
**Bear River Hydroelectric Project
Federal Energy Regulatory Commission
Project No. 20**

**Oneida Development
Water Year 2017 Operations Report**



Submitted to:

Idaho Department of Environmental Quality

Prepared by:



November 21, 2017

1.0 INTRODUCTION

This report fulfills the requirements of paragraph 4 of the 401 Water Quality Certification dated 23 June 2003 and Appendix A of the FERC license for FERC Project No. 20 issued 22 December 2003. The precise requirements are:

“At the November meeting of the Bear River Commission, PacifiCorp shall provide IDEQ a report for the preceding water year that describes PacifiCorp’s operation of the Oneida Project. The report shall set forth a record showing the times during the preceding water year when PacifiCorp released water for power production, flood control, irrigation delivery, facility maintenance or for other reasons. The annual report shall be delivered to IDEQ each year during the term of the New License.”

In addition, this report summarizes down-ramp rates and the Article 420 summer goal flow compliance.

2.0 RESERVOIR INFLOW, RELEASES AND ELEVATION

Reservoir releases were made to pass inflow for power generation and for downstream irrigation demand (Figure 1). Note that Figure 1 shows power releases only and excludes flow through the spillgates, but Figures 3 and 4 represent all flow changes. See Figure 2 for changes in reservoir storage. Fluctuations in reservoir elevation are highlighted and explained on Figure 2.

Figure 1 also shows the goal flow between Memorial Day and Labor Day. Article 420 – Oneida Recreation Goal Flow, release flows greater than 900 cfs below the powerhouse, if available, between Memorial Day and Labor Day.

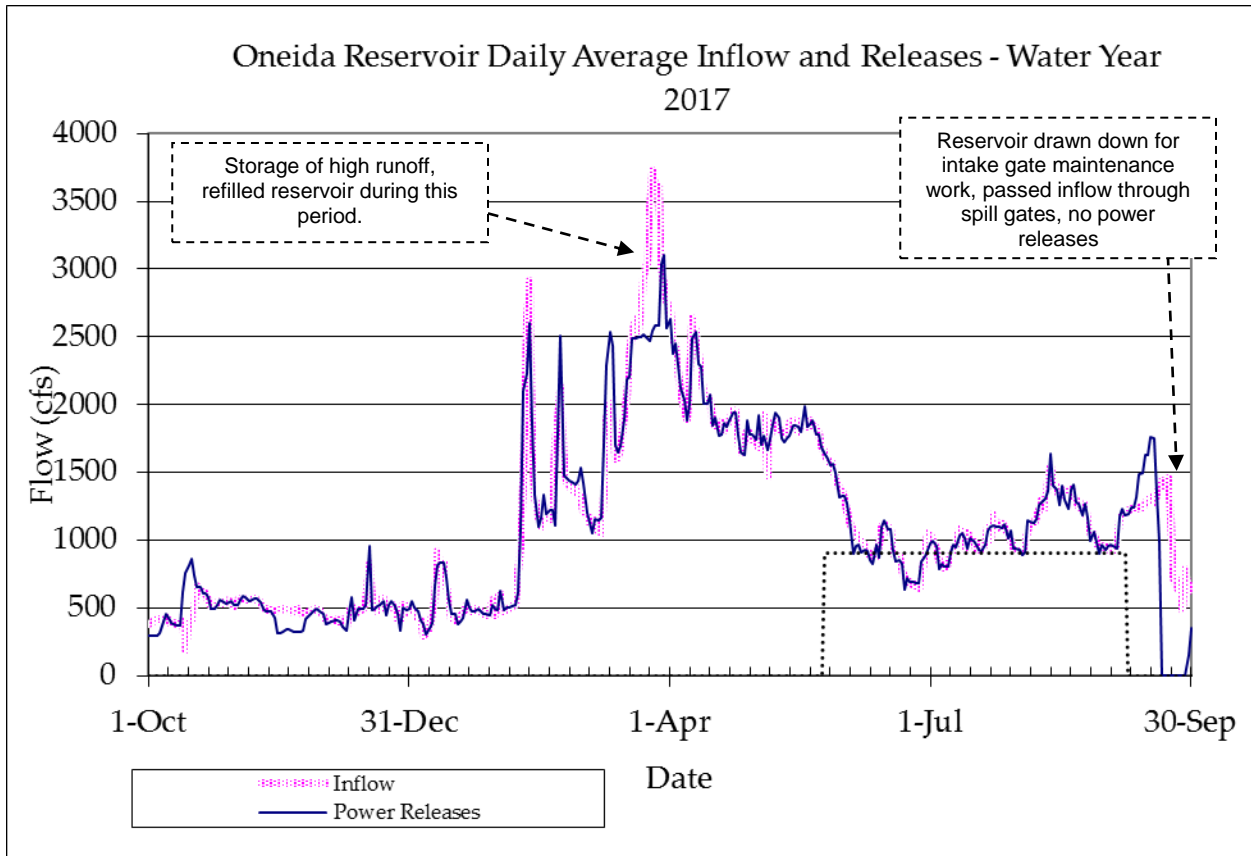


Figure 1. Daily average reservoir inflow, power releases and goal flow for the Memorial Day to Labor Day period. Flows are in cubic feet per second (CFS). The power release flows shown *exclude* spill gate releases.

