

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

**Oneida Development  
Water Year 2009 Operations Report**



*Submitted to:*

Idaho Department of Environmental Quality

*Prepared by:*



November 16, 2009

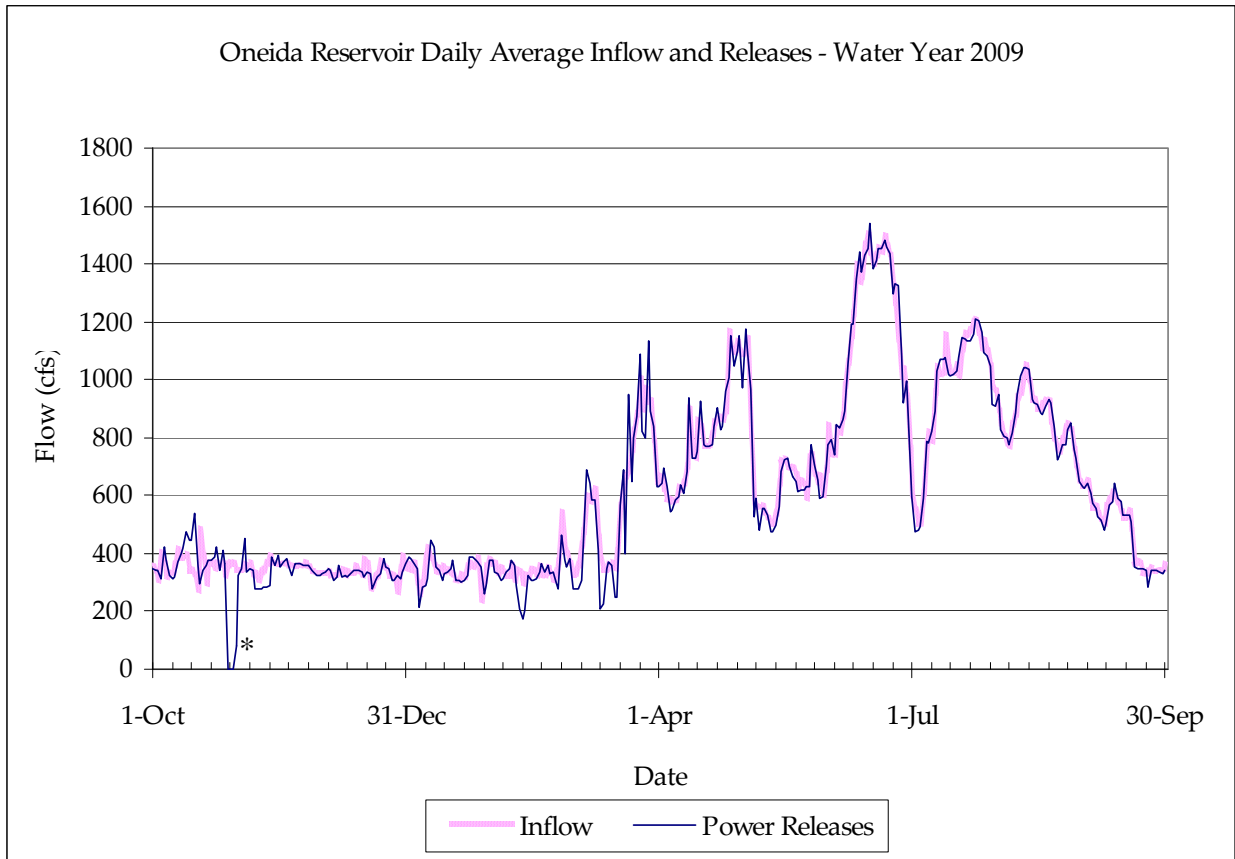
## 1.0 INTRODUCTION

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. We describe the operations of the Oneida development for water year 2009. The precise requirements are:

