet, NGVD 1929, respectively.

The hydraulic operating range for each turbine-generator unit is from a minimum flow of 80 cfs to maximum flow of 228 cfs. Combined the Project turbine-generator units can operate between a minimum flow of 80 cfs to maximum flow of 456 cfs. When inflow is insufficient to operate the turbine-generator units (less than 115 cfs [80 cfs minimum turbine capacity plus 35 cfs minimum bypass flow), the Project is shut down and the Licensee maintains run of river operations and bypass flow requirements by allowing all flows to pass over the dam. The Project is required to maintain a continuous minimum bypass flow of 35 cfs or inflow, whichever is less.

3. IMPOUNDMENT WATER LEVELS AND BYPASS MINIMUM FLOWS

3.1. Summary of 2024 Impoundment Water Levels

The Project's impoundment elevation was in compliance with the requirements of the OCMP[1] throughout the reporting period. Also, impoundment elevations were subject to naturally occurring fluctuations caused during high flow periods when inflow was greater than the Project's maximum hydraulic capacity (i.e., 456 cfs), and when the Project's turbines were off-line, particularly during low flow periods.

The Project experienced flashboard failure on May 1, 2023, due to extremely high flows, and the flashboards remained down into 2024. An outage at Unit 2 along with high flows, prevented the impoundment from being drawdown to facilitate flashboard repair until August 1, 2024. During the period when flashboards were down, impoundment water levels were maintained at or above the permanent spillway crest elevation of 70.0 feet, NGVD 1929.

Figures 3.1-1 through 3.1-12 in Appendix A show monthly plots of impoundment elevation (ft), turbine generation (kW), bypass flow (cfs), and prorated hourly flow (cfs) at the Milton 3-Ponds gage maintained by NHDES, located upstream of the Project on the Salmon Falls River[2].

3.2. Summary of 2024 Bypass Minimum Flows

The bypass flow was provided via a notch in the flashboard crest and supplemented with flows from the skimmer gate, when necessary. Figures 3.1-1 through 3.1-12 in Appendix A also show monthly plots of bypass flow at the Project.

3.3. Scheduled Maintenance

There were no scheduled maintenance activities in 2024 that required a drawdown of the impoundment, or an interruption in run-of-river operations or minimum bypass flows. Flashboards were repaired on August 1, 2024; however, streamflow during that period was extremely low (~25 cfs) and the impoundment level was near the spillway crest due to these low flows. Therefore, no drawdown of the impoundment was required to complete the flashboard maintenance.

After the flashboard repair was completed, inflow was below 35 cfs, the January 27, 2023, OCMP required that the Licensee provide the minimum flow to the bypass reach (35 cfs or inflow, whichever is less) as a priority to storing water to refill the impoundment. This requirement was initially followed; however, a significant rainfall event occurred on August 3, 2024, when approximately 2.8 inches of rainfall fell on the watershed. This resulted in the impoundment completely refilling to the flashboard crest on August 3, 2024. During this entire period, the Project turbines did not operate.

3.4. Deviations

Per Articles 401(c) and (d) in 2024 there were no planned deviations or unplanned deviations lasting more than 3 hours or resulting in environmental effects. In addition, per Article 401(e), in 2024 there were no unplanned deviations that lasted 3 hours or less that did not result in environmental effects.

[1] Per the January 27, 2023, OCMP, a deviation is considered to occur if the impoundment elevation drops more than 0.25 feet below the normal water surface elevation of 71.25 feet NGVD 1929, when the flashboards are in place.
[2] Hourly flow data from the Salmon Falls gage at Milton 3-Ponds was prorated by the ratio of drainage areas (232 mi^2/108 mi^2) between the Project site and the streamflow gage, respectively, to estimate total inflow to the Project.

4. AGENCY CONSULTATION

On March 6, 2025, the Licensee distributed a draft of this report to NHDES, NHFGD, USFWS, MDEP, MDMR, and MDIFW for review and comment. A record of consultation is provided in Appendix C.