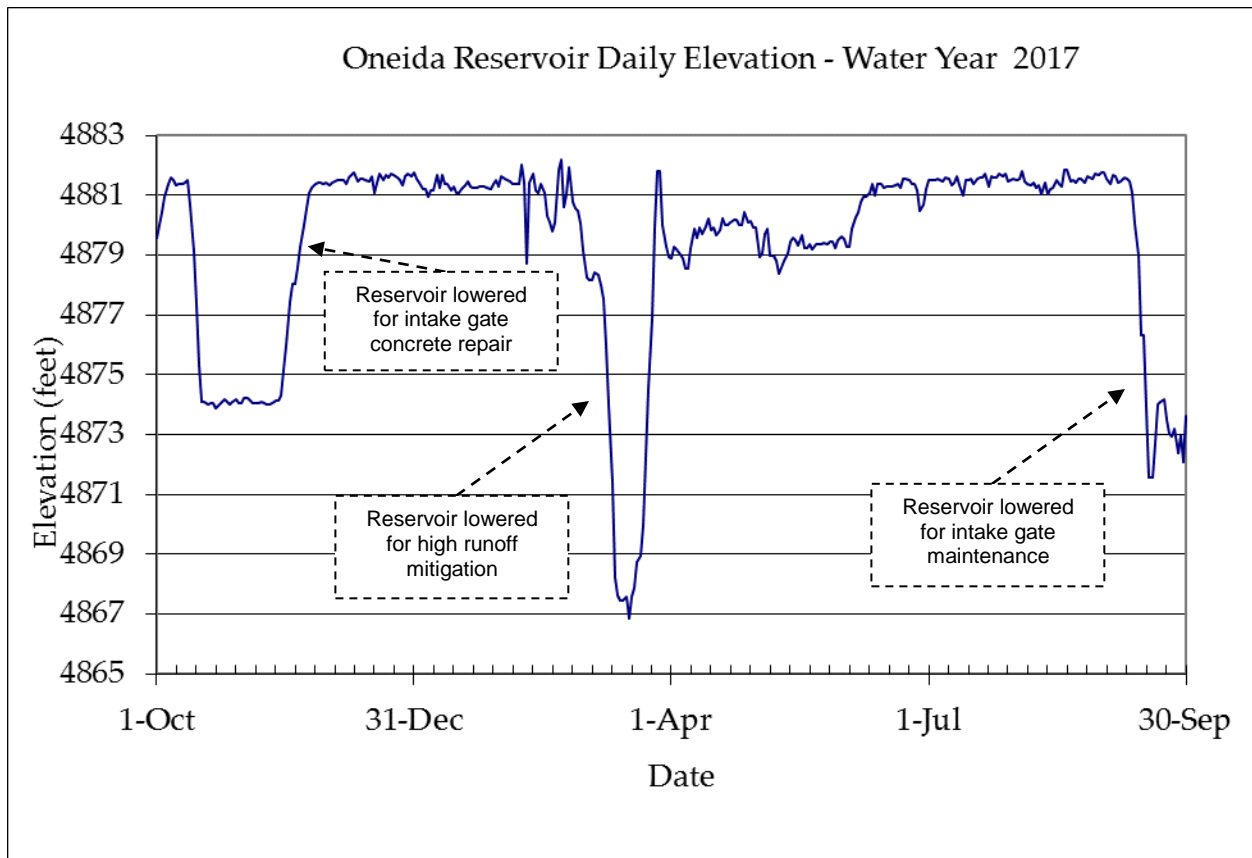


Figure 2. Oneida Reservoir elevations.

3.0 DAILY FLUCTUATIONS

Daily fluctuations are summarized in this report by the plots and tables of statistics of daily stage values that are recorded every 15-minutes. The statistics presented are average, maximum and minimum. This is a concise way of demonstrating the daily fluctuations. Figures 3 and 4 depict the average stage by day as a black square with a line spanning the range between the minimum and maximum stage.

Note that during maintenance and repair events, the higher water level fluctuations are a result of establishing the new flow from a different unit or from the spill gates *before* the existing unit is reduced to avoid the possibility of minimum flow reportable events. As indicated by the daily average relative to the daily maximum, the excess water is only released for a short time.

In the 1980s, the Oneida Project was used for electrical grid stabilization and as a result, frequent and large flow fluctuations on the order of minutes were common downstream. Current operations do not produce this type of downstream flow fluctuation as shown by Figures 3 and 4. The purpose of daily reservoir releases is noted in Appendix A along with the maximum daily ramp rate.

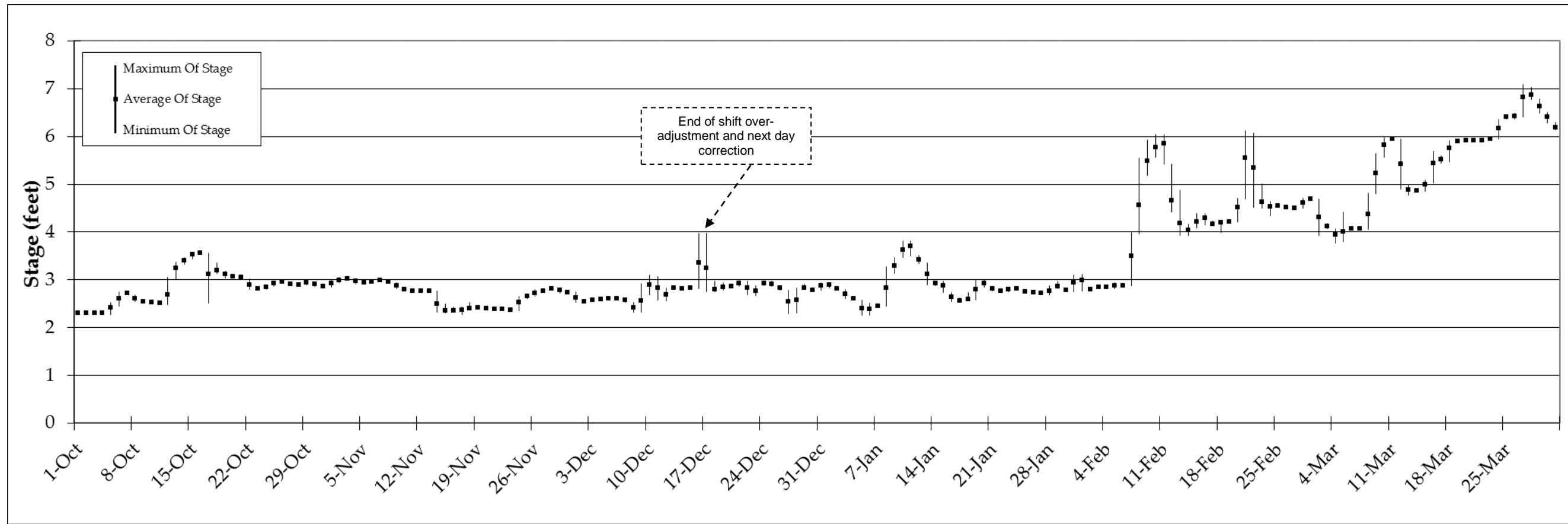


Figure 3. October 2016 through March 2017 daily average, maximum and minimum stage below Oneida. Precise values for each day and explanations are provided in Appendix A. Corresponding flows are shown in Figure 1.