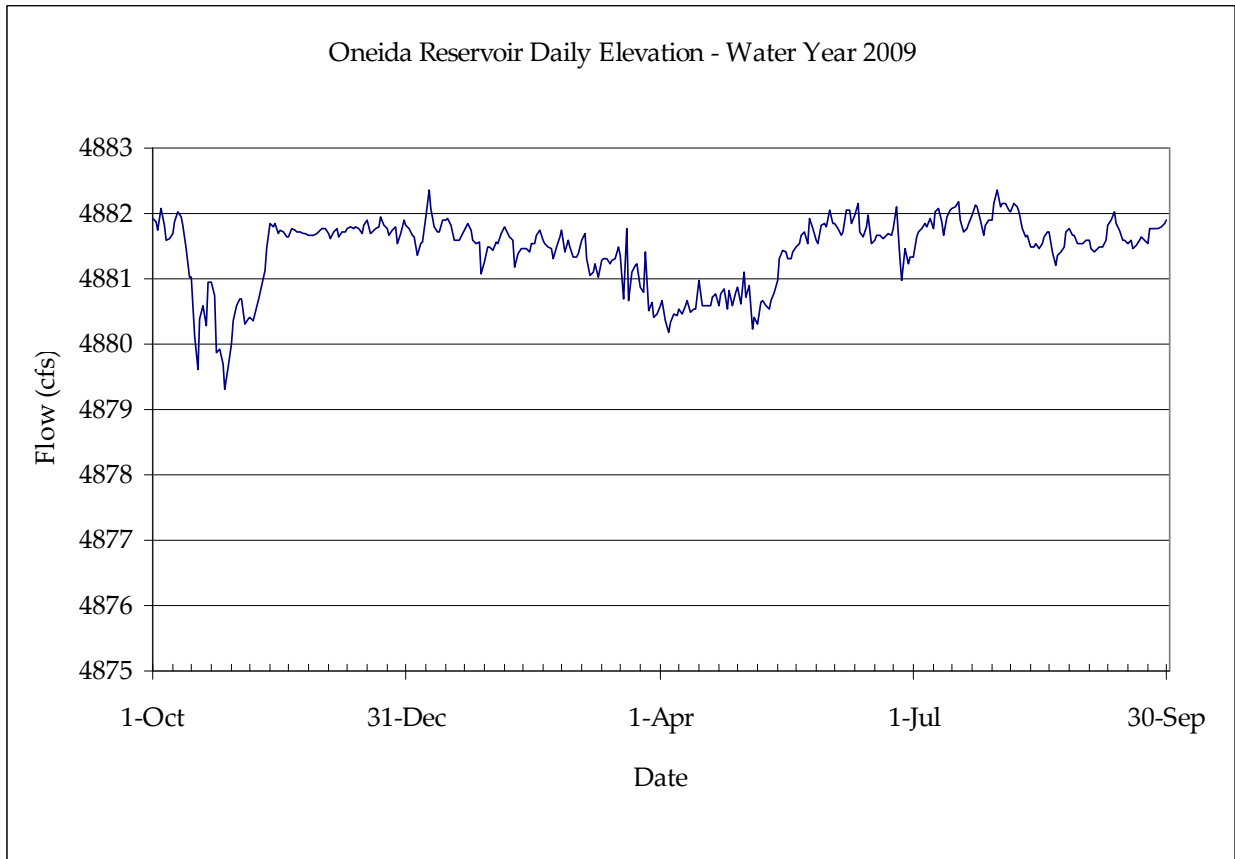
*“At the November meeting of the Bear River Commission, PacifiCorp shall provide IDEQ a report for the preceding water year that describes PacifiCorp’s operation of the Oneida Project. The report shall set forth a record showing the times during the preceding water year when PacifiCorp released water 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.”*

## 2.0 RESERVOIR INFLOW, RELEASES AND ELEVATION

Water year 2009 had normal winter precipitation with heavy rain and runoff in June. Reservoir releases were made to pass inflow for power generation and for downstream irrigation demand (Figure 1). The changes in reservoir storage (Figure 2) were made in October as a buffer to changing inflows during the maintenance outage; during April as a buffer to variable snowmelt inflow; and to keep the Bear River system in balance during the irrigation season.



**Figure 1.** Daily average reservoir inflow and power releases. The asterisk (\*) indicates a period when minimum flow bypass spilled (not released for power) during maintenance outage in late October 2008. Flows are in cubic feet per second (CFS).



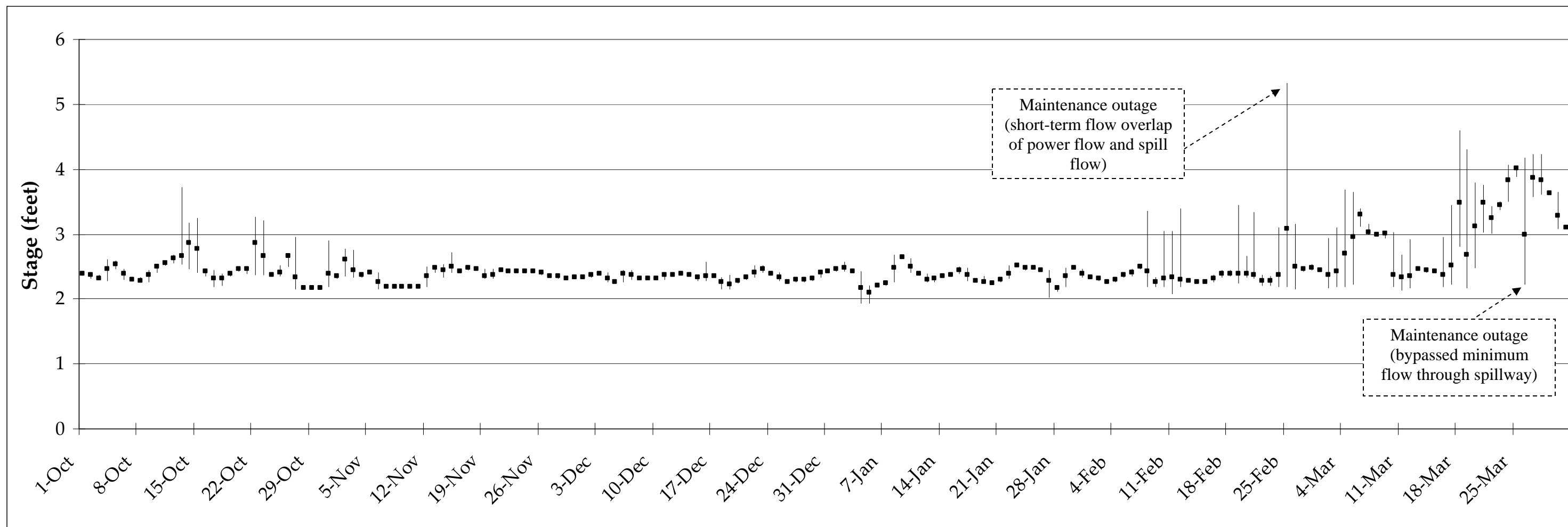
**Figure 2.** Oneida reservoir elevations. Elevations are in feet above mean sea level.