APPENDIX A: 2024 MONTHLY FLOW AND IMPOUNDMENT LEVEL PLOTS

Figure 3.1-1: Rollinsford Project Operations – January 2024

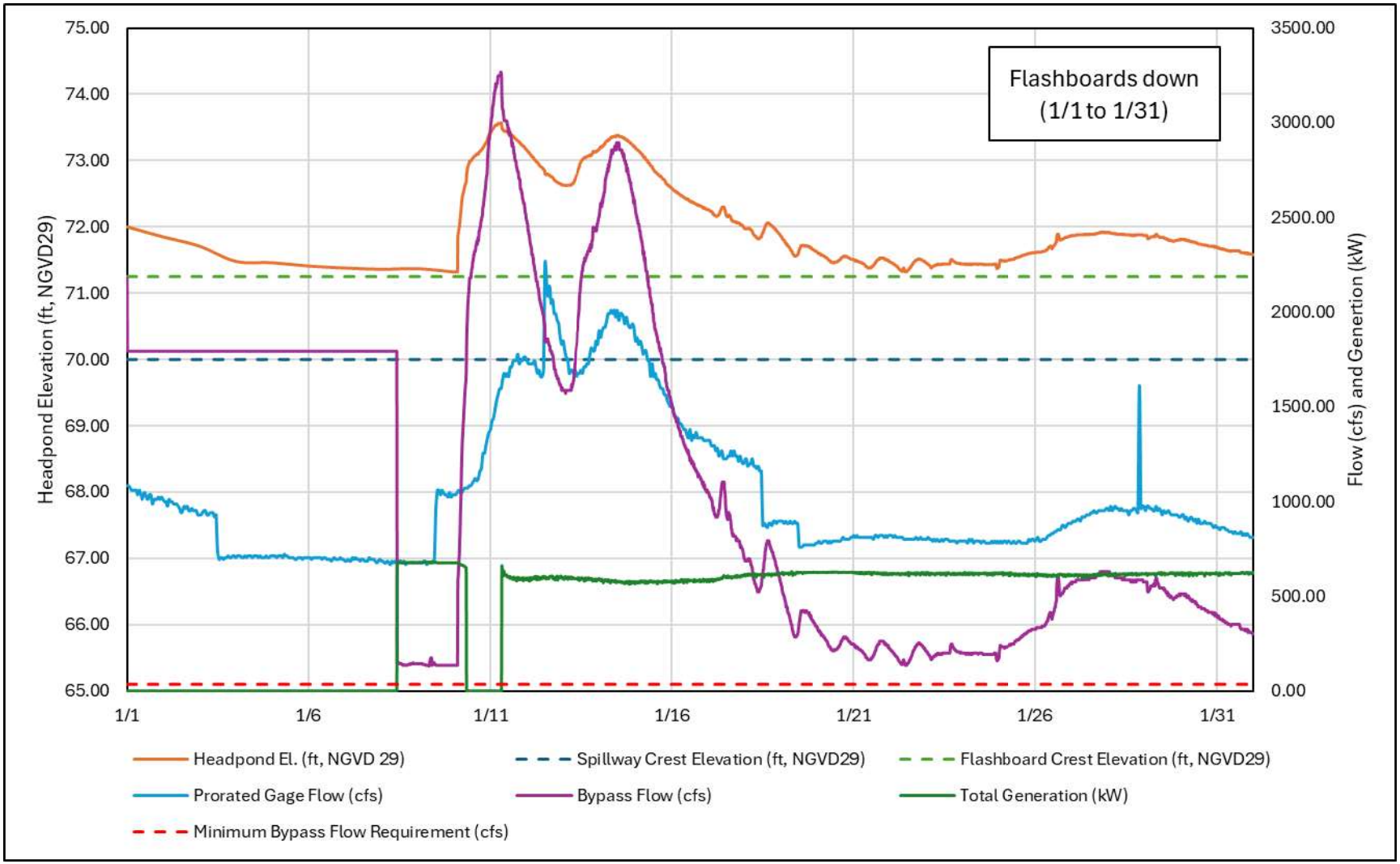