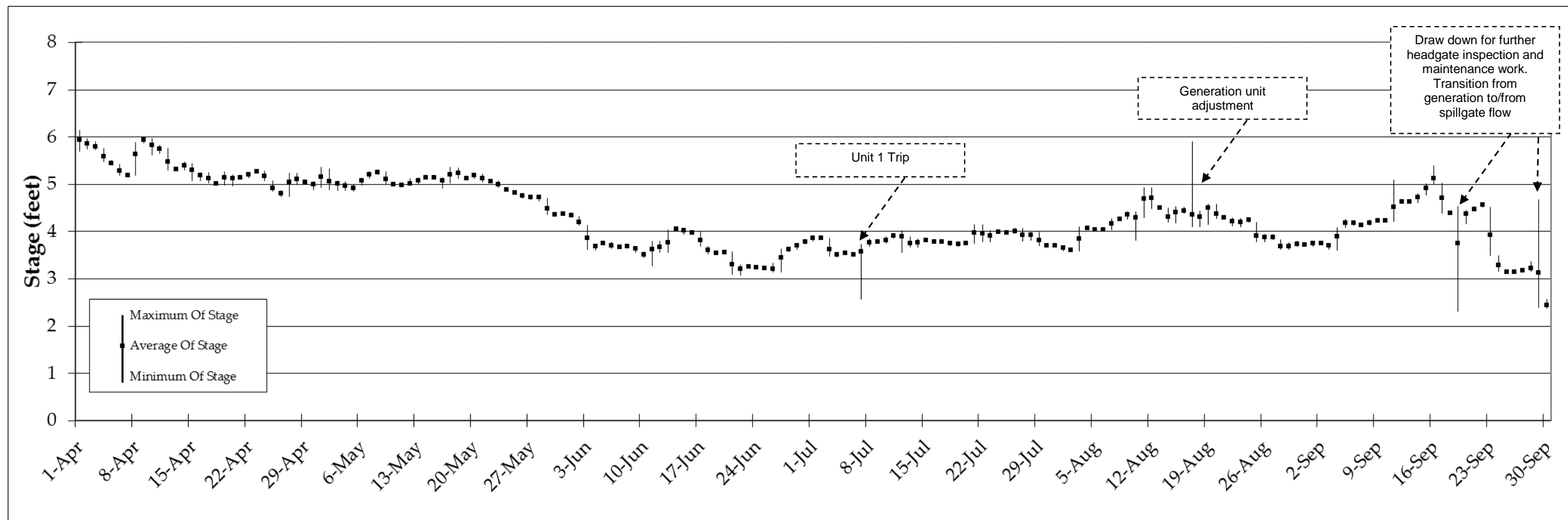


Figure 4. April through September 2017 daily average, maximum and minimum stage below Oneida. Precise values for each day and explanations are provided in Appendix A. Corresponding power releases are shown in Figure 1.

4.0 RAMPING RATE ANALYSIS

An analysis of the maximum daily ramping rate is shown in Appendix A. The table summarizes the maximum stage decrease in any 15-minute period in each day. There are no values in excess of the down-ramping limit of 2 feet per 15 minute during the reporting period.

Appendix A. Daily Summary of Gage Height, Primary Purpose for Water Releases and Daily Maximum Down-Ramping Rate

| Date | Maximum Of Stage (feet) | Minimum Of Stage (feet) | Average Of Stage (feet) | Maximum 15-minute Down-Ramping Rate (feet per 15 minutes) | Comment |
|--------|-------------------------|-------------------------|-------------------------|---|---|
| 1-Oct | 2.34 | 2.28 | 2.30 | 0.02 | Power production |
| 2-Oct | 2.33 | 2.28 | 2.30 | 0.02 | Power production |
| 3-Oct | 2.31 | 2.29 | 2.30 | 0.01 | Power production |
| 4-Oct | 2.30 | 2.29 | 2.30 | 0.00 | Power production |
| 5-Oct | 2.52 | 2.28 | 2.42 | 0.03 | Power production |
| 6-Oct | 2.74 | 2.45 | 2.61 | 0.01 | Power production |
| 7-Oct | 2.73 | 2.68 | 2.71 | 0.02 | Power production |
| 8-Oct | 2.68 | 2.55 | 2.61 | 0.04 | Power production |
| 9-Oct | 2.56 | 2.52 | 2.55 | 0.02 | Power production |
| 10-Oct | 2.54 | 2.50 | 2.52 | 0.02 | Power production |
| 11-Oct | 2.54 | 2.50 | 2.51 | 0.03 | Power production |
| 12-Oct | 3.06 | 2.48 | 2.69 | 0.03 | Power production |
| 13-Oct | 3.37 | 3.03 | 3.24 | 0.02 | Power production |
| 14-Oct | 3.47 | 3.32 | 3.41 | 0.02 | Power production |
| 15-Oct | 3.57 | 3.44 | 3.52 | 0.01 | Power production |
| 16-Oct | 3.57 | 3.54 | 3.56 | 0.01 | Power production |
| 17-Oct | 3.56 | 2.51 | 3.12 | 0.81 | Power production - draw down for maintenance. |
| 18-Oct | 3.35 | 3.13 | 3.20 | 0.07 | Power production - draw down for maintenance. |
| 19-Oct | 3.17 | 3.04 | 3.11 | 0.03 | Power production - draw down for maintenance. |
| 20-Oct | 3.10 | 3.03 | 3.06 | 0.01 | Power production - draw down for maintenance. |
| 21-Oct | 3.09 | 3.02 | 3.06 | 0.02 | Power production - draw down for maintenance. |
| 22-Oct | 3.03 | 2.80 | 2.89 | 0.05 | Power production - draw down for maintenance. |
| 23-Oct | 2.84 | 2.79 | 2.81 | 0.02 | Power production - draw down for maintenance. |
| 24-Oct | 2.88 | 2.80 | 2.84 | 0.02 | Power production - draw down for maintenance. |
| 25-Oct | 2.97 | 2.86 | 2.92 | 0.01 | Power production - draw down for maintenance. |

| Date | Maximum Of Stage (feet) | Minimum Of Stage (feet) | Average Of Stage (feet) | Maximum 15-minute Down-Ramping Rate (feet per 15 minutes) | Comment |
|--------|-------------------------|-------------------------|-------------------------|---|---|
| 26-Oct | 2.98 | 2.93 | 2.95 | 0.02 | Power production - draw down for maintenance. |
| 27-Oct | 2.94 | 2.88 | 2.91 | 0.04 | Power production - draw down for maintenance. |
| 28-Oct | 2.92 | 2.88 | 2.90 | 0.02 | Power production - draw down for maintenance. |
| 29-Oct | 2.96 | 2.90 | 2.94 | 0.01 | Power production - draw down for maintenance. |
| 30-Oct | 2.96 | 2.86 | 2.90 | 0.03 | Power production - draw down for maintenance. |
| 31-Oct | 2.88 | 2.83 | 2.86 | 0.02 | Power production - draw down for maintenance. |
| 1-Nov | 2.99 | 2.85 | 2.92 | 0.03 | Power production - draw down for maintenance. |
| 2-Nov | 3.05 | 2.94 | 2.99 | 0.03 | Power production - draw down for maintenance. |
| 3-Nov | 3.05 | 3.00 | 3.02 | 0.02 | Power production - draw down for maintenance. |
| 4-Nov | 3.03 | 2.91 | 2.97 | 0.03 | Power production - draw down for maintenance. |
| 5-Nov | 2.96 | 2.91 | 2.94 | 0.01 | Power production - draw down for maintenance. |
| 6-Nov | 2.98 | 2.94 | 2.96 | 0.01 | Power production - draw down for maintenance. |
| 7-Nov | 3.00 | 2.96 | 2.98 | 0.01 | Power production - draw down for maintenance. |
| 8-Nov | 3.00 | 2.93 | 2.96 | 0.02 | Power production - draw down for maintenance. |
| 9-Nov | 2.93 | 2.81 | 2.88 | 0.04 | Power production - draw down for maintenance. |
| 10-Nov | 2.81 | 2.77 | 2.79 | 0.02 | Power production - draw down for maintenance. |
| 11-Nov | 2.78 | 2.75 | 2.77 | 0.02 | Power production - draw down for maintenance. |
| 12-Nov | 2.78 | 2.75 | 2.76 | 0.01 | Power production - draw down for maintenance. |
| 13-Nov | 2.78 | 2.75 | 2.76 | 0.01 | Power production - draw down for maintenance. |