### **3.0 DAILY FLUCTUATIONS**

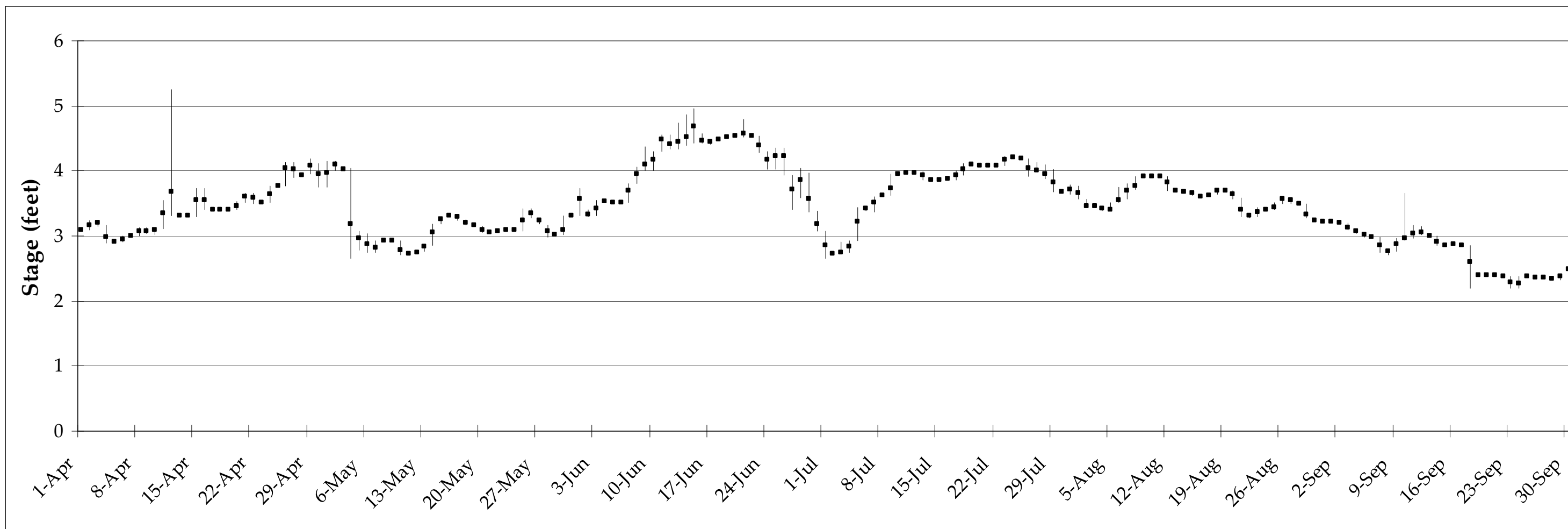
Daily fluctuations are summarized by the plots and tables of statistics of daily stage values that are recorded every 15-minutes. The statistics used are average, maximum, and minimum. This is a concise way of demonstrating the daily fluctuations. Figures 3 and 4 show the average stage for a day as a black square with a line spanning the range from the minimum to the maximum.

Because Oneida was used for electrical grid stabilization in the 1980s, frequent and large flow fluctuations on the order of minutes were common, and this is the baseline against which current operations are measured. This annual report documents the dramatic reduction in flow fluctuations compared with this baseline.

Appendix A provides the record of purpose for reservoir releases on a daily time scale.



**Figure 3.** October 2008 through March 2009 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 2009 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.

#### **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 events when the 15-minute down-ramping stage change exceeded 2.0 feet per 15 minutes as specified by the analysis accepted by the Federal Energy Regulatory Commission in the Bear River Operations and Compliance Plan approved April 7, 2005 after review by the Environmental Coordination Committee which includes the Idaho Department of Environmental Quality.