Figure 3.1-2: Rollinsford Project Operations – February 2024

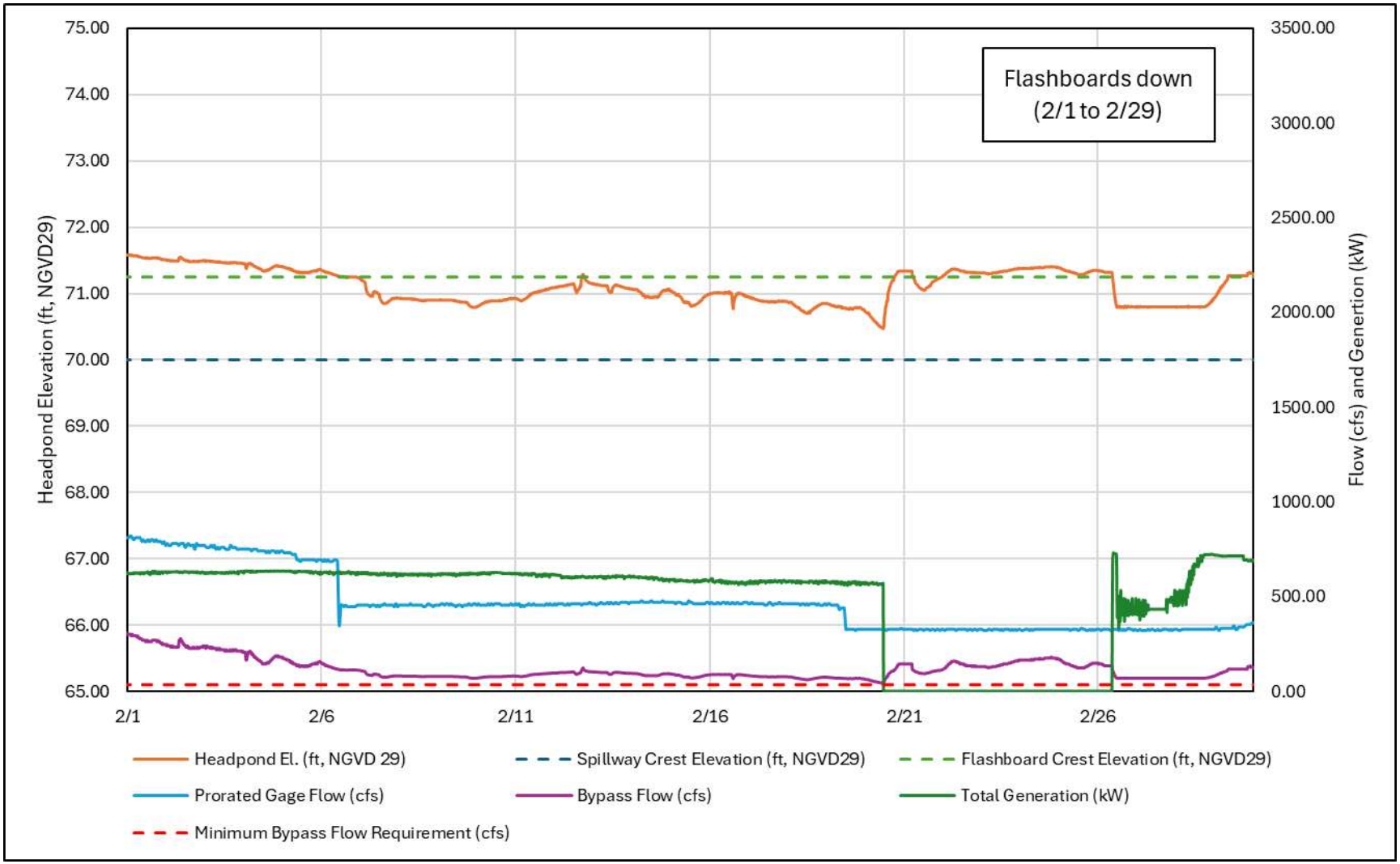


Figure 3.1-3: Rollinsford Project Operations – March 2024

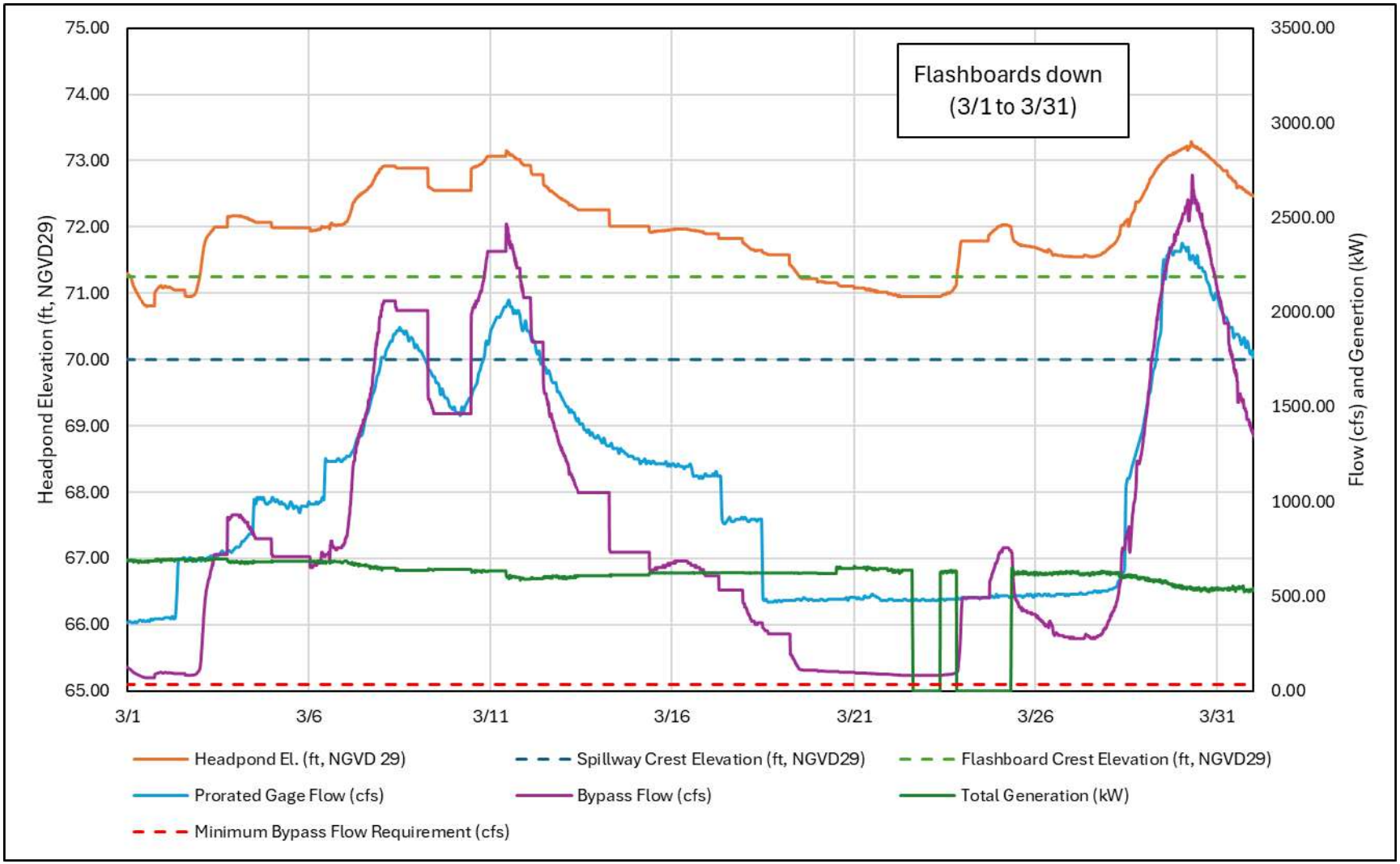