| Date | Maximum Of Stage (feet) | Minimum Of Stage (feet) | Average Of Stage (feet) | Maximum 15-minute Down-Ramping Rate (feet per 15 minutes) | Comment |
|--------|-------------------------|-------------------------|-------------------------|---|--|
| 14-Nov | 2.76 | 2.32 | 2.50 | 0.18 | Power production - draw down for maintenance. |
| 15-Nov | 2.50 | 2.31 | 2.35 | 0.08 | Power production |
| 16-Nov | 2.43 | 2.35 | 2.36 | 0.03 | Power production |
| 17-Nov | 2.44 | 2.27 | 2.37 | 0.08 | Power production |
| 18-Nov | 2.53 | 2.37 | 2.40 | 0.05 | Power production |
| 19-Nov | 2.44 | 2.39 | 2.41 | 0.02 | Power production |
| 20-Nov | 2.42 | 2.38 | 2.40 | 0.02 | Power production |
| 21-Nov | 2.40 | 2.36 | 2.38 | 0.02 | Power production |
| 22-Nov | 2.40 | 2.37 | 2.39 | 0.03 | Power production |
| 23-Nov | 2.40 | 2.37 | 2.38 | 0.02 | Power production |
| 24-Nov | 2.65 | 2.36 | 2.53 | 0.02 | Power production |
| 25-Nov | 2.71 | 2.60 | 2.66 | 0.02 | Power production |
| 26-Nov | 2.79 | 2.66 | 2.72 | 0.04 | Power production |
| 27-Nov | 2.80 | 2.73 | 2.77 | 0.01 | Power production |
| 28-Nov | 2.86 | 2.77 | 2.81 | 0.02 | Power production |
| 29-Nov | 2.83 | 2.72 | 2.79 | 0.03 | Power production |
| 30-Nov | 2.76 | 2.71 | 2.74 | 0.01 | Power production |
| 1-Dec | 2.75 | 2.53 | 2.63 | 0.07 | Power production |
| 2-Dec | 2.56 | 2.52 | 2.54 | 0.01 | Power production |
| 3-Dec | 2.58 | 2.56 | 2.57 | 0.00 | Power production |
| 4-Dec | 2.60 | 2.58 | 2.59 | 0.00 | Power production |
| 5-Dec | 2.63 | 2.59 | 2.61 | 0.01 | Power production |
| 6-Dec | 2.62 | 2.60 | 2.61 | 0.01 | Power production |
| 7-Dec | 2.62 | 2.53 | 2.57 | 0.03 | Power production |
| 8-Dec | 2.54 | 2.32 | 2.42 | 0.09 | Power production |
| 9-Dec | 2.92 | 2.32 | 2.55 | 0.09 | Power production |
| 10-Dec | 3.10 | 2.68 | 2.89 | 0.02 | Power production |
| 11-Dec | 3.07 | 2.57 | 2.83 | 0.13 | Power production |
| 12-Dec | 2.83 | 2.56 | 2.68 | 0.01 | Power production |
| 13-Dec | 2.83 | 2.81 | 2.82 | 0.01 | Power production |
| 14-Dec | 2.83 | 2.78 | 2.82 | 0.04 | Power production |
| 15-Dec | 2.85 | 2.81 | 2.83 | 0.02 | Power production |
| 16-Dec | 3.98 | 2.82 | 3.35 | 0.01 | Power production - End of shift over-adjustment and next day correction\ |

| Date | Maximum Of Stage (feet) | Minimum Of Stage (feet) | Average Of Stage (feet) | Maximum 15-minute Down-Ramping Rate (feet per 15 minutes) | Comment |
|--------|-------------------------|-------------------------|-------------------------|---|--|
| 17-Dec | 3.97 | 2.75 | 3.25 | 0.40 | Power production - End of shift over-adjustment and next day correction\ |
| 18-Dec | 2.97 | 2.75 | 2.80 | 0.10 | Power production |
| 19-Dec | 2.94 | 2.78 | 2.84 | 0.03 | Power production |
| 20-Dec | 2.88 | 2.86 | 2.87 | 0.01 | Power production |
| 21-Dec | 2.99 | 2.87 | 2.93 | 0.02 | Power production |
| 22-Dec | 2.98 | 2.68 | 2.84 | 0.07 | Power production |
| 23-Dec | 2.88 | 2.68 | 2.76 | 0.01 | Power production |
| 24-Dec | 2.97 | 2.87 | 2.92 | 0.02 | Power production |
| 25-Dec | 2.97 | 2.86 | 2.91 | 0.04 | Power production |
| 26-Dec | 2.87 | 2.79 | 2.83 | 0.06 | Power production |
| 27-Dec | 2.79 | 2.30 | 2.55 | 0.10 | Power production |
| 28-Dec | 2.83 | 2.31 | 2.58 | 0.02 | Power production |
| 29-Dec | 2.90 | 2.79 | 2.83 | 0.06 | Power production |
| 30-Dec | 2.80 | 2.78 | 2.79 | 0.01 | Power production |
| 31-Dec | 2.95 | 2.78 | 2.87 | 0.01 | Power production |
| 1-Jan | 2.95 | 2.84 | 2.89 | 0.05 | Power production |
| 2-Jan | 2.85 | 2.79 | 2.81 | 0.03 | Power production |
| 3-Jan | 2.79 | 2.61 | 2.70 | 0.03 | Power production |
| 4-Jan | 2.61 | 2.58 | 2.60 | 0.01 | Power production |
| 5-Jan | 2.58 | 2.26 | 2.40 | 0.10 | Power production |
| 6-Jan | 2.51 | 2.26 | 2.38 | 0.04 | Power production |
| 7-Jan | 2.45 | 2.43 | 2.44 | 0.01 | Power production |
| 8-Jan | 3.28 | 2.45 | 2.83 | 0.08 | Power production |
| 9-Jan | 3.46 | 3.13 | 3.28 | 0.01 | Power production |
| 10-Jan | 3.81 | 3.46 | 3.62 | 0.01 | Power production |
| 11-Jan | 3.82 | 3.50 | 3.71 | 0.16 | Power production |
| 12-Jan | 3.51 | 3.33 | 3.42 | 0.05 | Power production |
| 13-Jan | 3.35 | 2.89 | 3.12 | 0.10 | Power production |
| 14-Jan | 2.96 | 2.88 | 2.93 | 0.02 | Power production |
| 15-Jan | 2.97 | 2.73 | 2.87 | 0.07 | Power production |
| 16-Jan | 2.74 | 2.54 | 2.64 | 0.06 | Power production |
| 17-Jan | 2.62 | 2.53 | 2.56 | 0.03 | Power production |
| 18-Jan | 2.73 | 2.56 | 2.60 | 0.08 | Power production |
| 19-Jan | 3.00 | 2.58 | 2.80 | 0.01 | Power production |
| 20-Jan | 3.00 | 2.84 | 2.92 | 0.09 | Power production |
| 21-Jan | 2.87 | 2.76 | 2.81 | 0.05 | Power production |