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

Date	Daily Maximum Stage (ft)	Daily Minimum Stage (ft)	Daily Average Stage (ft)	Maximum 15-minute Down-Ramping Rate (ft/15 min)	Comment
1-Oct	2.39	2.37	2.38	0.00	Power production
2-Oct	2.38	2.31	2.37	0.03	Power production
3-Oct	2.37	2.29	2.32	0.02	Power production
4-Oct	2.60	2.29	2.46	0.14	Power production
5-Oct	2.59	2.46	2.53	0.01	Power production
6-Oct	2.46	2.31	2.38	0.04	Power production
7-Oct	2.31	2.29	2.30	0.01	Power production
8-Oct	2.33	2.27	2.29	0.03	Power production
9-Oct	2.44	2.26	2.37	0.15	Power production
10-Oct	2.53	2.41	2.49	0.05	Power production
11-Oct	2.57	2.51	2.55	0.02	Power production
12-Oct	2.67	2.56	2.63	0.06	Power production
13-Oct	3.72	2.53	2.67	0.81	Power production
14-Oct	3.18	2.45	2.87	0.28	Power production
15-Oct	3.24	2.41	2.77	0.66	Power production
16-Oct	2.45	2.36	2.42	0.09	Power production
17-Oct	2.44	2.19	2.32	0.02	Power production
18-Oct	2.38	2.20	2.31	0.07	Power production
19-Oct	2.43	2.35	2.39	0.04	Power production
20-Oct	2.49	2.42	2.45	0.06	Power production
21-Oct	2.47	2.38	2.47	0.01	Power production
22-Oct	3.27	2.37	2.87	0.88	Power production
23-Oct	3.21	2.37	2.67	0.77	Power production
24-Oct	2.38	2.36	2.37	0.00	Power production
25-Oct	2.51	2.36	2.41	0.07	Power production
26-Oct	2.69	2.51	2.66	0.06	Power production
27-Oct	2.95	2.16	2.33	0.51	Power production
28-Oct	2.18	2.16	2.17	0.00	Maintenance - Bypass min. flow
29-Oct	2.18	2.16	2.18	0.00	Maintenance - Bypass min. flow
30-Oct	2.18	2.17	2.18	0.00	Maintenance - Bypass min. flow
31-Oct	2.89	2.18	2.38	0.09	Maintenance - Bypass min. flow
1-Nov	2.36	2.32	2.35	0.01	Power production

Date	Daily Maximum Stage (ft)	Daily Minimum Stage (ft)	Daily Average Stage (ft)	Maximum 15-minute Down-Ramping Rate (ft/15 min)	Comment
2-Nov	2.76	2.35	2.61	0.26	Power production
3-Nov	2.75	2.34	2.45	0.03	Power production
4-Nov	2.40	2.34	2.38	0.04	Power production
5-Nov	2.40	2.39	2.40	0.00	Power production
6-Nov	2.40	2.16	2.26	0.05	Power production
7-Nov	2.19	2.18	2.19	0.00	Power production
8-Nov	2.19	2.18	2.19	0.00	Power production
9-Nov	2.20	2.19	2.19	0.00	Power production
10-Nov	2.19	2.19	2.19	0.00	Power production
11-Nov	2.20	2.19	2.19	0.00	Power production
12-Nov	2.50	2.19	2.36	0.25	Power production
13-Nov	2.51	2.40	2.48	0.02	Power production
14-Nov	2.54	2.33	2.45	0.11	Power production
15-Nov	2.71	2.41	2.50	0.20	Power production
16-Nov	2.44	2.40	2.42	0.04	Power production
17-Nov	2.51	2.44	2.48	0.02	Power production
18-Nov	2.50	2.45	2.47	0.01	Power production
19-Nov	2.45	2.32	2.35	0.04	Power production
20-Nov	2.45	2.33	2.38	0.08	Power production
21-Nov	2.45	2.43	2.44	0.00	Power production
22-Nov	2.43	2.43	2.43	0.00	Power production
23-Nov	2.43	2.43	2.43	0.00	Power production
24-Nov	2.43	2.41	2.42	0.01	Power production
25-Nov	2.43	2.41	2.42	0.00	Power production
26-Nov	2.42	2.37	2.40	0.00	Power production
27-Nov	2.37	2.35	2.36	0.00	Power production
28-Nov	2.38	2.32	2.35	0.01	Power production
29-Nov	2.32	2.31	2.32	0.00	Power production
30-Nov	2.35	2.31	2.34	0.01	Power production
1-Dec	2.34	2.32	2.34	0.00	Power production
2-Dec	2.38	2.34	2.37	0.02	Power production
3-Dec	2.42	2.37	2.40	0.03	Power production
4-Dec	2.40	2.26	2.31	0.12	Power production
5-Dec	2.27	2.26	2.27	0.00	Power production
6-Dec	2.45	2.27	2.38	0.06	Power production
7-Dec	2.44	2.30	2.37	0.00	Power production
8-Dec	2.33	2.30	2.32	0.00	Power production
9-Dec	2.32	2.31	2.32	0.00	Power production
10-Dec	2.32	2.31	2.31	0.00	Power production