Figure 3.1-4: Rollinsford Project Operations – April 2024

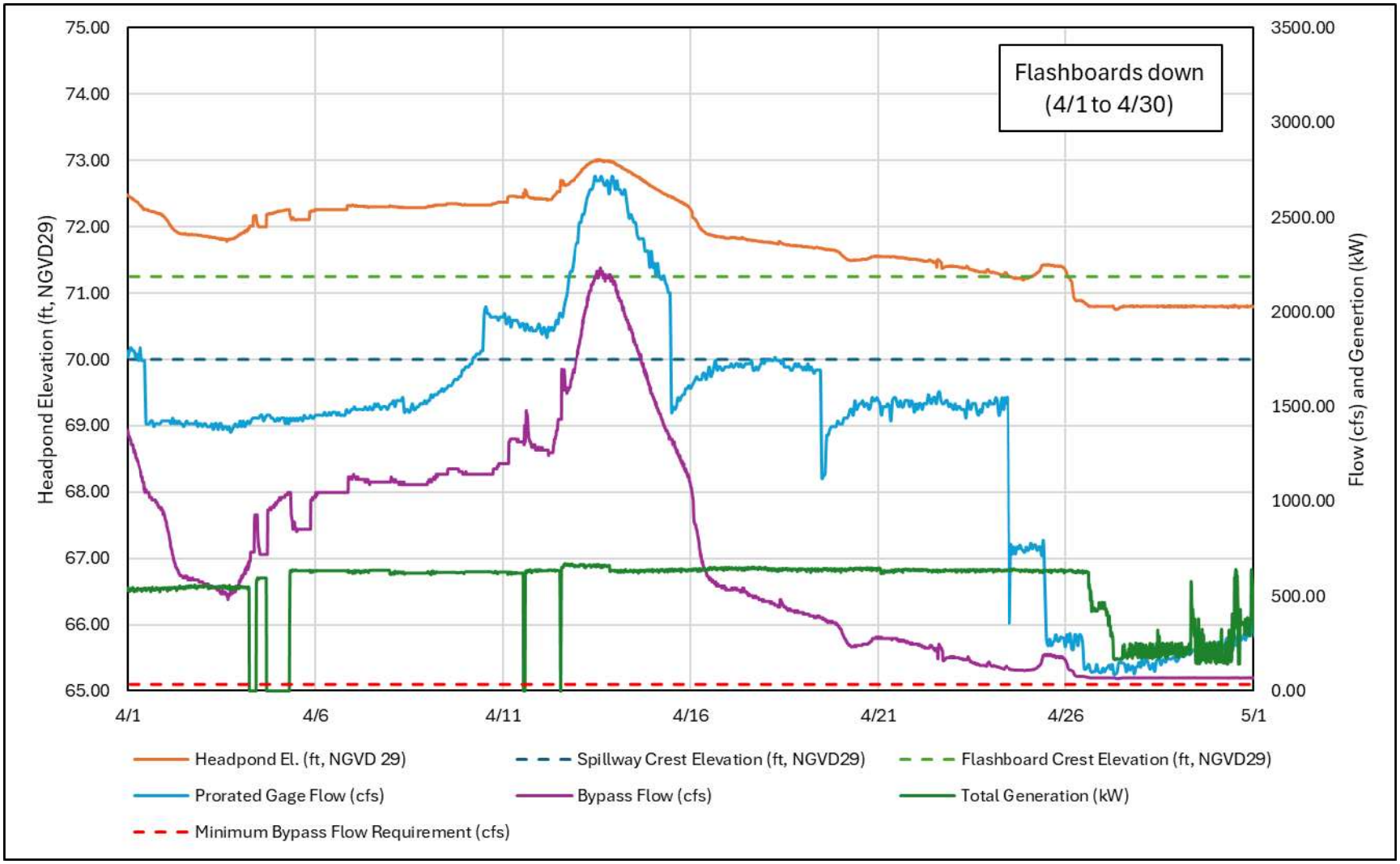


Figure 3.1-5: Rollinsford Project Operations – May 2024