| Date | Maximum Of Stage (feet) | Minimum Of Stage (feet) | Average Of Stage (feet) | Maximum 15-minute Down-Ramping Rate (feet per 15 minutes) | Comment |
|--------|-------------------------|-------------------------|-------------------------|---|------------------|
| 22-Jan | 2.79 | 2.76 | 2.77 | 0.02 | Power production |
| 23-Jan | 2.84 | 2.75 | 2.79 | 0.01 | Power production |
| 24-Jan | 2.84 | 2.79 | 2.82 | 0.02 | Power production |
| 25-Jan | 2.79 | 2.72 | 2.75 | 0.04 | Power production |
| 26-Jan | 2.75 | 2.73 | 2.73 | 0.01 | Power production |
| 27-Jan | 2.73 | 2.68 | 2.71 | 0.02 | Power production |
| 28-Jan | 2.88 | 2.69 | 2.77 | 0.01 | Power production |
| 29-Jan | 2.98 | 2.81 | 2.87 | 0.07 | Power production |
| 30-Jan | 2.82 | 2.75 | 2.78 | 0.05 | Power production |
| 31-Jan | 3.11 | 2.75 | 2.94 | 0.01 | Power production |
| 1-Feb | 3.12 | 2.76 | 2.98 | 0.11 | Power production |
| 2-Feb | 2.83 | 2.76 | 2.79 | 0.02 | Power production |
| 3-Feb | 2.90 | 2.81 | 2.84 | 0.05 | Power production |
| 4-Feb | 2.85 | 2.82 | 2.84 | 0.02 | Power production |
| 5-Feb | 2.95 | 2.82 | 2.87 | 0.06 | Power production |
| 6-Feb | 2.90 | 2.86 | 2.88 | 0.02 | Power production |
| 7-Feb | 3.98 | 2.87 | 3.50 | 0.02 | Power production |
| 8-Feb | 5.55 | 3.96 | 4.56 | 0.02 | Power production |
| 9-Feb | 5.93 | 5.19 | 5.48 | 0.36 | Power production |
| 10-Feb | 6.05 | 5.57 | 5.78 | 0.02 | Power production |
| 11-Feb | 6.05 | 5.42 | 5.85 | 0.25 | Power production |
| 12-Feb | 5.42 | 4.42 | 4.66 | 0.40 | Power production |
| 13-Feb | 4.88 | 3.93 | 4.19 | 0.36 | Power production |
| 14-Feb | 4.16 | 3.92 | 4.05 | 0.06 | Power production |
| 15-Feb | 4.39 | 4.09 | 4.21 | 0.01 | Power production |
| 16-Feb | 4.39 | 4.15 | 4.30 | 0.13 | Power production |
| 17-Feb | 4.23 | 4.14 | 4.17 | 0.02 | Power production |
| 18-Feb | 4.23 | 4.00 | 4.19 | 0.11 | Power production |
| 19-Feb | 4.23 | 4.19 | 4.22 | 0.01 | Power production |
| 20-Feb | 4.70 | 4.22 | 4.51 | 0.01 | Power production |
| 21-Feb | 6.12 | 4.69 | 5.55 | 0.02 | Power production |
| 22-Feb | 6.07 | 4.52 | 5.34 | 0.36 | Power production |
| 23-Feb | 5.01 | 4.50 | 4.63 | 0.16 | Power production |
| 24-Feb | 4.64 | 4.34 | 4.53 | 0.15 | Power production |
| 25-Feb | 4.55 | 4.53 | 4.54 | 0.01 | Power production |
| 26-Feb | 4.54 | 4.49 | 4.52 | 0.03 | Power production |
| 27-Feb | 4.52 | 4.50 | 4.51 | 0.01 | Power production |
| 28-Feb | 4.70 | 4.49 | 4.62 | 0.01 | Power production |

| Date | Maximum Of Stage (feet) | Minimum Of Stage (feet) | Average Of Stage (feet) | Maximum 15-minute Down-Ramping Rate (feet per 15 minutes) | Comment |
|--------|-------------------------|-------------------------|-------------------------|---|---|
| 1-Mar | 4.69 | 4.68 | 4.69 | 0.01 | Power production |
| 2-Mar | 4.69 | 3.92 | 4.31 | 0.37 | Power production |
| 3-Mar | 4.18 | 4.07 | 4.12 | 0.10 | Power production |
| 4-Mar | 4.08 | 3.77 | 3.94 | 0.14 | Power production |
| 5-Mar | 4.42 | 3.80 | 4.01 | 0.15 | Power production |
| 6-Mar | 4.07 | 4.06 | 4.07 | 0.01 | Power production |
| 7-Mar | 4.07 | 4.06 | 4.06 | 0.01 | Power production |
| 8-Mar | 4.82 | 4.06 | 4.38 | 0.01 | Power production |
| 9-Mar | 5.65 | 4.81 | 5.24 | 0.04 | Power production |
| 10-Mar | 5.98 | 5.56 | 5.83 | 0.02 | Power production |
| 11-Mar | 5.96 | 5.93 | 5.94 | 0.01 | Power production - Drawdown for high runoff |
| 12-Mar | 5.94 | 4.89 | 5.42 | 0.29 | Power production - Drawdown for high runoff |
| 13-Mar | 4.99 | 4.76 | 4.88 | 0.12 | Power production - Drawdown for high runoff |
| 14-Mar | 4.89 | 4.84 | 4.86 | 0.01 | Power production - Drawdown for high runoff |
| 15-Mar | 5.09 | 4.86 | 4.99 | 0.04 | Power production - Drawdown for high runoff |
| 16-Mar | 5.70 | 5.02 | 5.44 | 0.11 | Power production - Drawdown for high runoff |
| 17-Mar | 5.60 | 5.44 | 5.51 | 0.08 | Power production - Drawdown for high runoff |
| 18-Mar | 5.91 | 5.46 | 5.76 | 0.01 | Power production - Drawdown for high runoff |
| 19-Mar | 5.92 | 5.89 | 5.90 | 0.02 | Power production - Drawdown for high runoff |