Date	Daily Maximum Stage (ft)	Daily Minimum Stage (ft)	Daily Average Stage (ft)	Maximum 15-minute Down-Ramping Rate (ft/15 min)	Comment
11-Dec	2.41	2.29	2.37	0.07	Power production
12-Dec	2.38	2.38	2.38	0.00	Power production
13-Dec	2.38	2.38	2.38	0.00	Power production
14-Dec	2.38	2.37	2.37	0.00	Power production
15-Dec	2.37	2.29	2.33	0.02	Power production
16-Dec	2.57	2.29	2.35	0.20	Power production
17-Dec	2.36	2.34	2.35	0.02	Power production
18-Dec	2.34	2.15	2.26	0.06	Power production
19-Dec	2.36	2.15	2.23	0.05	Power production
20-Dec	2.31	2.25	2.28	0.04	Power production
21-Dec	2.34	2.30	2.33	0.03	Power production
22-Dec	2.51	2.34	2.40	0.16	Power production
23-Dec	2.51	2.40	2.46	0.02	Power production
24-Dec	2.40	2.39	2.40	0.00	Power production
25-Dec	2.40	2.27	2.34	0.04	Power production
26-Dec	2.30	2.26	2.27	0.01	Power production
27-Dec	2.33	2.26	2.29	0.06	Power production
28-Dec	2.33	2.25	2.29	0.03	Power production
29-Dec	2.34	2.29	2.31	0.05	Power production
30-Dec	2.43	2.34	2.41	0.04	Power production
31-Dec	2.43	2.42	2.43	0.00	Power production
1-Jan	2.48	2.42	2.46	0.05	Power production
2-Jan	2.57	2.43	2.47	0.08	Power production
3-Jan	2.43	2.43	2.43	0.01	Power production
4-Jan	2.42	1.93	2.17	0.41	Power production
5-Jan	2.21	1.93	2.10	0.07	Power production
6-Jan	2.21	2.20	2.21	0.00	Power production
7-Jan	2.25	2.22	2.24	0.01	Power production
8-Jan	2.68	2.25	2.49	0.09	Power production
9-Jan	2.68	2.62	2.64	0.00	Power production
10-Jan	2.62	2.41	2.50	0.01	Power production
11-Jan	2.41	2.39	2.40	0.00	Power production
12-Jan	2.39	2.26	2.29	0.12	Power production
13-Jan	2.34	2.26	2.31	0.02	Power production
14-Jan	2.35	2.34	2.35	0.00	Power production
15-Jan	2.39	2.35	2.36	0.03	Power production
16-Jan	2.49	2.38	2.45	0.05	Power production
17-Jan	2.48	2.27	2.38	0.05	Power production
18-Jan	2.29	2.27	2.27	0.02	Power production

Date	Daily Maximum Stage (ft)	Daily Minimum Stage (ft)	Daily Average Stage (ft)	Maximum 15-minute Down-Ramping Rate (ft/15 min)	Comment
19-Jan	2.35	2.25	2.26	0.08	Power production
20-Jan	2.26	2.24	2.25	0.00	Power production
21-Jan	2.32	2.26	2.30	0.05	Power production
22-Jan	2.51	2.32	2.40	0.05	Power production
23-Jan	2.52	2.51	2.51	0.00	Power production
24-Jan	2.52	2.44	2.48	0.01	Power production
25-Jan	2.48	2.46	2.47	0.01	Power production
26-Jan	2.46	2.44	2.45	0.00	Power production
27-Jan	2.44	2.03	2.27	0.22	Power production
28-Jan	2.19	2.11	2.17	0.06	Power production
29-Jan	2.47	2.18	2.36	0.06	Power production
30-Jan	2.47	2.47	2.47	0.00	Power production
31-Jan	2.46	2.34	2.39	0.07	Power production
1-Feb	2.35	2.34	2.34	0.00	Power production
2-Feb	2.34	2.28	2.32	0.00	Power production
3-Feb	2.28	2.26	2.26	0.00	Power production
4-Feb	2.33	2.26	2.30	0.05	Power production
5-Feb	2.39	2.33	2.37	0.04	Power production
6-Feb	2.46	2.35	2.41	0.06	Power production
7-Feb	2.51	2.46	2.49	0.03	Power production
8-Feb	3.36	2.19	2.42	0.85	Power production
9-Feb	2.34	2.19	2.27	0.05	Power production
10-Feb	3.05	2.19	2.31	0.43	Power production
11-Feb	3.04	2.08	2.34	0.71	Power production
12-Feb	3.39	2.19	2.30	1.08	Power production
13-Feb	2.31	2.27	2.29	0.03	Power production
14-Feb	2.27	2.26	2.27	0.00	Power production
15-Feb	2.26	2.25	2.26	0.00	Power production
16-Feb	2.37	2.26	2.31	0.10	Power production
17-Feb	2.45	2.34	2.39	0.05	Power production
18-Feb	2.44	2.35	2.39	0.03	Power production
19-Feb	3.44	2.24	2.38	1.18	Power production
20-Feb	2.67	2.33	2.40	0.26	Power production
21-Feb	3.33	2.31	2.37	0.90	Power production
22-Feb	2.36	2.21	2.28	0.01	Power production
23-Feb	2.35	2.21	2.29	0.04	Power production
24-Feb	3.09	2.19	2.37	0.59	Power production
25-Feb	5.33	2.18	3.09	0.89	Maintenance outage - bypassed minimum flow