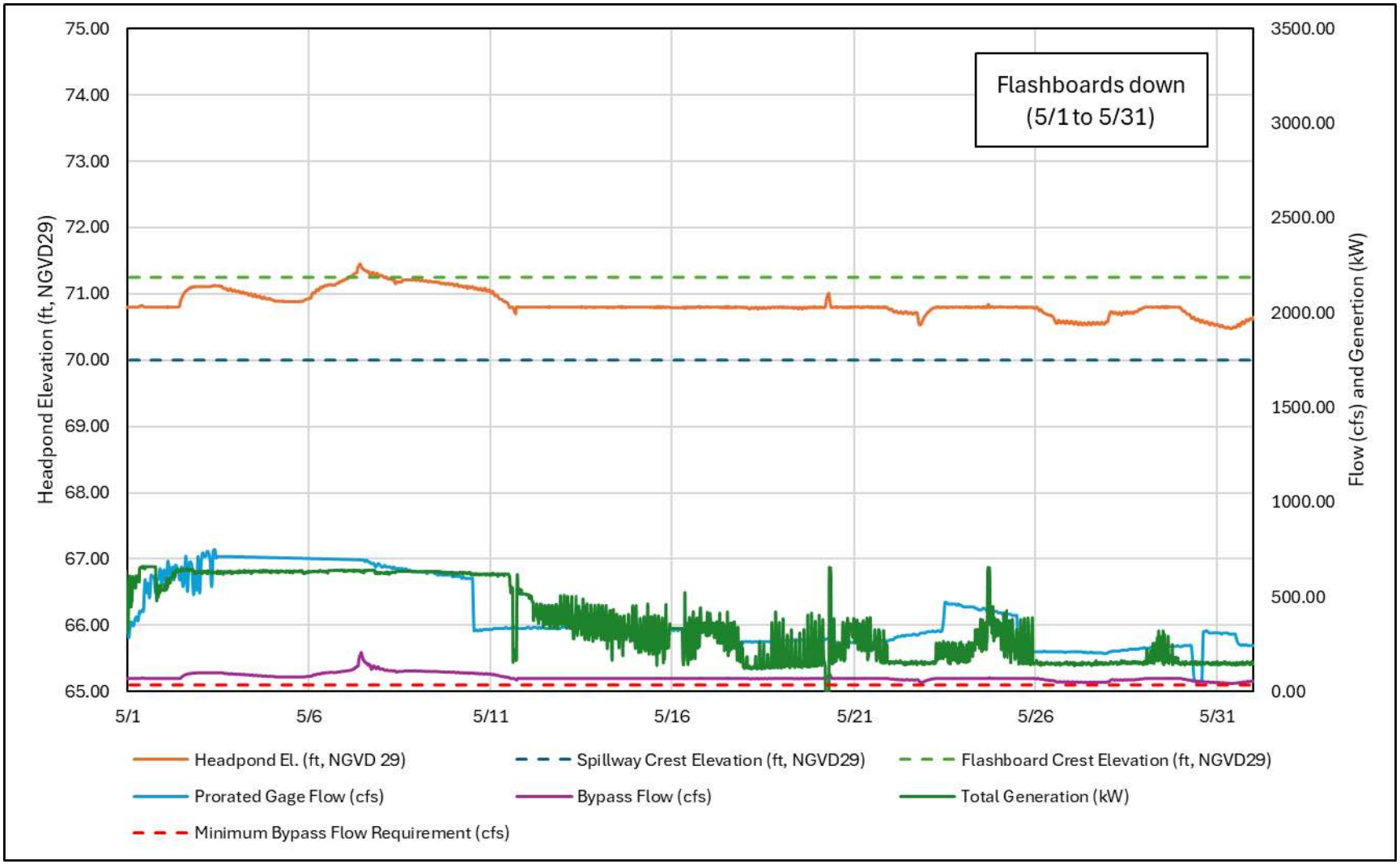


Figure 3.1-6: Rollinsford Project Operations – June 2024

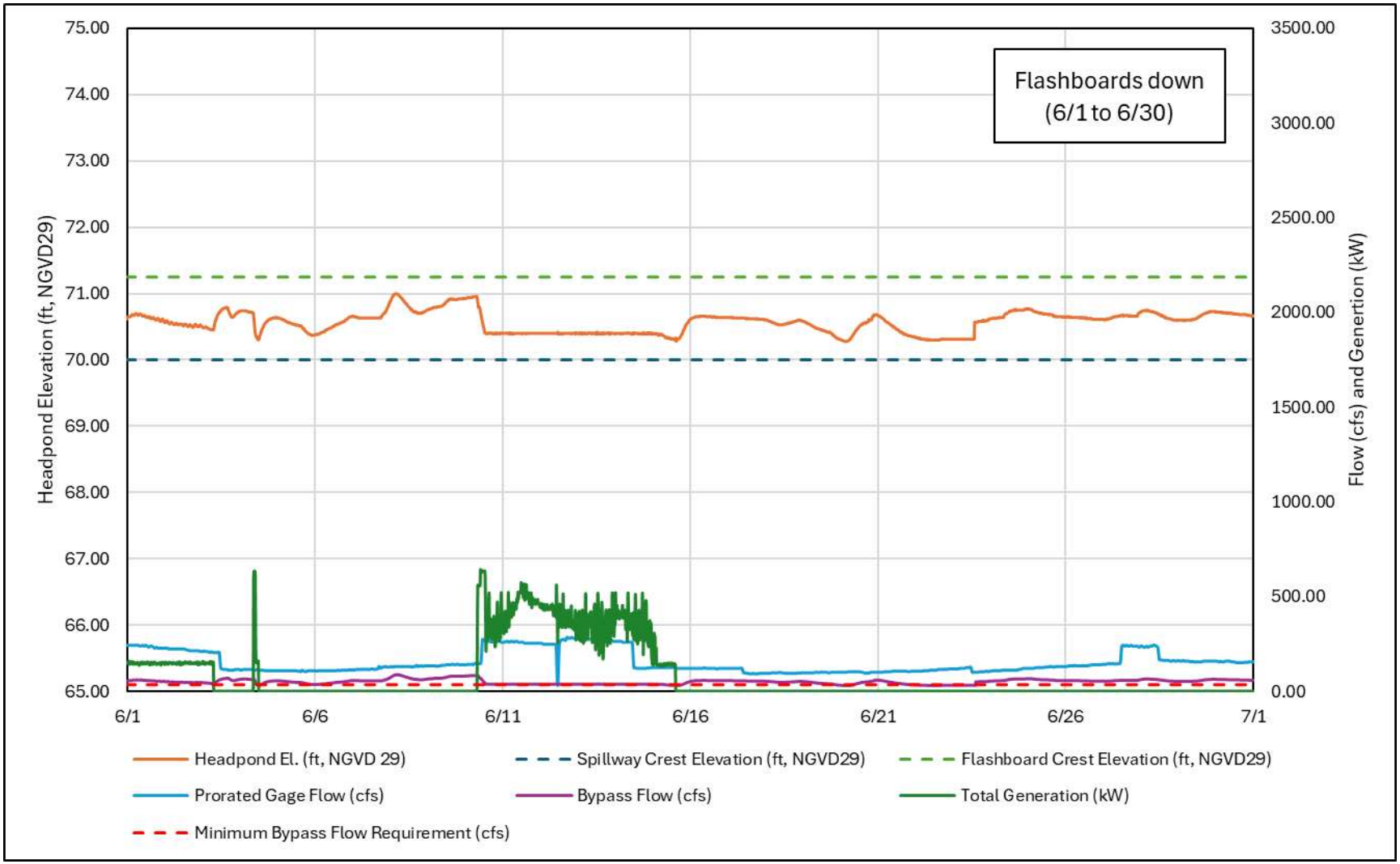


Figure 3.1-7: Rollinsford Project Operations – July 2024