| Date | Maximum Of Stage (feet) | Minimum Of Stage (feet) | Average Of Stage (feet) | Maximum 15-minute Down-Ramping Rate (feet per 15 minutes) | Comment |
|--------|-------------------------|-------------------------|-------------------------|---|---|
| 20-Mar | 5.92 | 5.90 | 5.91 | 0.01 | Power production - Drawdown for high runoff |
| 21-Mar | 5.93 | 5.90 | 5.91 | 0.01 | Power production - Drawdown for high runoff |
| 22-Mar | 5.95 | 5.91 | 5.92 | 0.02 | Power production - Drawdown for high runoff |
| 23-Mar | 5.96 | 5.93 | 5.94 | 0.02 | Power production - Drawdown for high runoff |
| 24-Mar | 6.37 | 5.95 | 6.17 | 0.02 | Power production - Drawdown for high runoff |
| 25-Mar | 6.45 | 6.36 | 6.40 | 0.02 | Power production |
| 26-Mar | 6.49 | 6.37 | 6.43 | 0.05 | Power production |
| 27-Mar | 7.09 | 6.42 | 6.82 | 0.02 | Power production |
| 28-Mar | 7.03 | 6.78 | 6.87 | 0.15 | Power production |
| 29-Mar | 6.79 | 6.49 | 6.63 | 0.09 | Power production |
| 30-Mar | 6.51 | 6.27 | 6.40 | 0.14 | Power production |
| 31-Mar | 6.29 | 6.13 | 6.19 | 0.09 | Power production |
| 1-Apr | 6.15 | 5.70 | 5.94 | 0.13 | Power production |
| 2-Apr | 5.97 | 5.74 | 5.85 | 0.03 | Power production |
| 3-Apr | 5.91 | 5.73 | 5.80 | 0.08 | Power production |
| 4-Apr | 5.76 | 5.48 | 5.59 | 0.09 | Power production |
| 5-Apr | 5.50 | 5.41 | 5.44 | 0.07 | Power production |
| 6-Apr | 5.42 | 5.19 | 5.29 | 0.06 | Power production |
| 7-Apr | 5.20 | 5.18 | 5.19 | 0.01 | Power production |
| 8-Apr | 5.89 | 5.19 | 5.63 | 0.03 | Power production |
| 9-Apr | 5.98 | 5.87 | 5.94 | 0.01 | Power production |
| 10-Apr | 5.98 | 5.62 | 5.82 | 0.32 | Power production |
| 11-Apr | 5.82 | 5.65 | 5.74 | 0.05 | Power production |
| 12-Apr | 5.77 | 5.30 | 5.48 | 0.15 | Power production |
| 13-Apr | 5.32 | 5.30 | 5.31 | 0.01 | Power production |
| 14-Apr | 5.47 | 5.30 | 5.40 | 0.03 | Power production |
| 15-Apr | 5.44 | 5.07 | 5.30 | 0.16 | Power production |
| 16-Apr | 5.26 | 5.07 | 5.18 | 0.01 | Power production |

| Date | Maximum Of Stage (feet) | Minimum Of Stage (feet) | Average Of Stage (feet) | Maximum 15-minute Down-Ramping Rate (feet per 15 minutes) | Comment |
|--------|-------------------------|-------------------------|-------------------------|---|------------------|
| 17-Apr | 5.25 | 5.03 | 5.12 | 0.06 | Power production |
| 18-Apr | 5.04 | 4.98 | 5.01 | 0.04 | Power production |
| 19-Apr | 5.26 | 4.99 | 5.14 | 0.05 | Power production |
| 20-Apr | 5.20 | 4.97 | 5.12 | 0.10 | Power production |
| 21-Apr | 5.18 | 5.12 | 5.14 | 0.02 | Power production |
| 22-Apr | 5.26 | 5.15 | 5.21 | 0.01 | Power production |
| 23-Apr | 5.29 | 5.24 | 5.27 | 0.01 | Power production |
| 24-Apr | 5.29 | 5.07 | 5.18 | 0.07 | Power production |
| 25-Apr | 5.08 | 4.85 | 4.92 | 0.17 | Power production |
| 26-Apr | 4.86 | 4.74 | 4.81 | 0.07 | Power production |
| 27-Apr | 5.23 | 4.74 | 5.04 | 0.01 | Power production |
| 28-Apr | 5.23 | 5.02 | 5.11 | 0.07 | Power production |
| 29-Apr | 5.06 | 5.04 | 5.05 | 0.01 | Power production |
| 30-Apr | 5.06 | 4.88 | 5.00 | 0.11 | Power production |
| 1-May | 5.36 | 4.93 | 5.15 | 0.03 | Power production |
| 2-May | 5.33 | 4.89 | 5.06 | 0.18 | Power production |
| 3-May | 5.07 | 4.86 | 5.01 | 0.04 | Power production |
| 4-May | 5.05 | 4.86 | 4.96 | 0.07 | Power production |
| 5-May | 5.00 | 4.85 | 4.92 | 0.01 | Power production |
| 6-May | 5.13 | 4.99 | 5.07 | 0.02 | Power production |
| 7-May | 5.27 | 5.12 | 5.21 | 0.01 | Power production |
| 8-May | 5.27 | 5.20 | 5.26 | 0.03 | Power production |
| 9-May | 5.27 | 5.01 | 5.10 | 0.09 | Power production |
| 10-May | 5.01 | 4.97 | 5.00 | 0.02 | Power production |
| 11-May | 5.03 | 4.95 | 4.99 | 0.02 | Power production |
| 12-May | 5.13 | 5.00 | 5.02 | 0.07 | Power production |
| 13-May | 5.14 | 5.01 | 5.08 | 0.01 | Power production |
| 14-May | 5.15 | 5.13 | 5.14 | 0.01 | Power production |
| 15-May | 5.15 | 5.13 | 5.14 | 0.01 | Power production |
| 16-May | 5.14 | 4.92 | 5.08 | 0.13 | Power production |
| 17-May | 5.36 | 5.02 | 5.21 | 0.01 | Power production |
| 18-May | 5.35 | 5.12 | 5.23 | 0.08 | Power production |
| 19-May | 5.13 | 5.12 | 5.13 | 0.01 | Power production |
| 20-May | 5.22 | 5.12 | 5.18 | 0.01 | Power production |
| 21-May | 5.22 | 5.05 | 5.12 | 0.05 | Power production |
| 22-May | 5.08 | 5.04 | 5.06 | 0.01 | Power production |
| 23-May | 5.08 | 4.93 | 4.99 | 0.07 | Power production |
| 24-May | 4.93 | 4.86 | 4.89 | 0.05 | Power production |