Date	Daily Maximum Stage (ft)	Daily Minimum Stage (ft)	Daily Average Stage (ft)	Maximum 15-minute Down-Ramping Rate (ft/15 min)	Comment
					through spill gates.
26-Feb	3.16	2.15	2.49	0.75	Power production
27-Feb	2.48	2.42	2.46	0.04	Power production
28-Feb	2.54	2.44	2.47	0.04	Power production
1-Mar	2.44	2.44	2.44	0.00	Power production
2-Mar	2.93	2.17	2.36	0.44	Power production
3-Mar	3.10	2.19	2.42	0.58	Power production
4-Mar	3.68	2.18	2.69	1.44	Power production
5-Mar	3.65	2.23	2.96	0.78	Power production
6-Mar	3.38	3.13	3.29	0.01	Power production
7-Mar	3.15	2.99	3.03	0.07	Power production
8-Mar	2.99	2.98	2.98	0.00	Power production
9-Mar	3.03	2.93	3.01	0.04	Power production
10-Mar	3.02	2.19	2.36	0.46	Power production
11-Mar	2.67	2.13	2.33	0.30	Power production
12-Mar	2.91	2.18	2.36	0.33	Power production
13-Mar	2.47	2.46	2.46	0.00	Power production
14-Mar	2.47	2.41	2.44	0.00	Power production
15-Mar	2.42	2.41	2.42	0.00	Power production
16-Mar	2.96	2.19	2.36	0.38	Power production
17-Mar	3.44	2.22	2.52	0.67	Power production
18-Mar	4.60	2.81	3.49	1.33	Power Production - draw down reservoir in preparation for maintenance work the following day.
19-Mar	4.31	2.18	2.68	0.45	Maintenance outage - bypassed minimum flow through spill gates.
20-Mar	3.80	2.49	3.12	0.31	Power production
21-Mar	3.76	3.02	3.48	0.33	Power production
22-Mar	3.43	3.01	3.25	0.10	Power production
23-Mar	3.50	3.38	3.45	0.02	Power production
24-Mar	4.06	3.49	3.83	0.24	Power production
25-Mar	4.04	3.88	4.01	0.11	Power production
26-Mar	4.17	2.23	3.00	1.00	Maintenance outage - bypassed minimum flow through spill gates.
27-Mar	4.22	3.57	3.86	0.23	Power production

Date	Daily Maximum Stage (ft)	Daily Minimum Stage (ft)	Daily Average Stage (ft)	Maximum 15-minute Down-Ramping Rate (ft/15 min)	Comment
28-Mar	4.22	3.62	3.84	0.16	Power production
29-Mar	3.66	3.62	3.64	0.04	Power production
30-Mar	3.65	3.08	3.28	0.08	Power production
31-Mar	3.10	3.10	3.10	0.00	Power production
1-Apr	3.10	3.10	3.10	0.00	Power production
2-Apr	3.24	3.10	3.17	0.07	Power production
3-Apr	3.23	3.15	3.19	0.06	Power production
4-Apr	3.16	2.88	2.98	0.01	Power production
5-Apr	2.93	2.88	2.90	0.03	Power production
6-Apr	3.00	2.90	2.95	0.04	Power production
7-Apr	3.01	3.00	3.01	0.00	Power production
8-Apr	3.13	3.01	3.07	0.03	Power production
9-Apr	3.12	3.03	3.07	0.00	Power production
10-Apr	3.13	3.03	3.09	0.04	Power production
11-Apr	3.54	3.12	3.35	0.17	Power production
12-Apr	5.25	3.31	3.67	1.75	Power production - passing pulse of water from Grace whitewater event.
13-Apr	3.32	3.30	3.31	0.00	Power production
14-Apr	3.31	3.30	3.30	0.00	Power production
15-Apr	3.74	3.30	3.55	0.18	Power production
16-Apr	3.73	3.39	3.55	0.03	Power production
17-Apr	3.40	3.39	3.39	0.00	Power production
18-Apr	3.40	3.40	3.40	0.00	Power production
19-Apr	3.41	3.40	3.40	0.00	Power production
20-Apr	3.53	3.40	3.46	0.05	Power production
21-Apr	3.66	3.51	3.61	0.07	Power production
22-Apr	3.66	3.50	3.58	0.01	Power production
23-Apr	3.53	3.49	3.51	0.01	Power production
24-Apr	3.77	3.51	3.64	0.11	Power production
25-Apr	3.78	3.76	3.76	0.01	Power production
26-Apr	4.13	3.77	4.05	0.17	Power production
27-Apr	4.13	3.91	4.02	0.00	Power production
28-Apr	3.96	3.91	3.94	0.02	Power production
29-Apr	4.19	3.95	4.08	0.12	Power production
30-Apr	4.11	3.75	3.95	0.00	Power production
1-May	4.16	3.75	3.96	0.13	Power production
2-May	4.15	4.01	4.09	0.00	Power production