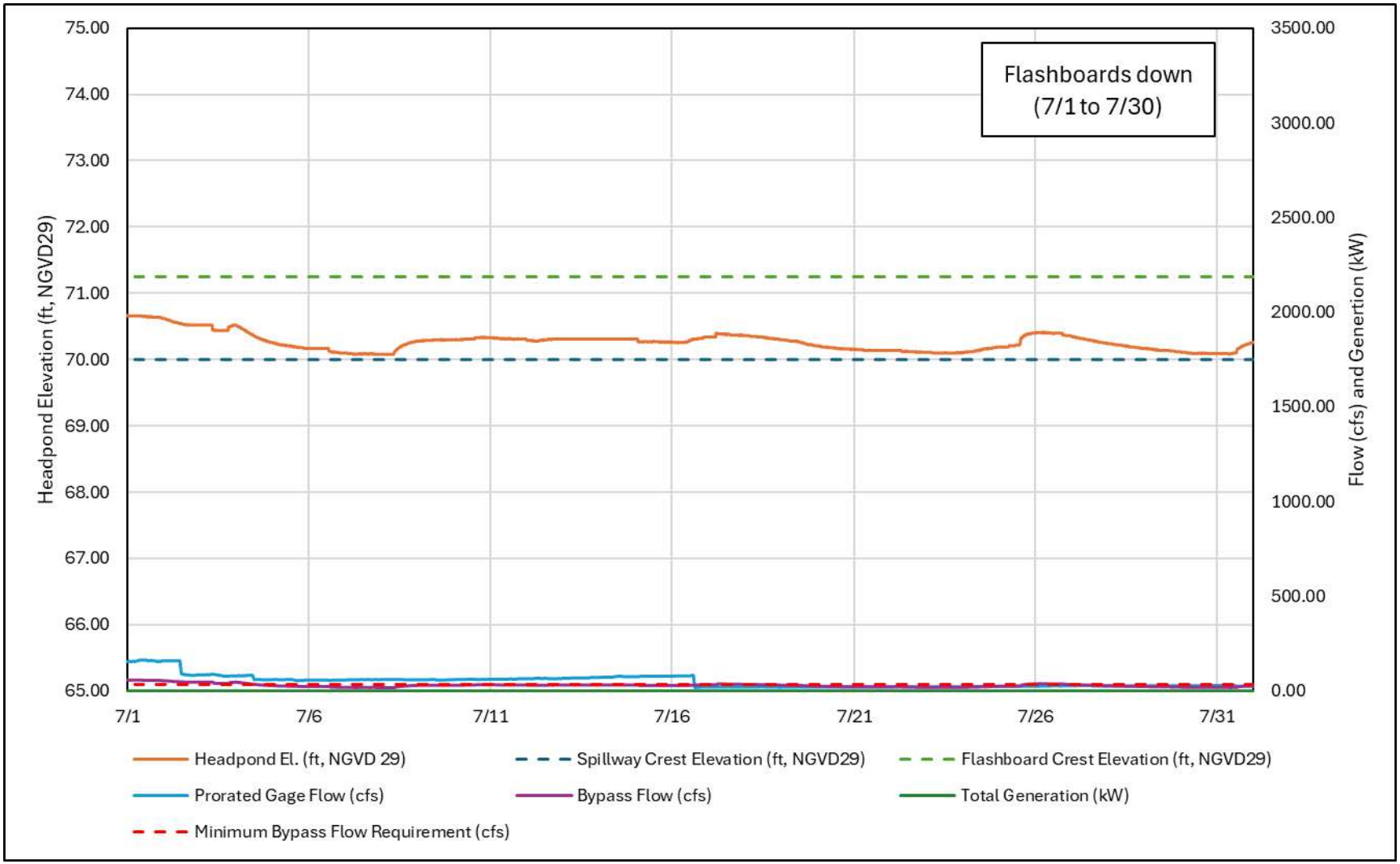


Figure 3.1-8: Rollinsford Project Operations – August 2024

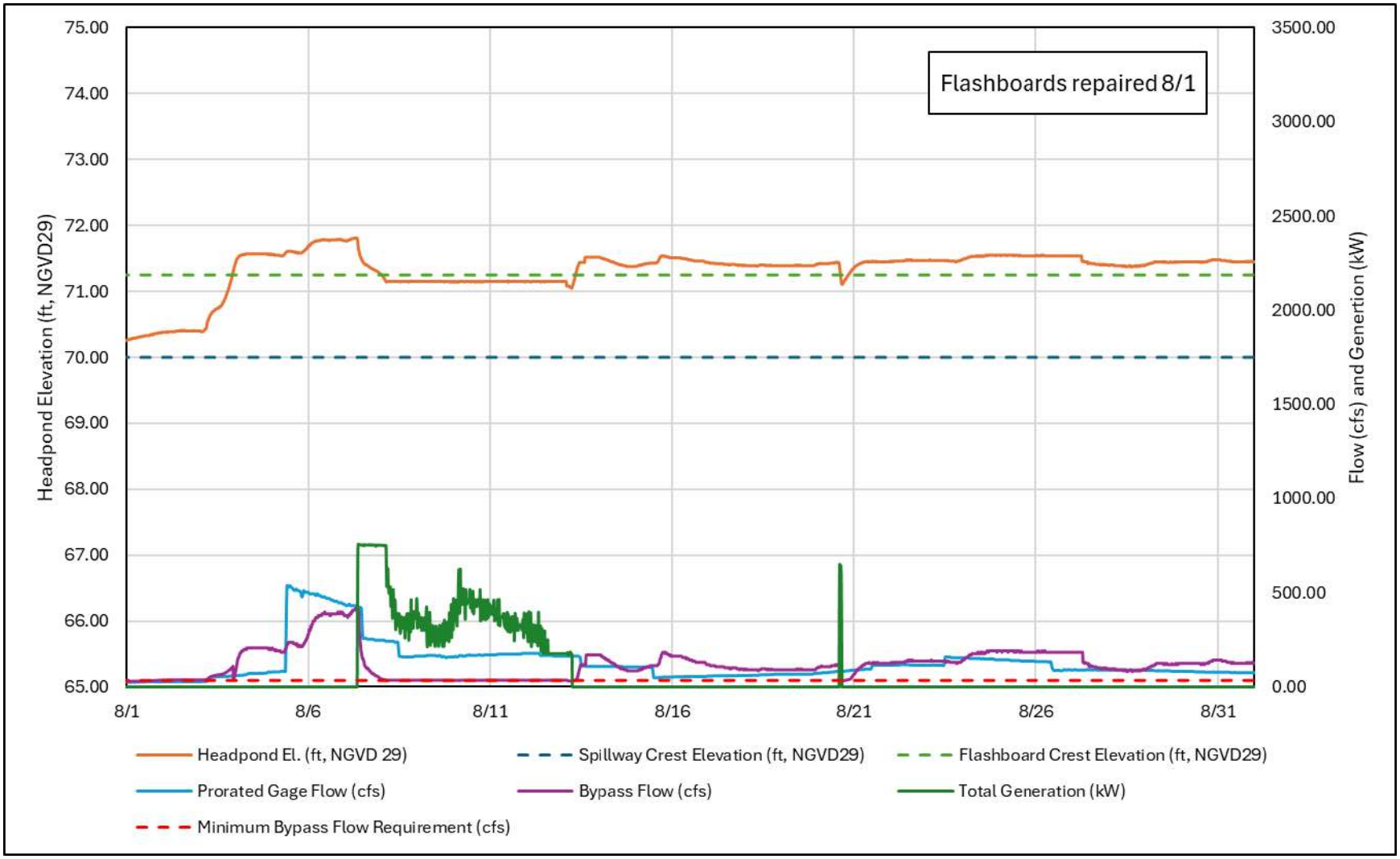