| Date | Maximum Of Stage (feet) | Minimum Of Stage (feet) | Average Of Stage (feet) | Maximum 15-minute Down-Ramping Rate (feet per 15 minutes) | Comment |
|--------|-------------------------|-------------------------|-------------------------|---|------------------|
| 25-May | 4.87 | 4.80 | 4.83 | 0.07 | Power production |
| 26-May | 4.80 | 4.72 | 4.75 | 0.04 | Power production |
| 27-May | 4.75 | 4.68 | 4.72 | 0.04 | Power production |
| 28-May | 4.74 | 4.65 | 4.72 | 0.04 | Power production |
| 29-May | 4.71 | 4.35 | 4.49 | 0.17 | Power production |
| 30-May | 4.37 | 4.35 | 4.36 | 0.01 | Power production |
| 31-May | 4.38 | 4.35 | 4.37 | 0.01 | Power production |
| 1-Jun | 4.38 | 4.31 | 4.34 | 0.04 | Power production |
| 2-Jun | 4.32 | 4.13 | 4.19 | 0.17 | Power production |
| 3-Jun | 4.14 | 3.62 | 3.86 | 0.20 | Power production |
| 4-Jun | 3.74 | 3.60 | 3.68 | 0.01 | Power production |
| 5-Jun | 3.79 | 3.72 | 3.75 | 0.01 | Power production |
| 6-Jun | 3.79 | 3.63 | 3.70 | 0.07 | Power production |
| 7-Jun | 3.69 | 3.63 | 3.66 | 0.01 | Power production |
| 8-Jun | 3.70 | 3.67 | 3.68 | 0.02 | Power production |
| 9-Jun | 3.68 | 3.56 | 3.63 | 0.05 | Power production |
| 10-Jun | 3.58 | 3.45 | 3.51 | 0.13 | Power production |
| 11-Jun | 3.80 | 3.28 | 3.62 | 0.10 | Power production |
| 12-Jun | 3.79 | 3.56 | 3.67 | 0.08 | Power production |
| 13-Jun | 4.03 | 3.56 | 3.76 | 0.01 | Power production |
| 14-Jun | 4.08 | 4.02 | 4.05 | 0.01 | Power production |
| 15-Jun | 4.07 | 3.95 | 4.02 | 0.06 | Power production |
| 16-Jun | 4.01 | 3.94 | 3.97 | 0.01 | Power production |
| 17-Jun | 4.01 | 3.68 | 3.81 | 0.08 | Power production |
| 18-Jun | 3.69 | 3.53 | 3.61 | 0.10 | Power production |
| 19-Jun | 3.55 | 3.52 | 3.54 | 0.01 | Power production |
| 20-Jun | 3.58 | 3.53 | 3.56 | 0.01 | Power production |
| 21-Jun | 3.57 | 3.10 | 3.30 | 0.19 | Power production |
| 22-Jun | 3.31 | 3.08 | 3.20 | 0.01 | Power production |
| 23-Jun | 3.30 | 3.23 | 3.26 | 0.05 | Power production |
| 24-Jun | 3.24 | 3.22 | 3.23 | 0.01 | Power production |
| 25-Jun | 3.23 | 3.22 | 3.23 | 0.01 | Power production |
| 26-Jun | 3.33 | 3.15 | 3.21 | 0.16 | Power production |
| 27-Jun | 3.64 | 3.14 | 3.45 | 0.03 | Power production |
| 28-Jun | 3.65 | 3.58 | 3.62 | 0.01 | Power production |
| 29-Jun | 3.74 | 3.62 | 3.69 | 0.01 | Power production |
| 30-Jun | 3.81 | 3.73 | 3.78 | 0.01 | Power production |
| 1-Jul | 3.89 | 3.79 | 3.86 | 0.01 | Power production |

| Date | Maximum Of Stage (feet) | Minimum Of Stage (feet) | Average Of Stage (feet) | Maximum 15-minute Down-Ramping Rate (feet per 15 minutes) | Comment |
|--------|-------------------------|-------------------------|-------------------------|---|--------------------------------|
| 2-Jul | 3.87 | 3.86 | 3.87 | 0.01 | Power production |
| 3-Jul | 3.87 | 3.47 | 3.62 | 0.17 | Power production |
| 4-Jul | 3.56 | 3.47 | 3.52 | 0.01 | Power production |
| 5-Jul | 3.55 | 3.51 | 3.54 | 0.01 | Power production |
| 6-Jul | 3.52 | 3.49 | 3.50 | 0.01 | Power production |
| 7-Jul | 3.73 | 2.57 | 3.57 | 0.89 | Power production - Unit 1 Trip |
| 8-Jul | 3.84 | 3.68 | 3.76 | 0.01 | Power production |
| 9-Jul | 3.84 | 3.76 | 3.78 | 0.07 | Power production |
| 10-Jul | 3.89 | 3.76 | 3.81 | 0.02 | Power production |
| 11-Jul | 3.96 | 3.86 | 3.90 | 0.02 | Power production |
| 12-Jul | 4.03 | 3.56 | 3.89 | 0.29 | Power production |
| 13-Jul | 3.90 | 3.66 | 3.75 | 0.10 | Power production |
| 14-Jul | 3.84 | 3.67 | 3.77 | 0.01 | Power production |
| 15-Jul | 3.84 | 3.77 | 3.81 | 0.05 | Power production |
| 16-Jul | 3.78 | 3.77 | 3.77 | 0.00 | Power production |
| 17-Jul | 3.78 | 3.78 | 3.78 | 0.00 | Power production |
| 18-Jul | 3.78 | 3.70 | 3.76 | 0.07 | Power production |
| 19-Jul | 3.76 | 3.68 | 3.73 | 0.01 | Power production |
| 20-Jul | 3.76 | 3.75 | 3.75 | 0.01 | Power production |
| 21-Jul | 4.15 | 3.75 | 3.97 | 0.01 | Power production |
| 22-Jul | 4.15 | 3.78 | 3.96 | 0.14 | Power production |
| 23-Jul | 4.01 | 3.77 | 3.90 | 0.01 | Power production |
| 24-Jul | 4.01 | 3.97 | 3.99 | 0.02 | Power production |
| 25-Jul | 3.98 | 3.96 | 3.97 | 0.01 | Power production |
| 26-Jul | 4.08 | 3.96 | 4.01 | 0.01 | Power production |
| 27-Jul | 4.08 | 3.80 | 3.92 | 0.09 | Power production |
| 28-Jul | 3.99 | 3.82 | 3.92 | 0.01 | Power production |
| 29-Jul | 3.99 | 3.70 | 3.81 | 0.08 | Power production |
| 30-Jul | 3.70 | 3.69 | 3.70 | 0.01 | Power production |
| 31-Jul | 3.70 | 3.69 | 3.70 | 0.01 | Power production |
| 1-Aug | 3.70 | 3.59 | 3.65 | 0.05 | Power production |
| 2-Aug | 3.61 | 3.59 | 3.60 | 0.01 | Power production |
| 3-Aug | 4.11 | 3.59 | 3.85 | 0.03 | Power production |
| 4-Aug | 4.08 | 4.04 | 4.06 | 0.03 | Power production |
| 5-Aug | 4.05 | 4.03 | 4.04 | 0.01 | Power production |
| 6-Aug | 4.04 | 4.02 | 4.03 | 0.01 | Power production |
| 7-Aug | 4.27 | 4.03 | 4.17 | 0.01 | Power production |