Date	Daily Maximum Stage (ft)	Daily Minimum Stage (ft)	Daily Average Stage (ft)	Maximum 15-minute Down-Ramping Rate (ft/15 min)	Comment
3-May	4.06	4.01	4.03	0.03	Power production
4-May	4.05	2.65	3.19	0.05	Power production - adjustment to changing inflow
5-May	3.07	2.78	2.96	0.13	Power production
6-May	3.03	2.74	2.87	0.00	Power production
7-May	2.93	2.74	2.82	0.05	Power production
8-May	2.93	2.92	2.92	0.00	Power production
9-May	2.93	2.92	2.92	0.00	Power production
10-May	2.93	2.71	2.77	0.03	Power production
11-May	2.73	2.72	2.72	0.00	Power production
12-May	2.78	2.72	2.74	0.05	Power production
13-May	2.88	2.76	2.83	0.05	Power production
14-May	3.18	2.86	3.05	0.14	Power production
15-May	3.30	3.18	3.26	0.09	Power production
16-May	3.31	3.30	3.30	0.00	Power production
17-May	3.31	3.25	3.29	0.03	Power production
18-May	3.25	3.17	3.21	0.00	Power production
19-May	3.19	3.15	3.16	0.00	Power production
20-May	3.15	3.06	3.09	0.03	Power production
21-May	3.07	3.05	3.06	0.00	Power production
22-May	3.08	3.06	3.07	0.00	Power production
23-May	3.13	3.07	3.10	0.03	Power production
24-May	3.13	3.07	3.10	0.01	Power production
25-May	3.43	3.07	3.24	0.10	Power production
26-May	3.42	3.27	3.34	0.00	Power production
27-May	3.27	3.17	3.23	0.01	Power production
28-May	3.17	2.98	3.07	0.02	Power production
29-May	3.03	3.02	3.02	0.00	Power production
30-May	3.30	3.02	3.08	0.16	Power production
31-May	3.31	3.30	3.31	0.00	Power production
1-Jun	3.74	3.31	3.57	0.12	Power production
2-Jun	3.41	3.30	3.33	0.03	Power production
3-Jun	3.55	3.30	3.41	0.11	Power production
4-Jun	3.55	3.50	3.53	0.00	Power production
5-Jun	3.51	3.50	3.50	0.00	Power production
6-Jun	3.51	3.51	3.51	0.00	Power production
7-Jun	3.81	3.51	3.69	0.11	Power production
8-Jun	4.07	3.81	3.96	0.09	Power production

Date	Daily Maximum Stage (ft)	Daily Minimum Stage (ft)	Daily Average Stage (ft)	Maximum 15-minute Down-Ramping Rate (ft/15 min)	Comment
9-Jun	4.38	4.01	4.10	0.17	Power production
10-Jun	4.29	4.01	4.17	0.07	Power production
11-Jun	4.56	4.29	4.48	0.08	Power production
12-Jun	4.55	4.33	4.41	0.00	Power production
13-Jun	4.73	4.33	4.45	0.35	Power production
14-Jun	4.87	4.40	4.51	0.31	Power production
15-Jun	4.96	4.43	4.69	0.30	Power production
16-Jun	4.57	4.42	4.46	0.01	Power production
17-Jun	4.49	4.41	4.44	0.03	Power production
18-Jun	4.52	4.46	4.49	0.03	Power production
19-Jun	4.53	4.52	4.52	0.01	Power production
20-Jun	4.54	4.52	4.53	0.01	Power production
21-Jun	4.80	4.53	4.58	0.15	Power production
22-Jun	4.56	4.53	4.54	0.03	Power production
23-Jun	4.54	4.29	4.40	0.01	Power production
24-Jun	4.29	4.02	4.17	0.12	Power production
25-Jun	4.35	4.02	4.22	0.17	Power production
26-Jun	4.35	3.93	4.23	0.01	Power production
27-Jun	3.93	3.39	3.71	0.15	Power production
28-Jun	4.04	3.59	3.85	0.14	Power production
29-Jun	3.96	3.36	3.56	0.30	Power production
30-Jun	3.38	3.08	3.19	0.00	Power production
1-Jul	3.08	2.65	2.86	0.06	Power production
2-Jul	2.74	2.72	2.73	0.00	Power production
3-Jul	2.90	2.73	2.75	0.16	Irrigation delivery
4-Jul	2.94	2.75	2.83	0.16	Irrigation delivery
5-Jul	3.44	2.92	3.21	0.18	Irrigation delivery
6-Jul	3.44	3.38	3.42	0.01	Irrigation delivery
7-Jul	3.60	3.36	3.51	0.13	Irrigation delivery
8-Jul	3.63	3.60	3.61	0.01	Irrigation delivery
9-Jul	3.95	3.62	3.73	0.18	Irrigation delivery
10-Jul	3.97	3.94	3.96	0.01	Irrigation delivery
11-Jul	3.98	3.95	3.96	0.01	Irrigation delivery
12-Jul	3.99	3.95	3.97	0.01	Irrigation delivery
13-Jul	3.98	3.87	3.93	0.01	Irrigation delivery
14-Jul	3.87	3.86	3.86	0.01	Irrigation delivery
15-Jul	3.88	3.86	3.87	0.01	Irrigation delivery
16-Jul	3.88	3.86	3.87	0.00	Irrigation delivery
17-Jul	4.00	3.87	3.93	0.11	Irrigation delivery