Figure 3.1-9: Rollinsford Project Operations – September 2024

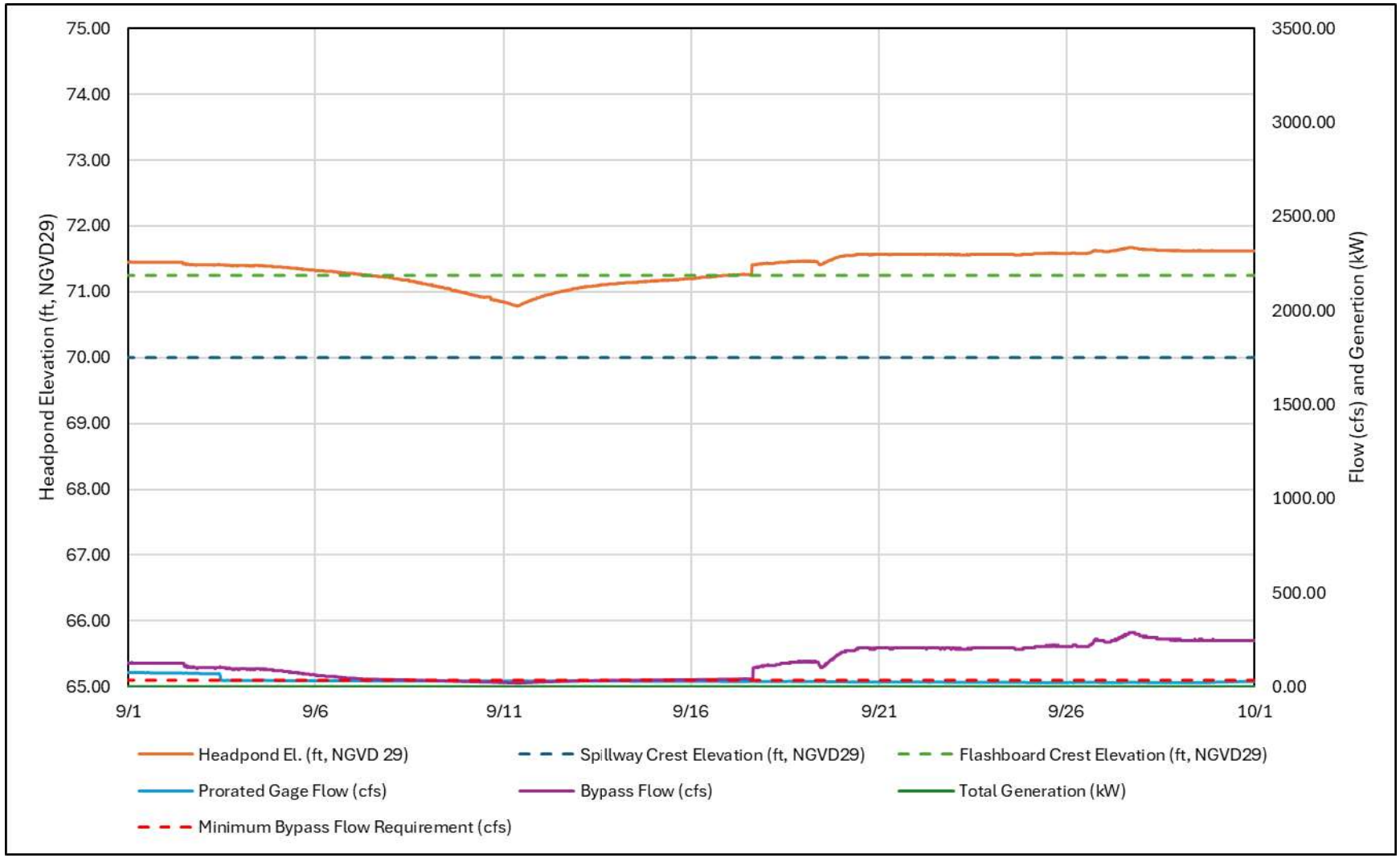


Figure 3.1-10: Rollinsford Project Operations – October 2024

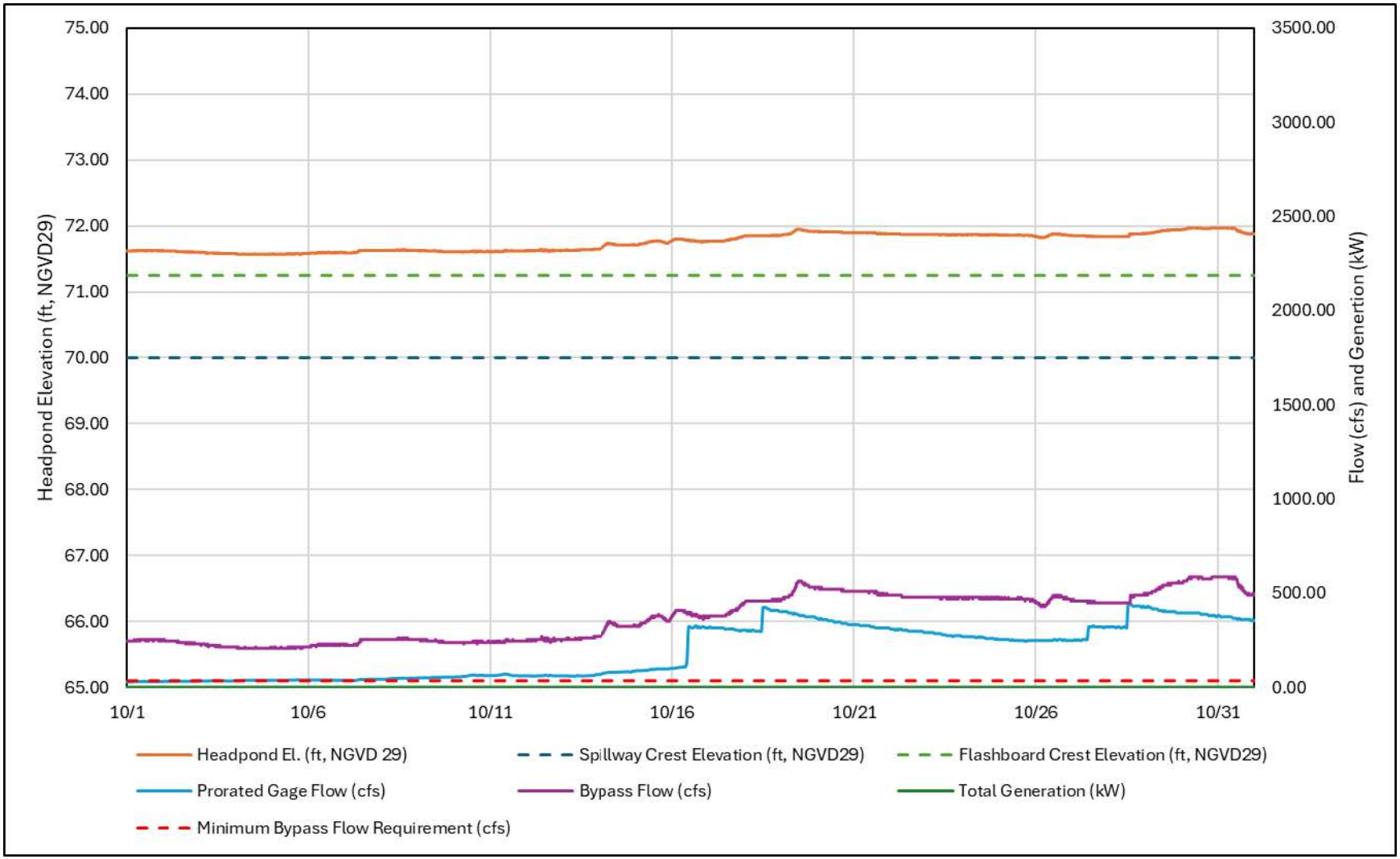