| Date | Maximum Of Stage (feet) | Minimum Of Stage (feet) | Average Of Stage (feet) | Maximum 15-minute Down-Ramping Rate (feet per 15 minutes) | Comment |
|--------|-------------------------|-------------------------|-------------------------|---|---|
| 8-Aug | 4.27 | 4.24 | 4.26 | 0.02 | Power production |
| 9-Aug | 4.42 | 4.26 | 4.35 | 0.01 | Power production |
| 10-Aug | 4.41 | 3.82 | 4.29 | 0.33 | Power production |
| 11-Aug | 4.93 | 4.30 | 4.69 | 0.01 | Power production |
| 12-Aug | 4.94 | 4.49 | 4.71 | 0.01 | Power production |
| 13-Aug | 4.50 | 4.48 | 4.49 | 0.01 | Power production |
| 14-Aug | 4.50 | 4.19 | 4.31 | 0.10 | Power production |
| 15-Aug | 4.53 | 4.19 | 4.40 | 0.01 | Power production |
| 16-Aug | 4.52 | 4.39 | 4.44 | 0.07 | Power production |
| 17-Aug | 5.90 | 4.11 | 4.35 | 1.23 | Power production - Generation unit adjustment |
| 18-Aug | 4.44 | 4.09 | 4.31 | 0.09 | Power production |
| 19-Aug | 4.58 | 4.15 | 4.51 | 0.26 | Power production |
| 20-Aug | 4.58 | 4.28 | 4.38 | 0.15 | Power production |
| 21-Aug | 4.29 | 4.28 | 4.29 | 0.01 | Power production |
| 22-Aug | 4.29 | 4.11 | 4.20 | 0.07 | Power production |
| 23-Aug | 4.28 | 4.10 | 4.19 | 0.01 | Power production |
| 24-Aug | 4.28 | 4.19 | 4.24 | 0.05 | Power production |
| 25-Aug | 4.20 | 3.78 | 3.92 | 0.16 | Power production |
| 26-Aug | 3.94 | 3.78 | 3.88 | 0.01 | Power production |
| 27-Aug | 3.93 | 3.82 | 3.88 | 0.03 | Power production |
| 28-Aug | 3.83 | 3.62 | 3.69 | 0.09 | Power production |
| 29-Aug | 3.77 | 3.62 | 3.69 | 0.01 | Power production |
| 30-Aug | 3.80 | 3.68 | 3.73 | 0.04 | Power production |
| 31-Aug | 3.75 | 3.68 | 3.71 | 0.01 | Power production |
| 1-Sep | 3.77 | 3.68 | 3.75 | 0.03 | Power production |
| 2-Sep | 3.77 | 3.74 | 3.75 | 0.01 | Power production |
| 3-Sep | 3.75 | 3.63 | 3.70 | 0.03 | Power production |
| 4-Sep | 4.09 | 3.61 | 3.89 | 0.01 | Power production |
| 5-Sep | 4.27 | 4.08 | 4.17 | 0.03 | Power production |
| 6-Sep | 4.22 | 4.13 | 4.17 | 0.02 | Power production |
| 7-Sep | 4.15 | 4.13 | 4.14 | 0.01 | Power production |
| 8-Sep | 4.24 | 4.13 | 4.19 | 0.01 | Power production |
| 9-Sep | 4.24 | 4.22 | 4.23 | 0.01 | Power production |
| 10-Sep | 4.23 | 4.22 | 4.23 | 0.01 | Power production |
| 11-Sep | 5.08 | 4.22 | 4.52 | 0.18 | Power production |
| 12-Sep | 4.65 | 4.61 | 4.63 | 0.01 | Power production |

| Date | Maximum Of Stage (feet) | Minimum Of Stage (feet) | Average Of Stage (feet) | Maximum 15-minute Down-Ramping Rate (feet per 15 minutes) | Comment |
|--------|-------------------------|-------------------------|-------------------------|---|---|
| 13-Sep | 4.64 | 4.62 | 4.64 | 0.01 | Power production |
| 14-Sep | 4.80 | 4.61 | 4.73 | 0.05 | Power production |
| 15-Sep | 5.01 | 4.78 | 4.92 | 0.01 | Power production |
| 16-Sep | 5.39 | 4.99 | 5.13 | 0.17 | Power production |
| 17-Sep | 5.03 | 4.38 | 4.70 | 0.28 | Power production |
| 18-Sep | 4.39 | 4.38 | 4.39 | 0.01 | Power production |
| 19-Sep | 4.54 | 2.31 | 3.75 | 0.75 | Power production |
| 20-Sep | 4.45 | 4.17 | 4.38 | 0.01 | Pass inflow - draw down for maintenance. |
| 21-Sep | 4.53 | 4.44 | 4.47 | 0.01 | Pass inflow - draw down for maintenance. |
| 22-Sep | 4.58 | 4.52 | 4.56 | 0.01 | Pass inflow - draw down for maintenance. |
| 23-Sep | 4.52 | 3.49 | 3.93 | 0.02 | Pass inflow - draw down for maintenance. |
| 24-Sep | 3.49 | 3.16 | 3.29 | 0.01 | Pass inflow - draw down for maintenance. |
| 25-Sep | 3.16 | 3.11 | 3.14 | 0.01 | Pass inflow - draw down for maintenance. |
| 26-Sep | 3.15 | 3.11 | 3.14 | 0.01 | Pass inflow - draw down for maintenance. |
| 27-Sep | 3.19 | 3.15 | 3.17 | 0.02 | Pass inflow - draw down for maintenance. |
| 28-Sep | 3.37 | 3.16 | 3.22 | 0.01 | Pass inflow - draw down for maintenance. |
| 29-Sep | 4.68 | 2.39 | 3.12 | 0.85 | Power production - draw down for maintenance. |
| 30-Sep | 2.57 | 2.38 | 2.45 | 0.05 | Power production - draw down for maintenance. |