Date	Daily Maximum Stage (ft)	Daily Minimum Stage (ft)	Daily Average Stage (ft)	Maximum 15-minute Down-Ramping Rate (ft/15 min)	Comment
18-Jul	4.11	3.94	4.03	0.09	Irrigation delivery
19-Jul	4.10	4.08	4.09	0.01	Irrigation delivery
20-Jul	4.09	4.07	4.08	0.00	Irrigation delivery
21-Jul	4.09	4.07	4.08	0.01	Irrigation delivery
22-Jul	4.09	4.07	4.08	0.01	Irrigation delivery
23-Jul	4.22	4.07	4.17	0.07	Irrigation delivery
24-Jul	4.21	4.19	4.20	0.01	Irrigation delivery
25-Jul	4.19	4.18	4.19	0.01	Irrigation delivery
26-Jul	4.18	3.92	4.04	0.20	Irrigation delivery
27-Jul	4.13	3.99	4.01	0.13	Irrigation delivery
28-Jul	4.10	3.87	3.94	0.10	Irrigation delivery
29-Jul	4.02	3.67	3.82	0.10	Irrigation delivery
30-Jul	3.68	3.66	3.67	0.01	Irrigation delivery
31-Jul	3.78	3.64	3.71	0.09	Irrigation delivery
1-Aug	3.77	3.57	3.66	0.01	Irrigation delivery
2-Aug	3.57	3.43	3.46	0.00	Irrigation delivery
3-Aug	3.47	3.45	3.46	0.01	Irrigation delivery
4-Aug	3.46	3.39	3.42	0.01	Irrigation delivery
5-Aug	3.51	3.38	3.40	0.10	Irrigation delivery
6-Aug	3.75	3.50	3.55	0.24	Irrigation delivery
7-Aug	3.80	3.57	3.69	0.11	Irrigation delivery
8-Aug	3.91	3.72	3.78	0.14	Irrigation delivery
9-Aug	3.92	3.90	3.91	0.01	Irrigation delivery
10-Aug	3.92	3.90	3.91	0.01	Irrigation delivery
11-Aug	3.92	3.90	3.91	0.01	Irrigation delivery
12-Aug	3.92	3.70	3.82	0.01	Irrigation delivery
13-Aug	3.71	3.69	3.70	0.01	Irrigation delivery
14-Aug	3.69	3.67	3.68	0.01	Irrigation delivery
15-Aug	3.69	3.62	3.66	0.02	Irrigation delivery
16-Aug	3.62	3.60	3.61	0.01	Irrigation delivery
17-Aug	3.66	3.60	3.63	0.05	Irrigation delivery
18-Aug	3.72	3.65	3.69	0.05	Irrigation delivery
19-Aug	3.71	3.69	3.70	0.01	Irrigation delivery
20-Aug	3.70	3.57	3.64	0.01	Irrigation delivery
21-Aug	3.58	3.30	3.41	0.01	Irrigation delivery
22-Aug	3.33	3.27	3.30	0.01	Irrigation delivery
23-Aug	3.43	3.30	3.36	0.05	Irrigation delivery
24-Aug	3.42	3.40	3.41	0.01	Irrigation delivery
25-Aug	3.51	3.40	3.44	0.07	Irrigation delivery

Date	Daily Maximum Stage (ft)	Daily Minimum Stage (ft)	Daily Average Stage (ft)	Maximum 15-minute Down-Ramping Rate (ft/15 min)	Comment
26-Aug	3.60	3.49	3.56	0.08	Irrigation delivery
27-Aug	3.59	3.50	3.55	0.03	Irrigation delivery
28-Aug	3.51	3.49	3.50	0.02	Irrigation delivery
29-Aug	3.49	3.27	3.34	0.06	Irrigation delivery
30-Aug	3.27	3.22	3.24	0.01	Irrigation delivery
31-Aug	3.23	3.21	3.22	0.01	Irrigation delivery
1-Sep	3.22	3.20	3.21	0.01	Irrigation delivery
2-Sep	3.21	3.19	3.21	0.01	Irrigation delivery
3-Sep	3.20	3.09	3.13	0.01	Irrigation delivery
4-Sep	3.10	3.05	3.07	0.01	Irrigation delivery
5-Sep	3.05	2.99	3.02	0.02	Irrigation delivery
6-Sep	3.00	2.97	2.99	0.01	Irrigation delivery
7-Sep	2.98	2.74	2.86	0.03	Irrigation delivery
8-Sep	2.79	2.71	2.76	0.02	Irrigation delivery
9-Sep	2.95	2.76	2.88	0.10	Irrigation delivery
10-Sep	3.67	2.92	2.96	0.74	Irrigation delivery
11-Sep	3.16	2.96	3.04	0.07	Irrigation delivery
12-Sep	3.15	3.01	3.06	0.01	Irrigation delivery
13-Sep	3.02	2.99	3.01	0.01	Irrigation delivery
14-Sep	3.00	2.86	2.91	0.12	Irrigation delivery
15-Sep	2.87	2.84	2.86	0.01	Irrigation delivery
16-Sep	2.88	2.85	2.87	0.01	Irrigation delivery
17-Sep	2.87	2.84	2.86	0.02	Irrigation delivery
18-Sep	2.85	2.20	2.60	0.20	Irrigation delivery - adjustment to reducing inflow
19-Sep	2.40	2.39	2.40	0.01	Power production
20-Sep	2.40	2.39	2.40	0.01	Power production
21-Sep	2.40	2.39	2.39	0.01	Power production
22-Sep	2.39	2.37	2.38	0.01	Power production
23-Sep	2.37	2.20	2.29	0.01	Power production
24-Sep	2.38	2.19	2.28	0.03	Power production
25-Sep	2.38	2.37	2.37	0.01	Power production
26-Sep	2.37	2.36	2.37	0.01	Power production
27-Sep	2.37	2.36	2.36	0.01	Power production
28-Sep	2.36	2.32	2.34	0.03	Power production
29-Sep	2.40	2.32	2.37	0.05	Power production
30-Sep	2.53	2.38	2.48	0.10	Power production