Figure 3.1-11: Rollinsford Project Operations – November 2024

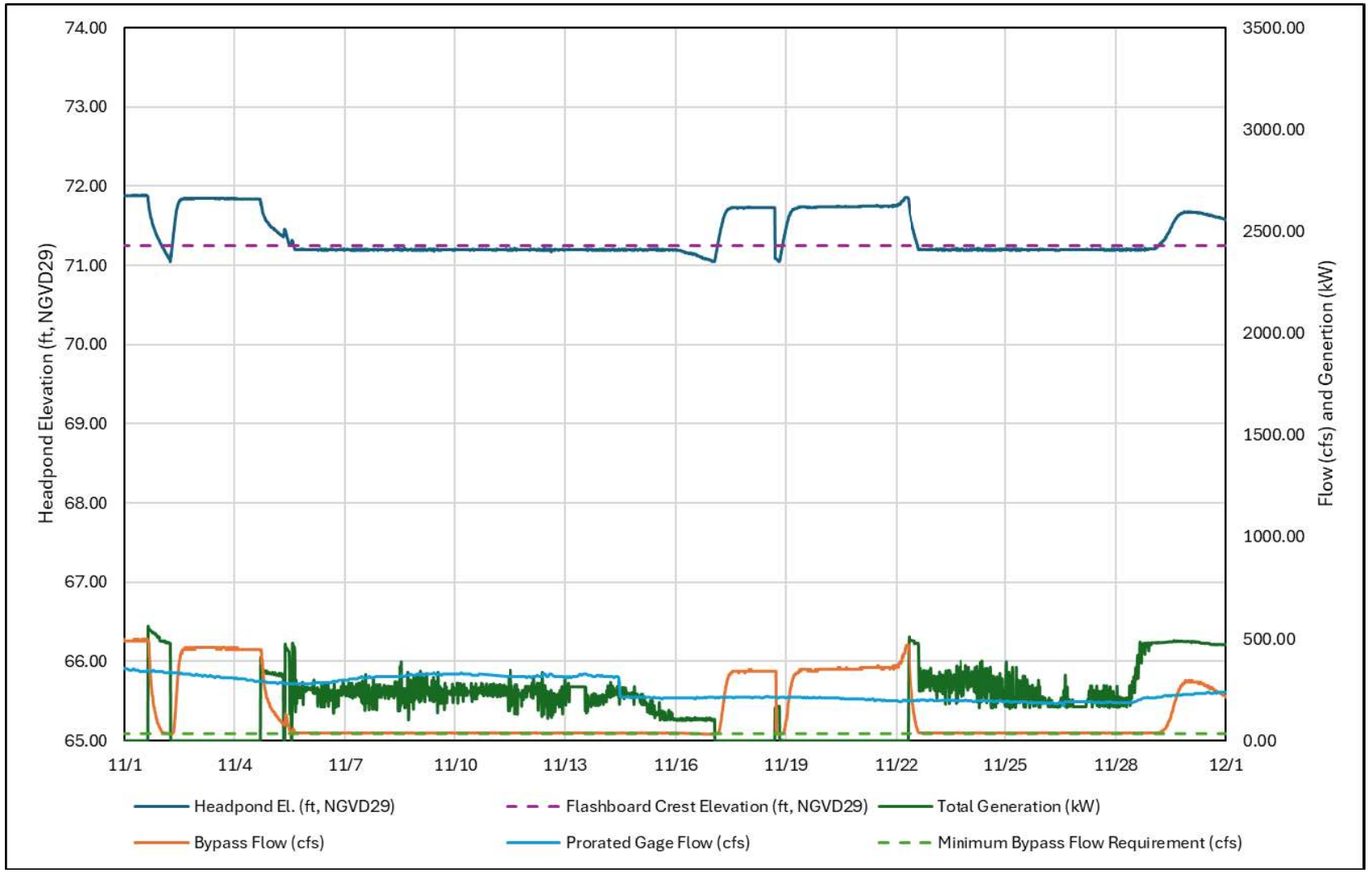


Figure 3.1-12: Rollinsford Project Operations – December 2024

